

CHAPTER 1: HOW HEADACHES HAPPEN

Divine is the work to subdue pain

Hippocrates

Virtually everyone can sympathize with the headache sufferer. At some point in their lives, 90% of the population has endured a headache of one type or another. For most people, the pain is acute -- which, in terms of headache, means that it doesn't last long, and happens only occasionally. But for 40 million Americans, the pain is chronic and recurrent, like a dreaded visitor who barges rudely into our homes with confounding frequency to make our lives miserable. For more than 20 million, the pain is so all-consuming that we can do nothing -- work, play or sometimes even sleep -- until it decides to leave.

There are over 100 different types of headache. For many of these headache types, such as true sinus headache, the causes are clear. But for the top three -- tension-type, migraine and cluster headaches -- modern Western medicine can't agree on the causes.

SCHOOLS OF THOUGHT ABOUT THE ORIGIN OF HEADACHE PAIN

Pain by any name feels the same for the headache sufferer. But concepts about the *mechanism of pain* -- how pain happens in the body -- can differ greatly depending on the therapeutic approach. An understanding of how different healing disciplines view pain is an important step in understanding the logic behind the treatment.

From my personal point of view, I employ aspects of several alternative disciplines in my practice -- mostly those which have been studied, and supported by some scientific evidence. This is my orientation. It does not mean

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that I dismiss the potential benefit of other approaches. For example, I have not used Therapeutic Touch in my practice, but it is used, with success, in major hospitals across the country. Similarly, I am not an Ayurvedic physician, but this traditional system of medicine has endured for thousands of years. I believe conventional Western medicine has much to learn from these traditions. So, while I do not use all of the the approaches I will describe, I do encourage their exploration and study.

Conventional Western medicine

Background

For as long as people have been practicing medicine, concepts of health and disease were guided by the idea that, by observing nature, one could identify what was healthy (and normal) and what was unhealthy (not normal). This older-world view embraced all aspects of human "nature" -- states of health or disease were described in terms of an intricate linking of mind, body and spirit. With roots in Greek culture, Western medical practice required schooling not only in anatomy and physiology, but also in philosophy. Hippocrates, the founder of Western medicine, believed that there were four humors that regulated the body -- and any imbalance could result in pain. Plato, the Greek philosopher, thought that pain originated not only from physical influences, but also emotions. In these respects, even early Western medicine bore similarities to other traditional medical practices, such as Ayurveda and traditional Oriental medicine.

With technological advances and philosophical shifts came a change in medical thinking. By the mid-18th century, matters of the spirit and the mind were no longer the domain of medical healers, but relegated to the church. The emergence of rationalism gave rise to scientific disciplines that focussed on

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specific parts of the body in order to better understand specific disease processes. For the first time, medical science split away from medical practice. Medical theory began to isolate the physiologic parts that make up the whole, with less emphasis on how the parts interact -- and with little regard for factors that could not be observed visually, such as spiritual and emotional influences.

As a result, practitioners of conventional Western medicine are not taught to view our body as being connected with our mental, spiritual and emotional selves. In its approach, Western medicine looks for signs and symptoms as indicators of disease: their absence is strongly indicative of the absence of disease. One could say that our view of health is an absence of disease.

This is not to minimize some of the extraordinary healing tools that have yielded from recent medical research, particularly for the treatment of acute disorders. Today's doctors are highly skilled at coping with the body in trauma due to acute clinical problem, such as severe injury, infection.

In addition, in recent years, Western medicine has been using its sophisticated research methods to confirm the role of anxiety, stress and other "non-physical" factors on body health. Landmark studies conducted in the early 1960's confirmed that major life changes (good or bad) that produce emotional stress also cause physical stress. Another example: in the study of heart disease (Americans' leading cause of death), a very large population survey was designed to look at the lifestyles of a huge number of people -- both with and without heart disease. The study, known as the Framingham Heart Study, found conclusively that diet and emotional stress play an important role in determining whether or not an individual will suffer from heart disease. These findings have brought the medical community to another level of awareness of how nutrition and stress influence the pathology of disease. So, it seems that conventional medicine is slowly making its way back to a more holistic view of disease and

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health. But until medical school curricula put more emphasis on these lifestyle factors, most of today's Western physicians remain ill-equipped to diagnose and treat vital factors that contribute to chronic disease.

Approach to headache

Based in the concept that health is the absence of disease, conventional Western medicine aims to reverse or eliminate disease or symptoms. This approach is often described as *allopathic* -- which means, a system of treating disease that is antagonistic to the disease process. For example, to treat infection (caused by microbes), doctors prescribe antimicrobials. For viruses, we recommend anti-viral agents. For diarrhea, there are anti-diarrheal drugs. And so on -- you get the idea. Often, this approach mandates use of aggressive methods that are invasive or toxic to the body. When considering a certain treatment, physicians evaluate its "risk-to-benefit ratio": are the benefits worth the potentially toxic effects of this powerful treatment? It is not difficult to see that, when potent weapons are being used against disease, doctors want to make certain that they've made an accurate diagnosis.

In the case of chronic headache, an accurate diagnosis is not easily ascertained. In general, we can feel a source of our pain. If we scrape our knees, we feel pain in the knees. But with headache, the source of pain is often less obvious. Ironically, the pain that causes headache rarely originates from inside the brain. (Uncommon exceptions include *organic* causes of headache, such as brain tumors, bleeding from stroke or trauma, and meningitis, to be discussed in Chapter 2.) The brain itself is numb to pain -- it does not contain nerve endings. Rather, it *perceives* pain signals transmitted by nerve endings from the muscles, blood vessels and tissue around the skull, the face other parts of the body.

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Headache is a common symptom of many other underlying conditions, ranging from muscle tightness and hormonal imbalances to sensitivities to food and other environmental substances, as we'll discover in the next few chapters.

The diagnosis of headache also stumps medical doctors because, unlike many other conditions, there are no specific diagnostic tests for chronic headache. If you have an ulcer, for example, there are tests available to confirm its diagnosis. But the mechanisms of chronic headache seem to evade detection by available medical tests. And, because headache pain can derive from so many sources, the symptoms are not very specific. As many of you are all too well aware, headache sufferers often go from doctor to doctor, and from test to test, without finding a medical explanation for the source of their pain.

There are several theories about the mechanisms of the different types of chronic headache, but experts have not reached a consensus. Recently, for example, research has revealed that the neurotransmitter, *serotonin* could play a central role in the development of migraine. Serotonin is a naturally-occurring amine which, among other functions, transmits pain messages. As a result, several new drugs have been designed to counteract the presumed dysfunction in serotonin.

In the treatment of other types of chronic headache -- cluster and tension-type headache -- the target of treatment is less well-defined, as you will see in Chapter 2. Not knowing the specific cause of pain, doctors cannot prescribe specific treatment; instead, we recommend ways to reduce the primary symptom -- pain. It is not a cure, but relief of symptoms.

Traditional Oriental Medicine

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Background

As with many holistic disciplines, the goal of traditional Oriental medicine is to stimulate the body's own healing abilities, rather than treat specific diseases.

Many of the practices that evolved from theories of Oriental medicine -- including acupuncture, acupressure, qigong, nutrition and herbal treatments -- date back more than 5,000 years. These techniques have their roots in the same concept: pain and disease emerge when there is an obstruction in the free flow of life energy, known as *ch'i* or *qi* (pronounced "chee") and of "Blood" and "Body fluids." It is the power of qi that moves Blood and Body Fluids, with all their nutrients, through the body. It is the force of qi that connects everything we do and feel; our physical actions, thoughts and emotions. In traditional thought, qi is the foundation for all life.

The medical concepts guiding Oriental medicine are an extension of a broader spiritual cosmology of *Tao* (pronounced "dow"). Tao is "the Way for nature", the intrinsic order of the universe, which is expressed as the balance of the polar but complementary forces of yin and yang. The harmonious workings of the universe, including everything in it from planetary movement to the functioning of the smallest human cell, rely on a balance of yin and yang.

In Taoist philosophy, the qualities of yang are dry, active and hot -- the creative, "heaven," action. Yin is wet, passive and cold -- the receptive, "earth," matter.

Yet, according to Taoist theory, these forces are interdependent. Yang does not exist without yin, and vice versa. Yang is the force that moves and motivates yin. Yin nurtures and anchors yang. Health is the balance of yin and yang as modulated by qi. These characteristics have meaning for every aspect of health; different parts of the body are predominantly yin or yang; foods,

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climates, activities and herbs have yin and yang qualities -- and can be prescribed to help restore harmony to physical imbalances.

The interplay of yin and yang is constant; matter is continually transforming to energy, and energy to matter. One can see how this works in daily life; the more energy we expend, the more physical weight we lose. Similarly, when we expend too much energy -- emotionally or physically -- we become depleted and ill. The goal of traditional Oriental medicine is to maintain a healthful balance.

One can also see how traditional Oriental medicine views all aspects of our beings as part of an integrated continuum, with no single part playing more important a role than the other.

Approach to pain

Oriental medicine maintains that, in the body, qi is yang; it is the life force. Its tendency is to rise upward. Qi circulates through the body by way of twelve invisible main *meridians* or *channels*. Any imbalance of qi -- due to a blockage, deficiency or excess -- can result in pain.

The twelve meridians are all connected to a major organ, and are named after that organ. The meridians traverse the body from foot to hand, crossing over the self-named organ. It should be noted that problems related to the bladder meridian, for example, do not necessarily mean you have a bladder problem. They are names to describe the channel of energy that connects with that organ -- and its function. The body-wide function of an organ confers greater importance than the organ itself.

Yin organs

Function

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- Heart Governs blood
- Liver Controls movement of qi
- Lungs Governs breath and distributes qi
- Kidneys Governs reproductive system and bones; stores qi
- Pericardium Protects heart -- from emotions and other factors
- Spleen Governs all other organs and transforms fluids to
nutrients

Yang organs

- Bladder Helps kidney; distributes fluids
- Colon
(Large intestine) Governs waste; absorbs nutrients
- Gall bladder Helps liver; stores waste
- Small intestine Governs change, aiding heart and digestive system
- Stomach Stores and distributes qi to the spleen
- Triple Heater
(Triple Burner) Controls heat, protects other organs

Approach to headache

According to traditional Chinese medicine, the diagnosis of headache involves identifying the part of the head that hurts which, in turn, is linked with *pairs of meridians* . Pain results when the flow of qi is impaired in the meridian. In general, this happens for three reasons: due to a *blockage* of qi , an *excess* , or a *deficiency* . Both blockage and excess may cause pain due to an imbalance in the accumulation of qi in the meridians. Deficiency, on the other hand, causes a

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narrowing or breakdown of the meridian, which results in pain. Each circumstance can be caused by a variety of mechanisms. For example, headache could be caused by a blockage resulting from allergies (referred to as *Wind Evil* invasions). Excess may result from congestion of qi caused by emotional upsets and stress. Deficiency can produce headaches related to hunger or fatigue (in this case, the body has literally used up too much energy without being refueled). These are just a few examples. Because Oriental medicine maintains that every part of the body is interdependent, the ways in which qi can become imbalanced are many.

A variety of methods are used to free the flow of qi in the body, including dietary approaches (page TK), acupuncture (page TK), acupressure (page TK), qigong (page TK), and herbal therapies (page TK).

Nutritional and environmental medicine

Background

Egyptian records of dietary cures for diseases date back to 1500 B.C. Hippocrates put great emphasis on diet as a way to prevent or ease illness. And certainly many ancient traditional systems of medicine, such as Oriental medicine and Ayurveda, focus on the importance of diet in maintaining health.

Over the past four centuries, nutritional research has isolated many of the vitamins, minerals and other nutrients (referred to as *micronutrients*) found in foods that are indispensable to life -- and deficiencies that lead to disease.

Nutritional and environmental medicine share a few guiding principles. Both are health disciplines based on the belief that substances (chemicals, foods and inhalants in the environment) are primary causes of many health problems -- and that removing these "stressors" can relieve symptoms. Both assert that a substance that causes symptoms in one person may not produce problems in another, and that each individual has a unique susceptibility *threshold* to different substances. For some people who are very sensitive, intolerant or actually allergic to a specific substance, their threshold, or their ability to cope with the "toxic load," may be very low. It will take very little of that substance to cause a reaction. In addition, one substance can cause different symptoms in different individuals. Furthermore, the effects of environmental or dietary toxicity can be cumulative; you might not react immediately to low-level toxicity, but reach a point where your body can no longer cope with the accumulated toxicity. Headache is a common response to internal or external stressors.

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Approach to headache

Many traditional and newer alternative therapies emphasize good nutrition as a fundamental step in preventing and treating illness. But modern Western medical research has also confirmed the roles of many environmental and dietary *triggers* of headache. It is apparent that at least some people are genetically predisposed to having a lower threshold to headache, and react to certain foods or changes in the environment. In many individuals, stress- or disease-related deficiencies in important vitamins or minerals, such as magnesium, may set off a cascade of biochemical events that lead to headache. There is some evidence that headaches can be due exclusively to allergies.. We'll discuss these factors in more detail in Chapter 3.

Mind-body methods

Background

The idea that the mind, or consciousness, exerts a powerful influence over physical health has been central to almost every traditional healing system. Most alternative healing methods are based on the concept that the mind and body are part of an integrated whole, and each has the power to affect the other.

Evidence of the mind-body connection abounds in recent medical literature. Studies have shown significant health benefits among people who focus their beliefs and wishes on healing -- through meditation, prayer, psychotherapy and other methods.

Recent research in people with multiple personalities vividly illustrates the power of the mind to influence the body. Candace Pert, PhD, biochemist at

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the Center for Molecular and Behavioral Neuroscience at Rutgers University, reveals that some people with multiple personalities have specific physical signs and symptoms that change with each personality. For example, one personality might be diabetic and have insulin levels that reflect the disease; a short time later, a different personality emerges without any abnormalities. Did this individual *will* the change in insulin levels to match her desired personality -- or did the insulin levels change due the emotional stress of her condition, as is often seen in people with diabetes? Either way, the implication of these results is that the individual exerts profound biochemical changes that have a source either in the subconscious will, or in the emotions, or both.

The placebo effect is a more commonplace example of the mind-body connection. A placebo is a substance or procedure without any inherent therapeutic value. It is literally translated as "to please." In studies of many diseases, including headache, about one-third of people taking placebo treatments show improvement. The placebo effect points again to the power of an individual's belief in or desire for a specific response. In spite of these dramatic and widespread results, the modern Western medical community is generally dismissive of placebo's therapeutic value. But, viewed from a holistic standpoint, it is eloquent testimony of the power of the mind to affect, or even heal, the body.

There is also growing scientific evidence to support the concept of a biochemical basis for emotion. For example, Dr. Pert cites research showing that groupss amino acids, known as *peptides* , act as the biochemical messengers communicating important information from one body system to another. In her own studies, she suggests that peptides and their receptors are biochemical units of emotions, which serve as the elusive link between the mind and the physical body (*Healing and the Mind*, Doubleday).

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But even Dr. Pert is dissatisfied with modern science's tendency to reduce this mind-body connection to a string of amino acids. The ability of mental stimuli to generate spontaneous and simultaneous body-wide responses still defies physiological or biochemical explanation -- and suggests that the mind's domain straddles both the physical plane, with responses that can be measured, and a nonphysical plane, where responses cannot yet be measured.

In spite of accumulating clinical support for the effectiveness of the mind in healing the body, conventional Western medicine remains skeptical of this approach.

Arguably, most holistic health approaches -- from Ayurveda to yoga -- would appear to be mind-body therapies. But, in Chapter 8, we focus on methods that work directly with the mind to cope with physical problems. The following mind-body approaches will be discussed:

- Autogenic training
- Biofeedback
- Guided imagery and visualization
- Hypnosis
- Meditation
- Prayer
- Progressive relaxation
- Psychotherapy (behavior therapy and cognitive restructuring)
- Reiki
- Therapeutic Touch

Approach to headache

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The approach to pain in general, or headache specifically, depends on the mind-body technique employed. Overall, most methods have been shown to induce relaxation. The "relaxation response" is a term coined by Herbert Benson, MD in the late 1960's to describe a series of complex, healthful biochemical reactions that result from reduced stress. Benson, and others, suggest that an overactive nervous system is at the root of many diseases and that relaxation helps the body to re-tune the nervous system.

However, some mind-body methods go beyond the general relaxation response. Through biofeedback, for example, the headache sufferer not only benefits from overall relaxation, but can learn to willfully alter specific mechanisms of headache, such as constricted blood vessels, that normally cannot be consciously changed.

Physical approaches

Background

As we discussed above, most alternative approaches embrace the idea that the body and mind are parts of an integrated whole, and that imbalances in either part will affect our health. In this way, the physical approaches we'll discuss in this book are similar to mind-body approaches. Physical approaches differ, however, in their focus on the body as the main tool for change (as opposed to mind-body approaches which mainly engage the mind to effect changes in the body.)

The spectrum of physical approaches ranges from those which work almost exclusively to correct structural misalignments (such as chiropractic and osteopathy) to "body-mind" methods which intimately connect physical activities

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with conscious awareness (such as Rolfing®, Alexander Technique and Feldenkrais Method®). Also, the traditional systems of medicine such as Ayurveda and traditional Oriental medicine uphold that chronic headaches, like other illness, derive from an imbalance in the flow of vital life energy, which can be corrected by physical interventions, such as yoga, breathing, acupuncture, etc.

Approach to headache

Some traditional and modern physical approaches have developed specific therapeutic tools aimed at directly relieving specific conditions, such as headache. These include chiropractic, osteopathy, craniosacral therapy, massage, as well as traditional Oriental techniques such as acupressure, acupuncture, qigong, shiatsu (and related therapies) and MyotherapySM.

With other physical approaches, relief of headache or other symptoms comes as a secondary benefit from work on the entire body. The relief of chronic muscle contractions -- and a newfound awareness of how postural or emotional "habits" create that tension -- helps reduce or eliminate pain that results from stresses in the muscles and/or connective tissues. Methods based on this concept include Alexander Technique, FeldenkraisTM, Trager Psychosocial Integration and PhysicalMind therapy, among others.

In Chapter 7, we'll look more closely at these and other approaches, and how they can help relieve headache.

Botanical remedies

Background

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The word "drug" has its roots in the German *drooge*, which means dry -- and has been historically applied to describe any dried plant used for therapeutic (or harmful) effect. Plants have been used for thousands of years by healers in almost every culture for healing disease. Many of the drugs used today have been synthesized from plants. The medicine-chest standby, aspirin, for example, was originally derived from willow bark. New drugs are currently being developed based on botanical substances.

Today there is a revived interest in the traditional use of plants in their many forms -- dried into tablets (Chinese herbs), diluted in water or alcohol (homeopathy and Bach flower remedies), infused or decocted for teas (herbal remedies), or distilled to pure essential oils for massage and diffusion into the air (aromatherapy). Though the beneficial effects of many herbs were discovered by trial and error, ongoing research has been underway to scientifically "prove" their biochemical effects.

Why use herbs instead of drugs? Many herbalists believe that plants contain nutrients that enable the body to better ingest the active ingredient, with fewer side effects. They are "whole" foods with multiple, complementary nutritional and healing properties. In theory, plants (properly prepared) constitute a gentler, more adaptable form of the active ingredient. Susun Weed, author of many books about herbalism, says that "herbalists see the whole herb, the physical forces and the subtle forces, and respect this wholeness...using it as a whole, not dividing it into parts and seeing power only in the 'active' principle." (*Herbal for the Childbearing Year*, Ash Tree).

Beware: herbs are not, by definition, safe. While they may be natural, and perhaps *safer* than most drugs, they should be considered potent chemicals. At high doses, or when used carelessly, some herbs can cause serious side effects. They should be prepared and taken with great care, especially by children and

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pregnant women, and by people with coexisting conditions such as heart, kidney or liver disease.

Approach to headache

Some herbs are prescribed for immediate relief of symptoms, others can be taken over long periods to gently regenerate the body's own healing abilities. Often, an herb will be recommended to treat an underlying problem that is causing headache.

In Chapter 9, we will review specific botanical approaches to headache, including herbal medicine and aromatherapy. We will look at homeopathy in Chapter 10.

Macrobiotics

Background

Most people view macrobiotics as a way of eating, but it is much more: for many, it is a way of life rooted in an all-embracing and complex cosmology devised first by Georges Ohsawa, a protege of the Japanese physician Sagen Ishikuzuka in the early 1900's. Ohsawa espoused a traditional Japanese diet of brown rice, miso soup and sea vegetables. His teachings were interpreted by Michio Kushi, who brought them to the U.S. in the 1970's. The practices that arise from this belief system focus strongly on dietary measures, but also embrace other lifestyle factors.

According to macrobiotic belief, everything in the universe is in a state of flux. At the center of this action is infinity (God, Universal Will, Spirit, etc.)

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which is pure motion directed outward in all directions. The motion creates currents which intersect, causing contraction (*yang* force) and expansion (*yin* force)*. The world is a symphony of interacting yang and yin, and each living being manifests some qualities of both. By learning how yin and yang relate to each other, we can begin to understand the workings of life itself, according to macrobiotic thought. (Because an explanation of macrobiotic cosmology is beyond the scope of this book, we refer those who are interested to the *Resources* section beginning on page [TK] for further reading. However, it isn't necessary to embrace the spiritual aspects of macrobiotic thought in order to benefit physically.)

Every muscle and organ in our body expresses tendencies of both yin and yang. When moving inward in a *yang* or contracting direction, energy increases in speed, heightens in temperature and becomes denser and heavier. When moving in a *yin* or expanding direction, energy is cooler, more expanded and lighter. Our heart, lungs, blood vessels and even our brains contract (*yang*) and expand (*yin*) to maintain life.

At the same time, each part embodies its own distinct combination of yin and yang. For example, compared to other body parts, the head is comparatively dense and compact -- it is structurally yang. Yet it functions with less motion than other body organs; thus, energy-wise, it is more yin. On the other hand, the heart is comparatively hollow and light; it is yin in structure. But the heart's energy is ceaseless and, therefore, more yang. The challenge in living a healthy life is to maintain a balance of yin and yang. One of the most effective ways of meeting this challenge is through proper diet, which will be discussed in more detail in Chapter 6.

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Approach to headache

From the macrobiotic point of view, imbalances of yin and yang in one part of the body produce biochemical changes that result in symptoms of pain in the head.

As mentioned, the head, in general, is yang in structure: it is compact and dense. The torso and extremities, the complementary opposite of the head, are more yang: rounder and more expansive. However, some *parts* of the head are more yin, others are more yang. For example, the front of the head is more yin than the back. An over consumption of yin foods, such as sugar or fruit, could therefore be the cause of a headache in your forehead or eyes. An excess of yang foods, such as protein-rich meats and legumes, might result in pain in the back of the head.

Although the underlying principals of macrobiotics are relatively straightforward, the interplay of influencing factors can be complex and highly individualized. For these reasons, it is often helpful to consult a macrobiotic practitioner, who will help you evaluate your unique needs.

Ayurveda

Ayurveda is a science from India that is over 6,000 years old. The word comes from the Sanskrit *ayus* (life) and *veda* (knowledge). It is so-called because it emerged from the deep contemplations of *rishis*, or seers. According to Ayurvedic history, the rishis intuited the teachings from the cosmic consciousness.

Ayurvedic philosophy holds that all consciousness is energy, and all energy is expressed as five primary elements: Ether Air, Fire, Water and Earth. In the beginning, the world was pure consciousness. Very subtle vibrations in

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consciousness produced Ether, or space. As Ether moved, Air was created -- and from the friction of that ethereal movement came heat and Fire. The heat of Fire liquified Ether, producing Water and solidified into Earth. And, finally, from Earth, all organic life was born.

All matter, including humankind, embodies the five basic elements, which influence different functions: ether, air, fire, water, and earth. In different combinations, the five elements express themselves in humans as three different bio-energies, or *doshas*, known collectively as *tridoshas* .

- Vata = ether and air
- Pitta = fire and water
- Kapha = earth and water

The tridoshas describe categories that regulate biological, psychological functions of the body. In health, the tridoshas are in balance; conversely, all physical expressions of disease are caused by an imbalance of these three doshas. Each individual manifests different proportions of vata, pitta and kapha -- and are described as being constitutionally one or the other. No person is made up solely of any single dosha, but is a combination of all three. To determine your dosha, or bio-type, you can seek out an Ayurvedic physician, or take a bio-type test. Hans H. Rhyner, in his book "Ayurveda: the Gentle Healing System," (New York: Sterling Publishing, Inc., 1994) has compiled the one that appears below.

[Chart]

Ayurvedic Bio-Type (Dosha) Test

Check off the appropriate box for each question. Afterwards, add up the boxes you marked in each column. Your bio-type is the column that has the most number of boxes checked.

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	Vata	Pitta	Kapha
Do you tend to be	Underweight	Ideal with good muscles	Overweight
Is your frame	Small boned	Normal	Large boned
Are you	Very short	Normal	Small and stout
	Very tall	Medium height	Large and stout
Are your hips	Narrow	Medium	Wide
Are your shoulders	Narrow	Medium	Wide
Is your chest	Flat	Normally developed	Fully developed
Is your hair	Normal	Balding, prematurely gray	Full
Has our face	Irregular features	Prominent features	Round features
Are your eyes	Small	Medium	Large
	Dry	Red	Moist
Is your nose	Small	Medium	Large
	Small, long	Straight, pointed	Wide
Are your lips	Small, rather dark	Medium, red, soft	Wide, velvety
Are your teeth	Not straight	Medium, straight	Large, straight
Are your fingers	Small, long	Regular	Wide, angular
Are your nails	Brittle	Soft	Strong, thick
Are your feet	Small, narrow	Medium	Large, wide
Are your hands and feet	Cold, dry	Warm, pink	Cool, damp
Is your skin	Dry	Freckled	Soft and smooth
	Brownish	Radiant	Light, white
Are your veins	Easily visible	Evenly distributed	Not visible
Where is your fat	Around the waist	Evenly distributed	Around thighs and buttocks
Are you	Hyperactive	Active	Somewhat lethargic
Do you walk	Rather fast	Normally	Rather slowly
Is your sleep	Light and interrupted	Short and even	Long and deep
Is your thirst	Variable	Good	Not noticeable
Is your appetite	Variable	Strong	Moderate
Is your perspiration	Sparse, odorless	Heavy with a strong odor	Heavy with a pleasant odor
Is the amount of your urine	Little but frequent	Normal but often	Profuse, infrequent
Is your stool	Hard, dark Constipation	Loose, yellowish Diarrhea	Soft, well formed
Is your creativity	Distinct and rich in ideas	Inventive and technical or scientific	In the area of business
Is your memory	Average	Excellent	Good
Is your decision-making ability	Problematic	Quick, decisive	Well thought out
Is your speech	Fast	Loud	Melodic
When handling money, are you	Wasteful	Methodical	Thrifty

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Are your	Shy Nervous Insecure Intuitive	Jealous Ambitious Egotistical Practical	Solicitous Lethargic Self-satisfied Resilient
Is your sexual drive	Extreme or the opposite	Passionate and domineering	Constant and loyal
Do you love	Travel Art Esoteric subjects	Sports Politics Luxury	Quiet Business Good food
Do you dislike	Cold, wind and dryness	Heat and mid-day sun	Cold and dampness

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Approach to headache

Evaluation of the three doshas is the first step toward treating any physical, mental or emotional problem. Diagnosis involves evaluating the tongue, feeling the pulse, and assessing other vital signs through a complex process known as *nadi vigyan*.

Dosha imbalance is just one factor evaluated by the Ayurvedic physician; mental issues, lifestyle and the accumulation of toxins in the body tissues are also important. Headache could result from imbalances in one, or a combination, of these factors. Treatments include herbs, massage, yoga postures, meditation, dietary recommendations, and elimination therapies -- all individually designed to improve both physical health and personal consciousness.

Extensive studies of the Ayurvedic practices have demonstrated their effectiveness in conditions ranging from high blood pressure to diabetes.. In one recent study performed in Holland, 79% of people with chronic diseases, including headache and chronic sinusitis, showed improvement using a combination of Ayurvedic therapies.

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In North America today, there are 10 Ayurveda clinics; more than 200 physicians have received training as Ayurvedic practitioners through the American Association of Ayurvedic Medicine. An estimated 25,000 people have received Ayurvedic treatment since 1985.

Ayurveda is a complex, systematic medical discipline. A general statement about the Ayurvedic approach to the treatment of illness is beyond the scope of this book. We will try to address some of its general guidelines throughout Part 2. But we refer interested readers to the *Resources* section for more information.

Naturopathy

Background

Naturopathy means "nature cure." It is an eclectic system of medicine that has beginnings tracing back to Hippocrates, sharing the Hippocratic view that the body has the ability to heal itself. The term naturopathy was first coined by the New York physician, John Scheel, MD, and the discipline formalized by Benedict Lust.

Lust described naturopathy as a natural system of curing disease that encompasses not only lifestyle habits, but numerous healing approaches aimed at allowing the individual to thrive in a vital state of health, even in the face of environmental, physical and mental stress.

This *vitalistic* approach to healing, as it is known, is shaped by the belief that the body has an innate intelligence that is always striving for health. Also, disease occurs not from outside influences, but from the body's inability to

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defend itself against these invasive stressors (eg, bacteria, toxins, etc). And symptoms are seen as the body's natural way of coping with these stressors.

Like many modern alternative disciplines, naturopathy shares much with conventional medical approaches. Naturopathic practitioners are often up to date on new medical findings about disease processes, and make ample use of modern diagnostic technology. They diverge, however, in their philosophy of how to treat their "patients."

The naturopathic physician may employ a variety of natural therapies to help individuals prevent and cope with disease. Some specialize in a specific area, while others have skills in many areas. These therapeutic modalities include (but are not limited to) nutrition, homeopathy, botanical medicine, acupuncture, hydrotherapy, physiotherapy, minor surgery and lifestyle counseling.

A visit to a naturopathic doctor involves a complete review of your medical history and questioning about your lifestyle.

Approach to headache

As mentioned, the naturopathic physician may employ one or more of a variety of natural ways to prevent its recurrence, or encourage the body to heal itself. For example, naturopaths adhere to the theory governing scientific medicine today that migraine is caused by serotonin disorders. But, rather than prescribe a drug, the naturopath will look into dietary factors (such as food allergy), chiropractic, relaxation and other natural treatments which aim to stimulate the body's own healing abilities. In Part 2, we'll look at these approaches in more detail.

CHAPTER 2: WHAT TYPE OF HEADACHE DO YOU HAVE?

**What a head have I!
It beats as it would fall
in twenty pieces.**
Romeo and Juliet, William Shakespeare

Headache is a general symptom for an astonishing variety of conditions. It can be pounding, stabbing, or dull. It can last minutes, hours or days. Headaches may appear along with other symptoms. Usually, people who have chronic headaches are all-too familiar with the distinct patterns of their individual pain.

In this chapter, we'll examine the major categories of headache as seen by Western medicine. Keep in mind that some headache symptoms may overlap with other disease symptoms, leading to possible misdiagnosis and, in the worst case scenario, improper treatment. For example, people with cluster headaches can also have nasal congestion, which may mistakenly lead to a diagnosis of sinus headache.

In the next few chapters of Part 1, we'll explore in depth some of the more common underlying causes for headache symptoms, such as diet, environment and female hormonal imbalances. Many of these proposed mechanisms not only guide modern medical treatments, but form the basis for alternative treatments, as well. For example, the idea that muscle and tension causes some headache types gives credibility to physical approaches (see Chapter 7). The concept that emotional stress plays a role in headache helps us understand how relaxation and mind-body techniques work (Chapter 8). That certain foods or chemicals trigger headache in some people forms the rationale for nutritional or environmental medicine (Chapter 6). And so on.

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As you might know for yourself, chronic head pain rarely occurs as an isolated event. People can have headache along with nausea, for example. Or headache and nasal congestion. For this reason, some headache types are regarded as *syndromes* -- groupings of symptoms that include headache. Taken on their own, many of these symptoms are *nonspecific*, meaning that they could be shared by other physical or psychological conditions. This is one reason why chronic headaches are notoriously difficult to diagnose.

The first appearance of a severe headache can be a frightening event. Most doctors will first try to rule out the rare, but potentially lethal causes (see below). These dangerous types of headache are part of a group of *organic* headaches, which account for less than 1% of headaches. Much more common are *nonorganic* headaches, or so-called *benign* headaches that originate from conditions in other parts of the body that affect the muscles and blood vessels near the head, and cause pain.

First: rule out "dangerous" headaches

Most of the chronic headache types described in this chapter are not life-threatening. But sometimes a headache can signal a serious condition that requires immediate medical attention. If you have any of the symptoms described in the box on page [TK], I strongly urge you to see your doctor or visit an emergency room as soon as possible.

Aneurysm headache

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Aneurysm is caused by a ballooning blood vessel that either leaks slowly, or bursts. The pain is often severe, occurs very suddenly and may be accompanied by neck stiffness, nausea, confusion and/or loss of consciousness.

Brain tumor

Brain tumors are very rare but potentially very serious. With brain tumors, head pain becomes increasingly more severe and frequent over time. Other symptoms are more "diagnostic" of brain tumors, such as double vision, slurred speech, personality changes, seizures and lack of coordination.

Head injury

Headaches caused by head injury usually appear soon after the trauma, but may come on much later. In some cases, pre-existing headaches become worse after a head injury.

Hypertension headaches

This type of headache usually announces itself in the morning by pain that has a throbbing, pressure quality. It usually occurs suddenly, and only in cases of very high blood pressure.

Lupus headache

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Systemic lupus erythematosus is an autoimmune disease; this means that the immune system mistakes the body's own tissues for foreign invaders, somewhat like an allergen, and launches an attack against it. There are many symptoms of lupus, depending on which part of the body is mistaken for being foreign. If the immune system targets tissues of the brain, or the muscles, blood vessels or nerves near the head, these areas will become inflamed, and headache may result. More commonly, though, headache is one of lupus' many general symptoms; it can be brought on as a warning sign of an upcoming "flare," or as a general flu-like symptom that many people with lupus experience. It's estimated that up to 20% of people with systemic lupus suffer from chronic headaches, and up to 10% have migraine-like symptoms. It's often difficult to distinguish whether these general symptoms are associated with lupus.

Meningitis

Meningitis is caused by a bacterial or viral infection, which in turn causes inflammation of the *meninges*, or membranes surrounding the brain.

Accompanying symptoms include a stiff neck, fever and *photophobia* (aversion to light).

Temporal arteritis

Temporal arteritis usually occurs in people 50 years of age or older, caused by inflammation of the large arteries, usually of the temporal, occipital or ophthalmic arteries. The main symptom is a jabbing, throbbing or burning pain felt around the ear, especially while chewing. The headache can be nonspecific, or accompanied by muscle aches, fatigue and blurred vision.

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[BOX]

Danger signals:

When to call your doctor

The National Institute of Neurologic Disorders and Stroke recommends that you see a doctor if you have any of the following types of headache:

- Headache accompanied by a confusion, unconsciousness or convulsions
- Headache involves pain in the eye or ear
- Headache is accompanied by fever or nausea
- Headache occurs after a blow to the head
- Headache is accompanied by slurred speech, blurred vision, numbness, memory loss or trouble walking
- Headache gets worse, lasts longer than usual or changes
- Headache is recurrent (especially in children)
- Headache is persistent in someone normally free of headaches
- Headache interferes with normal life

[END BOX]

While it is consoling at first to discover that your headache isn't life-threatening, this sense of relief is often quickly replaced by a sense of helplessness and frustration: what, then, is the cause of the headache? In the search for an answer, it's been estimated that people with migraine, for example, suffer up to 8 years before finding an accurate diagnosis! Since there are no biological markers or tests for benign causes of headache, doctors rely on a patient history and your reports of symptoms to reach a diagnosis. What follows in the next pages is a review of the major categories of headache.

Migraine

Migraine has been part of recorded medical history for more than 5,000 years . Though the word migraine is a French term, it traces back to the Greek *hemicrania* to describe one of migraine's distinguishing features: pain on one side (*hemi*) of the head (*cranium*). But anyone who has had migraines knows that head pain is just one of several symptoms that occur before or along with the headache.

Migraine is most often a *syndrome* including one or more symptoms that either coexist, or build progressively over time. For example, many, but not all, people are warned of an impending headache by neurological (nerve-related) disturbances called *auras* . Headache experts divide the migraine population into two major groups: those who have migraine with aura (once called "classic migraine"), and those who have migraine without aura (formerly, "common migraine").

Who gets migraine

If you have migraine, you are not alone. It afflicts about 23 million Americans each year. Migraine is not selective based on wealth, fame or intelligence. It has been known to plague such historical luminaries as Alexander Graham Bell, Julius Caesar, Virginia Woolf, Peter Tchaikovsky and Queen Mary Tudor of England. But migraine is gender-biased: although men do get migraines, the vast majority (75%) of sufferers are women.

Migraine can begin as early as infancy. But symptoms in young children are often very *nonspecific* -- expressing as nausea, vomiting or colic, or general malaise. Many very young children do not have headaches at all, but exhibit other migraine symptoms. (See Chapter 5, "Headache and children.") Mostly,

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migraine and head pain start in young adulthood, with the first episode striking during the teenage years, peaking between 20 and 35 years of age, and declining thereafter.

As mentioned, there are several types of migraine, the two major ones being 'migraine with aura' and 'migraine without aura.' The aura, which means wind, is a pre-headache symptom characterized by visual or other sensory disturbances (see below, "Symptoms of migraine with aura"). Researchers believe that migraine sufferers inherit a genetic susceptibility to the disease: more than half of migraineurs have a family member with migraine. A gene for one rare form of migraine, *familial hemiplegic migraine*, has been found.

Symptoms of migraine without aura (common migraine)

Migraine headache can be divided into three phases: the warning phase (known in medical parlance as *premonitory* or *prodromal* phase), the headache phase and the resolution phase. Note: you may not have all of the symptoms described below.

Symptoms of warning (premonitory/prodromal) phase

It should be emphasized that many people don't have *prodromal symptoms*.. But, even if you don't experience a warning phase, you could still have migraine (see "Symptoms of headache phase", below.) Hours or days before the onset of a migraine, you may have one or more of the following symptoms:

- Neck stiffness
- Shoulder tightness
- Drowsiness/yawning
- Speech problems

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- Head congestion (teary eyes, stuffy and/or runny nose)
- Changes in appetite (less hungry; cravings for sweets)
- Mood changes and mood swings (irritated, anxious, depressed, elated)
- Sensitivity to light and sound
- Vague, undefinable feeling that a migraine is coming on

Headache phase: location of head pain

- Usually located on one side of the head; but the side of head pain can change from attack to attack
- Pain may begin on one side of the head, then travel to the entire head

Headache phase: quality of head pain

- Throbbing, pulsating
- Moderate-to-severe and often incapacitating
- Made worse by physical activity, light or noise

Headache phase: duration of pain

- Lasts between four and 72 hours (untreated), but can last longer

Headache phase: other characteristics

Other symptoms seen in many people include one or several of the following:

- Nausea
- Vomiting
- Diarrhea
- Feeling of being cold

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- High sensitivity to light and sound -- the tendency is to lie down in a dark, quiet room

Some people may also experience one or more these symptoms during the headache phase of a migraine:

- Dizziness
- Pallor
- Faintness
- Palpitations (rapid heart beat)
- Sweating

Resolution phase

The following symptoms often occur after the headache subsides:

- Changes in mood and/or appetite
- Soreness of the scalp
- Fatigue
- Depression
- Sense of well-being

Pattern of pain

Seventy-five percent of people with migraines first feel headache symptoms first thing in the morning. When the headache occurs at night or very early morning, it can be severe enough to wake you up from a deep sleep.

For some people, migraines are brought on with regularity due to hormonal changes (PMS, birth control pills, menopause), exposure to certain foods or environmental factors, or emotional stress (see "Common migraine

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triggers," below). For others, migraines have their own mysterious schedules, without any known trigger.

Migraine with aura (classic migraine)

With the exception of the aura, the symptoms of the headache and resolution phases are the same as those described above. The aura occurs between the warning and headache phases of the migraine -- ten minutes to an hour before the onset of headache.

Aura is thought to be a neurological phenomenon, which means that it has to do with the nervous system. Though auras are more likely to build progressively, they're also known to come on all at once. The term 'aura' is used to describe visual disturbances, and disturbances of other sensory faculties.

Visual disturbances

The visual disturbances, which comprise 75% of auras, can assume a variety of forms:

- Flashing lights
- Sparkles, spots or stars
- Zigzag patterns that "break up" the images in your visual field
- Distortion of object size
- After-flash phenomenon, where certain images seem darker or obscured
- Double vision or loss of vision in one eye

Sensory disturbances

Other sensory disturbances, in addition to visual disturbances or on their own, can also occur:

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- Weakness or numbness on one side of the body
- Chills and tremors
- Sensitivity to light
- Confusion
- Dizziness
- Pallor
- Difficulty speaking

Causes of migraine

Conventional Western medicine considers migraine a distinct disease, with its own set of physical causes. But the medical community cannot agree on the nature of these causes.

Nature or nurture

We do know that migraines often run in families. If you have a migraine, the chances are 50%-75% that someone in your family has had them as well. But people don't inherit migraine in the same way they inherit hemophilia or sickle-cell anemia, for example. With the latter diseases, there's a specific genetic link - and there are genetic and laboratory tests to confirm a family pattern. With migraine, there are no laboratory tests, and symptoms are not all that specific, making it difficult to trace generation-to-generation migraine patterns. Also, a migraine "gene" has yet to be definitely identified, except for the rare form of familial hemiplegic migraine. What seems to operate genetically with migraine is the tendency to pass down a physical *susceptibility*, perhaps a combination of genetic factors.

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Lacking the discovery of a migraine gene, the question arises whether this susceptibility is nature or nurture. It's possible that some people inherit migraine as an physical response to emotionally stressful situations, in the same way that we take on our family's mannerisms, habits or ways of coping with tension.

Whether migraine is genetically inherited or socially acquired, the question remains: how does migraine happen in the body? Why do some people suffer from migraine, even without a family history? Currently, several theories hold sway, and are described below. Some alternative medical disciplines and healing practices uphold these theories; others, such as traditional Oriental medicine, macrobiotic approaches and Ayurvedic medicine espouse different views, which are touched on in Chapter 1, and discussed further in Part 2.

Vascular (blood vessel) theories

The idea that migraine is caused by changes in blood vessel activity dates back to the 1600s, and is still considered valid today. The theory contends that the aura occurs results from spasm of blood vessels in the *occipital* lobe of the brain, located at the back of the brain, near the base of the skull. This constriction causes visual disturbances because these blood vessels carry blood to the visual cortex, located in the occipital lobe.

After the aura-causing spasm (which doesn't happen in all people with migraine), there is a period of *dilation* -- an opening and swelling -- of the blood vessels around the scalp and face. Pain results from nerve irritation due to swelling of the blood vessels and inflammation around the vessels; the throbbing nature of migraine pain is attributed to the flow of blood through the sensitized blood vessels.

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Serotonin theory

Platelets are disc-shaped cells responsible mainly for clotting blood. These cells store *serotonin*. As a *neurotransmitter*, a natural chemical that sends messages to the brain and nervous system, serotonin helps regulate pain message and causes blood vessels to constrict.

Serotonin is stored in platelets and is released by platelet *aggregation* (gathering, or clumping). Some studies show that the platelets of people with migraines have a greater tendency to clump, and in this way releasing higher-than-normal amounts of serotonin. After being released from platelets, serotonin finds its way to *receptors* -- the ultimate destination for serotonin-carried information. At this point, we know that serotonin receptors are found in three different places:

- Blood vessels in the brain
- Nerve cells in certain parts of the brain and throughout the body
- Nerve endings that surround the blood vessels at the base of the brain (the *trigeminovascular system*). The trigeminal nerves, as we will see below, transmit pain messages in the head and face to the brain.

Proponents of the serotonin theory, which is related to the vascular theory, believe that the release of serotonin is responsible for the vasoconstriction that occurs during the aura phase of migraine.

People with migraine are twice as likely to also have a condition known as *mitral valve prolapse*, which is thought to increase platelet aggregation and damage.

Neural (or neurogenic) theory

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Neurogenic means 'originating from the nerves'. This theory maintains that blood vessels *inside* the brain become stimulated by the *trigeminovascular system*, which includes two *trigeminal* nerves at the brain stem. These nerves transmit a sensation of pain from the head and face to the brain. Irritation of the nerves or blood vessels of the head or face triggers a release of chemicals (substance P is an important player) that cause inflammation of the blood vessels, irritation of the trigeminal nerves, and pain.

Unifying theory

As its name implies, the unifying theory brings the above concepts together to explain the symptoms of migraine.

The belief here is that the migraine syndrome begins with electrical changes in the brain which affect the trigeminovascular system. The electrical changes happen after a repeated onslaught of stressing factors -- emotional or physical. When the body can't take the stress anymore, these electrical changes trigger a cascade of biochemical events -- platelet clumping, serotonin release, and contraction of the blood vessels -- leading to inflammation of the vessels and a lowering of blood flow to the brain. The body reacts by dilating blood vessels and releasing pain mediators.

Some researchers also think that there's a part of the population with a problem metabolizing serotonin, which is responsible for the release of chemicals that contribute to vascular and nerve inflammation. These same people are prone not only to migraine, but to other serotonin-related disorders such as depression and irritated bowel syndrome (IBS).

Magnesium depletion

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Recent studies indicate that *magnesium depletion* -- that is, having lower-than-normal levels of the mineral magnesium -- can influence serotonin release, blood vessel size and inflammation. Indeed, it might be the common denominator for all theories. It's estimated that 50% of people with migraine are magnesium-deficient. It's also thought that people with mitral valve prolapse have lower-than-normal levels of magnesium.

Several studies have shown that magnesium depletion plays a critical role in blood vessel size. It seems not only to cause blood vessel constriction, but to make blood vessels *more* sensitive to other chemicals that cause constriction, and *less* sensitive to substances that cause blood vessels to dilate.

Studies have also shown that magnesium depletion seems to help release serotonin from its storage sites. It also helps make blood vessels in the brain more receptive to serotonin, and in this way, clears the way for serotonin to cause constriction of blood vessels.

As we will see in chapters 3 and 6, based on some of my studies, and studies by other scientists, replacing magnesium has been shown to have a very positive effect on migraine symptoms in some people.

Common migraine triggers

If migraine is inherited, why don't people experience symptoms all day, every day, like people with other inherited diseases, such as sickle cell anemia? Part of the answer may be that a susceptibility to migraine leaves the body vulnerable to stresses that trigger a migraine attack. Another answer may be that headache is the physical expression of an allergic reaction to dietary or environmental factors. (Some allergists, environmental doctors and holistic practitioners believe that 90% of all migraine headaches are caused by allergies or multiple

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sensitivities to food products or other substances. We'll explore these in more depth in Chapter 3, but for now, see the table below for a brief review of headache triggers.

Keep in mind that no single person is likely to have headaches triggered by all of the substances below!

[Table]

Common headache triggers

Hormonal factors

(Also see Chapter 5)

Menstrual cycle

- PMS

- Ovulation

- Menstruation

Pregnancy (first trimester)

Birth control pills (estrogen)

Menopause (decreases in estrogen, use of estrogen-replacement) either naturally, or due to surgery

Dietary factors

(Also see Chapter 3)

Alcohol (especially darker beverages, like red wine, beer or scotch versus white wine or vodka)

Foods containing tyramine (aged cheeses, red wine, pickled foods, figs, yogurt, freshly baked bread, bananas)

Food allergies

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Sugar (with special attention to hypoglycemia and diabetes)

Aspartame (artificial sweetener found in NutraSweet)

Food additives (eg, nitrites, amines, benzoic acid tartrazine and MSG)

Tobacco

Caffeine

Chocolate

Yeast

Spices

Corn

Brewer's yeast (also found in some vitamins)

High doses of vitamins, particularly Vitamin A

Fasting or skipping meals

Environmental factors

(Also see Chapter 4)

Environmental allergies (sick building syndrome, pollutants)

Carbon dioxide and other pollutants

Toxins in building materials (such as formaldehyde in wood treatments)

Changes in weather, time zone, sleeping patterns

Bright or flickering lights

Certain odors (eg, specific perfumes)

Noise

Emotional and physical stress

Cigarette smoke

Other types of migraine

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There is also a category known as migraine equivalents (in medical-ese, *acephalgic migraine*) with symptoms related to headache, but which can occur independently of headache. Other migraine types include:

- Abdominal migraine (abdominal pain and vomiting)
- Carotidynia (pain along the carotid artery on both sides of the neck)
- Hemiplegic migraine (difficulty moving one side of the body)
- Ophthalmic migraine (visual disturbances)
- Retinal migraine (period vision loss or darkening of the visual field)
- Basilar migraine (dizziness, vertigo, faintness)

Diagnosis of migraine

Because there is no specific test for migraine, the diagnosis of this syndrome is based on a history of your symptoms, family history and general physical examination. Since the symptoms are often nonspecific, it's very important to be as clear as possible when describing your symptoms to avoid misdiagnosis.

[Sub-subhead or BOX]

Headache and the brain

The brain plays a central role in the Western view of migraine. Here are some brain basics to help you better understand how some headaches happen.

The brain resides within the protective cavity of the *cranium*, or skull. The spinal cord connects to the brain and is contained in the *vertebrae* -- the backbones along the spine -- through an opening at the base of the brain. The skull is made of bone and is covered with layers of muscle and skin, and is richly endowed with a web of blood vessels and nerves. These nerves give the muscles

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surrounding the skull the ability to feel sensations -- pain, touch and temperature.

The brain itself is made up of billions of cells called *neurons* which exchange electrical signals in the brain. Many of the cells are programmed to serve specific functions. Neurotransmitters are especially important, because they initiate electrical currents. Serotonin and other amines are among the most crucial neurotransmitters.

Motor cells transmit messages for movement, sensory cells control physical feelings, etc. These and other important cells are often grouped together in the brain to facilitate their functions. These functions are spurred on or slowed down by other cells -- they're engaged in a complex and continuous *feedback* system throughout the brain and the rest of the body.

Within the skull are two halves of the brain -- the left and the right cerebral hemispheres. Both sit on a short pipe of brain tissue known as the *brain stem*. The brain stem is control-central for the body's automatic life functions such as breathing, heartbeat, blood pressure, as well as hearing and eyesight, and general consciousness. This is why, in trauma accidents, damage to the brain stem is often the cause of coma.

Nerves from the brain stem travel upward to the head. These *cranial* nerves transmit motor and sensory information to the head, face, eye and mouth muscles in the head.

Leading downward from the brain stem is the spinal cord, which extends a few inches up the brain and down the back, and protected by the bones of the vertebrae and further encased by a sheath of tissues called the *meninges*, as well as muscles and ligaments. Nerves that exit and enter the spinal cord are called *peripheral* nerves, which connect up with nerves throughout the body.

The nerves that are especially important to headache include:

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- *Trigeminal nerves* are cranial nerves. They are mostly sensory nerves that transmit feelings to parts of the face and scalp, and to the meninges of the brain.
- *Cervical nerves* , or nerves of the neck, carry feelings from the neck and back of the head to the spinal cord and into the brain.

Under certain, not very well-understood, conditions, pain felt in one part of the head originates from the neck and other parts of the head. This phenomenon, known as *referred* pain, helps explain the pain in the head associated with dental problems, or with muscle tension in the neck and shoulders.

The spaces, or cavities, in the head can also be the source of pain. The sinus cavities can cause head pain when they are inflamed or infected and filled with fluid. Similarly, the spaces inside and between the cerebral hemispheres, known as the *ventricles* house cerebrospinal fluid which helps nourish and protect brain tissue -- and changes in the amount or composition of fluid circulating around the brain can also cause head pain, as is sometimes the case with Vitamin A overdose.

Tension-type headache

Tension-type headache is also known as "muscle contraction" headache, or simply, tension headache. Other names include "psychogenic" headache and "stress" headache. The current name came from new theories about the causes of tension-type headaches.

As the name implies, tension-type headaches is thought to be brought on by muscular or emotional tension. But recent studies show that abnormalities of

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the brain's biochemistry may also play a part, as they do with migraine. Also, the symptoms of tension-type headache and those of migraine often overlap. These two factors lead experts to believe that tension-type headache might not be due to muscle tension alone. We'll examine these factors in more detail in the sections below.

There are two main categories of tension-type headache: *chronic* and *episodic*. Chronic headache symptoms are very disruptive and happen persistently, almost every day for weeks or years. Episodic headache symptoms are not as severe as they are in chronic headache.

Who gets tension-type headaches?

Tension-type headache is the most common of headache varieties. Some people have bouts of both migraine and tension headaches. People who take pain relieving drugs are prone to a *rebound* effect -- a syndrome whereby the pain becomes greater when the painkillers wear off. The rebound effect is implicated strongly as the cause of some chronic daily headaches. Tension-type headaches, just like migraines, can be a part of PMS..

Symptoms of tension-type headache

Location of pain

- Both sides of the head at once
- Band of pain or pressure around forehead, scalp, back of head or neck
- Pain, knotting and/or stiffness in neck, shoulders and/or upper back

Quality of pain

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- Tightness or intense "vise-like" pressure
- Steady dull, ache (versus throbbing or stabbing)

Other characteristics

- Some patients with chronic headache also suffer from depression
- *Not* aggravated by physical activity, light or sound
- *Not* often accompanied by nausea or vomiting
- *Never* preceded by aura
- Headache may begin as tension-type and turn into a migraine

Pattern of pain

- *Chronic*: lasts several hours to several days, or even weeks, with frequency
- *Episodic*: lasts a few hours, does not occur very often

Causes of tension-type headache

The cause of tension-type headaches is under debate among Western medical doctors. Some argue that tension-type headache reflects biochemical changes in the brain that are caused by, or result in, muscle tension -- and the same mechanisms that cause migraine also cause tension-type headaches (see, "Causes of migraine," above). In short, they believe that migraine and tension-type headache are two ends of a continuum of symptoms that emerge from the same underlying cause.

Others assert that tension-type headache is a distinctly unique disorder. Based on the name, conventional wisdom would have it that tension-type headache is due to tension of the muscles and underlying soft tissue around the head and neck, and that it's a common result of emotional and physical tension.

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Emotional tension can cause a physical response -- tensing of muscles. There appears to be much truth to this intuitive thought. People who have stressful jobs, who are under emotional pressure or have anxious dispositions seem to be more prone to tension-type headaches. In recent years, chronic stress has been implicated in a wide range of chronic diseases, including headache. Though these descriptions seem to imply that there is a tension headache personality, this is not true; these same conditions are a part of daily life, and tension-type headaches afflict every type of person.

Muscle tension could also be posture-related, or associated with underlying structural problems such as arthritis or spine injury. There is much evidence to support this concept. (For details, see "The mind-body connection" on page [X].) Indeed, in studies of people with tension-type headache, muscular tension is often present but, confoundingly, not always at the time of the headache itself, suggesting that muscular tension sets off reactions that cause headache symptoms after the muscles relax. Many people with migraine have as much muscle tension as those with tension-type headache.

Common triggers of tension-type headache

Whether or not the mechanisms of tension-type headache are related to those of migraine is up for debate; what we do know, though, is that they share many of the same triggers. See the Table on page [X] for a list of tension-type headache triggers.

[BOX]

The mind-body connection

An understanding of how muscle contraction and soft tissue damage leads to headache lays the theoretical groundwork for understanding of many of the physical methods described in Chapter 7 and mind-body methods in Chapter 8.

The mind-body connection

The body is composed of interconnected parts that influence one another. In health, these parts are in balance, a condition known in medical parlance as *homeostasis*. Under stress, the body can respond to such a degree that the balance is thrown off. In some people, this imbalance can lead to pain and disease.

To illustrate this effect, think of the way you felt the last time something frightened you. You might have felt your stomach tense up, your muscles contract, your heart pound, and your mouth become dry. These are real physiologic responses to stress, coined as "fight or flight" response by Harvard physiologist, Walter B. Cannon in the 1930's. The fight or flight response prepares the body for quick action.

This defensive mechanism can serve an important, immediate purpose: without it, we might not be able to react quickly when facing threatening situations such as oncoming cars. The fight-or-flight response was particularly useful when human beings faced many physical threats, such as wild animals. Today's "wild animals" take a different form: financial worries, job frustrations, relationship problems -- the chronic emotional and psychological stressors that

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we face every day. Recent research has demonstrated a strong link between chronic stress and physical tension (and disease).

The body, it seems, was not made to endure chronic stress. Under normal situations, the fight-or-flight response will give way to homeostasis once the threat is removed. But, if the stress is ongoing, even at low levels, it can lead to negative changes in the body, such as muscle tension and blood vessel constriction. Headaches, high blood pressure, changes in blood sugar and ulcers are just some of the negative responses to these effects.

There is another proposed mechanisms for the mind-body stress connection. The early 20th century psychiatrist, Wilhelm Reich, a protoge of Sigmund Freud, asserted that the physical body holds and reflects emotions -- often hidden from the conscious mind -- and that working on the body is just as important to releasing pent-up emotions as psychotherapy. Reich's findings have played a seminal role in the development of bodywork methods (See Chapter 7).

The physical causes and effects

Chronic muscle tension can also alter the body structure, creating a self-perpetuating cycle of tension and pain that persists long after the stressful cause of tension has been resolved.

Chronic muscle tension can be caused by bad postural habits -- standing or walking in ways that put unnecessary stress on the body, work habits such as cradling a telephone between the shoulder and ear or hunching over a computer keyboard -- or underlying structural problems.

It can also result from prior physical trauma; if you hurt your shoulder, for example, the body's tendency is to protect it by tensing muscles around the area of pain, or to overcompensate by straining other muscles. This

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phenomenon is known as *splinting* ; just as we apply a splint to a broken bone, the body may naturally develop a splint for an injured part of the body. After the injury has healed, the muscles and soft tissues have become habituated to the new structural situation, and continue tensing when there is no need.

Biochemically, when muscles become tense, they become starved of blood and oxygen. After prolonged periods of oxygen deprivation, the muscles begin to "choke", resulting in an effect medically known as *ischemia*. Ischemia triggers the release of hormone-like chemicals such as *arachidonic acid* and *prostaglandin* , which make nerve endings more sensitive to pain signals -- and sound the alarm for the body to take some action to relieve the pain.

Often, we are not aware of how we contract these muscles because the actions have long become part of our habit or posture. Continued muscle tension can lead to ongoing irritation of the nerves that lead to the head, and to chronic headache. Body education methods such as the Alexander Technique and the Feldenkrais Method aim to make students consciously aware of these habitual patterns, and offer new movement options to replace them (see Chapter 7).

The five groups of muscles that are closely linked with headache include:

- Trapezius muscle (shoulders and arms)
- Occipitalis
- Frontalis
- Temporalis
- Rectus Capiti

[ART: ILLUSTRATION OF HEAD and SHOULDER MUSCLES with callouts]

[callouts]

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Frontalis

Temporalis

Occipitalis

Trapezius

Rectus capiti

Temporalis muscle

Clench your teeth and trace your fingers from the side of your eyebrow back to the temple. This is your temporalis muscle. Now, think of how often you might clench this muscle, when you're angry or under stress. Many people also activate the temporalis by grinding their teeth at night.

Frontalis and occipitalis muscles

Frown or squint. These expressions are controlled by the frontalis muscle, which extends from your eyebrow up to your forehead. Deep concentration, anger, or bad eyesight can contribute to chronic tensing of the frontalis, and resulting tension in the occipitalis.

Rectus capiti

With your body upright, look down as though reading a book in your lap -- or crane your neck forward. The rectus capiti muscles at the nape of your neck allow you to do this. For many people, these positions are postural bad habits that lead to strain of the occipitalis muscles. It was recently discovered that there is also a set of connective tissues at the base of the skull, behind the rectus capitis, that form a bridge between the deep neck muscles and the *dura mater*, the sheath of highly sensitive tissues that surround the brain and spinal cord. This muscle, called the rectus capitis posterior minor, has been directly linked to tension

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headaches, according to a recent report at the Congress of Neurological Surgeons in 1995.

Trapezius muscles

Raise your shoulders up to your ears, now lower them. This simple exercise exaggerates the way many people hold their trapezius muscles in tension, by hunching their shoulders or carrying heavy bags, or by cradling telephones between their ears and shoulders. By the way, if your trapezius muscles are chronically tensed, this exercise might also give you a sense of relief and relaxation.

The role of connective tissue

Connective tissue is any type of tissue in the body that serves a connecting function. The *fascia* is a 3-dimensional connective deep tissue, like a stretchy cloth, that surrounds and permeates muscles, bones, organs and blood vessels. The *dura mater* is a highly sensitive sub-type of fascia that surrounds the brain and spinal cord.

When healthy, the fascia is flexible and slippery, giving the encased muscles and organs enough freedom of movement to perform their natural functions. But the influences of gravity, aging, accidents or psychological stress cause it to contract in certain areas, and become rigid, putting pressure on the muscles, organs and other internal body systems. Chronic structural imbalance contributes to rigid fascia. In addition, distortion of the fascia in one area of the body may cause a tightening of this internal sheath in another.

To illustrate this effect, Jane Xenos, an osteopathic physician who teaches cranial manipulation in Santa Ana, California offers this example: If you fall on your bottom while ice skating, you cause stress to the fascia in your sacrum (the

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part of your spine near the pelvis). From the stress of injury, the fascia or dura mater in that area becomes rigid, tugging at the fascia or dura mater near the skull. Though theoretically sound, this explanation is still unsupported by any test or study.

By manipulating the fascia, osteopathic physicians, cranio-sacral therapists, massage therapists and Rolfers aim to restore its flexibility, which in turn restores structural balance, freedom of movement and functioning to the body's organs and other systems. A possible result of this manipulation is headache relief.

Cluster headache

It's been called "the suicide headache" and "the demon of headaches." These monikers give you a sense of the intensity and severity of cluster headaches, which, indeed, can cause such ravaging pain that people have been driven to suicide.

Doctors have also described it as "Horton's neuralgia," and "Harris' neuralgia," for the physicians who first described the syndrome. In Europe, it may be referred to as "episodic migrainous neuralgia." Like migraine, cluster headache is a type of vascular headache. However, the mechanisms for cluster headache appear to be different from those of migraine.

Cluster headaches are so-called because the bouts often appear in groups of one to three attacks a day, lasting from 15 minutes to 2 hours, followed by a period of pain-free remission. This pattern may continue daily for weeks or months with such regularity that people can virtually set their clocks by the

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attacks. However, a small percentage of people experience *chronic cluster headache*, for whom there are no lasting periods of relief.

Who gets cluster headache

Unlike migraine, 85% are men between the ages of 20 and 40, though rare cases have been reported in children. Many are smokers (averaging 30 cigarettes a day). Depression and sleep disturbances are also part of the cluster headache profile. Sufferers may have a rugged complexion, tend to be taller than average, have blue or hazel-colored eyes, and may have thicker blood (a high hemoglobin).

Symptoms of cluster headache

In a report from the 5th International Headache Congress, thousands of Americans with cluster headaches are misdiagnosed as having sinus headache, and undergo unnecessary surgery or treatment for allergies. Needless to say, accurate diagnosis based on a thorough understanding of your symptoms is critical! What follows is a list of typical symptoms of classic cluster headache:

Location of pain

- Begins on one side of the upper face or head, typically near the temple, forehead or one eye, as discomfort and aching
- Pain spreads over the same side of the face and/or neck (rarely, may alternate to the other side in a different episode)

Quality of pain

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- Begins as mild discomfort, but within minutes reaches high intensity
- Extremely painful, and almost unendurable. Differs for each individual; but it may be boring, throbbing, piercing or burning

Other physical characteristics

- Nose becomes stuffy or runny, often only on one side of the head
- Eye may tear, droop, become bloodshot and the pupil may dilate
- Face may perspire
- The afflicted side of the face may feel warmer
- People become agitated, pace and may even hit their heads against the wall due to the intense pain (unlike migraine pain, which worsens with movement)

Pattern

- Daily attacks (one or more) lasting 15 minute to 2 hours, often at the exact same time every day
- Often occur during sleep, awakening sufferers with excruciating pain
- After intense pain subsides, individuals might feel a dull ache for several hours
- Episodes may continue daily for weeks or months, followed by a remission lasting anywhere between six months and two years

Causes of cluster headache

From a conventional Western medical point of view, cluster headaches are a type of vascular headache -- that is, they are caused, in part, by *dilation* (widening) of the blood vessels. Migraine headache is also thought by some to be a vascular headache. But the exact mechanisms of cluster headache are still an enigma.

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Through study, researchers know that heredity does *not* play a major role in cluster headaches. However, many agree that the *hypothalamus* -- the brain's home base for body rhythms and hormone regulation -- is a key player in the development of cluster headaches. Studies have shown that blood flow to the brain increases during a cluster attack, which gives credibility to the vascular role. Others have noted a change in testosterone (male sex hormone) levels, which substantiates the body rhythm-regulating hypothalamus as a possible participant -- and helps explain why clusters occur with such regularity, and primarily in men.

Another theory about clusters involves *chemoreceptors* which are located in the carotid (neck) arteries, and which regulate the amount of oxygen and carbon dioxide in the blood. During a cluster attack, oxygen levels have been found to decrease.

As with migraine, some individuals with cluster headache have been found to be deficient in magnesium.

Much more research is needed to understand how these factors contribute to the unbearable pain of cluster headache.

Common triggers of cluster headache

The following are the most common triggers for cluster headache, but other factors may also incite an attack. It's important to note that these factors only bring on headache during a cluster period -- it's very rare for these triggers to initiate a cluster headache during remissions between cluster periods.

- Alcohol, even in small amounts, is the most common trigger
- Other vasodilating substances

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- foods that contain nitrates (hot dogs, bacon, etc. -- see Chapter 3)
- medications that contain vasodilators, such as nitroglycerine and propranolol (see Chapter 3)
- Dramatic changes in temperature
- Exercise
- Stress

Other types of cluster headache

The above describes the classic cluster headache. As mentioned, some people suffer from *chronic cluster headaches* that continue without any pain-free periods of remission between. *Chronic paroxysmal hemicrania* is a rare form of cluster headache, characterized by intense bouts that are shorter in duration (two to five minutes), but happen more often during the day (up to 20 or more times). Unlike classic cluster, women are more prone to chronic paroxysmal hemicrania. Also, alternative methods usually do not work for these people -- though there are some reports with certain modalities, such as oxygen supplementation (which works for cluster, not other types) and certain herbal treatments. The anti-inflammatory drug, indomethacin, is highly effective for chronic paroxysmal hemicrania. Another rare type of cluster headache is *cluster-migraine syndrome*, which combines features of cluster and migraine headache.

Diagnosis of cluster headaches

Diagnosis is made on the basis of a medical history, with a focus on symptoms. But the symptoms are often misleading, resulting in long periods of painful misdiagnosis. The intensity of pain may raise false suspicions of brain tumors,

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head trauma, migraine, trigeminal neuralgia or even dental problems. The nasal symptoms could seem to indicate sinus problems. Allergies may be suspected due to eye redness and tearing. It's important to communicate to your doctor or practitioner as precisely as possible the combination of your symptoms, with emphasis on the distinctive "cluster" pattern.

Less common headaches

Sinus headache

"Sinus" headache sufferers beware: TV ads tempt us to attribute headaches to sinus problems, but in the vast majority of cases, they're not. This doesn't mean that sinus headaches don't exist -- it's just important to accurately diagnose true sinus headache to make sure you get the proper treatment.

True sinus headaches are usually caused by *sinusitis* -- or inflammation of the sinus cavities. There are two categories of sinusitis: acute and chronic.

Acute sinusitis is a potentially serious condition that warrants immediate attention. In acute sinusitis, the inflammation is due to infection of the sinus cavities. **Since the infection can travel to the brain, it's vital that you contact a doctor immediately if you have these symptoms: headache, fever, tenderness over the sinus area and a green-yellow discharge from the nose or back of the throat.** Some people also experience nausea and dizziness.

Chronic sinusitis is caused by inflammation, not necessarily infection, of one or more of the sinus cavities. You might feel a sense of fullness in your head, rather than frank pain, which is made worse by moving your head. The pain centers on the sinus cavities, with symptoms that are similar to, but less severe than, acute sinusitis. Usually, people with chronic sinusitis *do not have a fever*.

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In children, chronic sinusitis can be difficult to diagnose, and is often misdiagnosed as tension or migraine headaches.

Temporomandibular Joint Headache

The temporomandibular joint (TMJ) is located in front of the ear, at the juncture of the jaw bone and the skull. This headache is caused by spasm of the muscles around the joint. It is one of the most misdiagnosed conditions, leading to the unnecessary pain and expense of corrective appliances and surgery. In addition to pain -- headache, ear or jaw pain -- true symptoms of TMJ syndrome include, pain caused or aggravated by chewing, inability to open the mouth fully and tenderness of the TMJ. Some people also hear clicks or pops in their jaw, but this symptom is also seen in people without headaches or TMJ syndrome.

Eyestrain headaches

Eyestrain headaches are felt around the eyes and front of the head. Reading, poor lighting or astigmatism are common causes of eyestrain headache. Similar but more severe symptoms might be indicative of *glaucoma*, which is caused by increased pressure on the cornea. Symptoms of glaucoma include redness of the eye, bad night vision, or halos around lights at night. Since glaucoma can lead to blindness, it's important that you seek out the professional help of an ophthalmologist (the medical professional who diagnoses and treats disorders of the eye).

Sex-related headache

Not the same as the "not-tonight-honey-headache," sex-related headache is a condition that more often afflicts men. The medical term is *benign orgasmic cephalalgia*. This translates as harmless headache related to orgasm, which is a

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misnomer because sex-related headaches are not always benign, nor do they always occur with orgasm. The pain is intense and throbbing -- like a migraine. Indeed, some experts believe that the physiologic effects of sexual excitement, such as dilation of blood vessels, sets in action the same biochemical mechanisms responsible for migraine. The pain can last minutes, or endure for several hours.

Though the tendency is to dismiss sex-related headaches as harmless, occasionally, they can be related to stroke (bleeding from a blood vessel in the brain). A small but significant percentage of strokes occur after sexual activity. On the other hand, the release of endorphins during orgasm may relieve a migraine or tension headache.

Hormonal headaches

A significant number of women experience headaches that correlate with hormonal changes -- due to PMS, menstruation, use of birth control pills, pregnancy, and estrogen depletion (related to menopause or surgical removal of the ovaries). These factors are discussed in Chapter 5.

Psychological aspects of headaches

We express feelings in many ways -- through words, actions and, sometimes, through our bodies. When we feel joyful, we feel a clarity and springiness in our steps. People notice, and may comment on, how well we look. We have more energy and strength. These physical feelings are very real, and very socially acceptable.

But when we feel anxious or depressed, our bodies also reflect it, sometimes with symptoms of illness. The medical world refers to this response as *somatization* -- the conversion of feelings into physical symptoms that, otherwise, have no discernible physical cause. As a group, symptoms that arise

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from psychological sources (rather than direct physical injury or disease) are called *psychogenic*.

Lest you think that this explanation somehow diminishes the importance of these headaches, or dismisses them, allow me to reassure you: the pain is very real, and these headaches should be approached with the same seriousness and consideration as any other type of headache.

Conventional Western medicine has documented the effects of psychological stress on the body. Earlier in this chapter we looked at some of the muscular symptoms associated with stress. We also know that, under stress, the body prepares for action.

Internally, the body responds to stress in several ways:

- Release of biochemicals
- Increased heart rate
- Increased blood pressure
- Muscle tension (including spasm of stomach)
- Constriction of the blood vessels
- Coldness of hands and feet, as blood moves toward the area of injury

This response works very well in helping people respond quickly and efficiently with the rare, threatening situation. But, the body is not well-armed to cope with chronic stress or pressure. When the pressure is ongoing, these physiologic responses can cause chronic illness.

By reviewing the mechanisms of migraine, cluster, and tension-type headache, it's not difficult to see how stress can play a central role in triggering an attack -- or predispose you to head pain. An acceptance of emotional or psychological stress as a critical part of the pathogenesis of headache, with

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measurable physiologic consequences, underlays many of the mind-body therapies (to be discussed in Chapter 8) -- particularly psychotherapy, biofeedback, hypnosis, imagery, meditation, relaxation and prayer. Indeed, honoring the relatedness of the mind to the body is one of the distinguishing features of most complementary approaches.

Depression and chronic headache (migraine and tension-type) appear to be closely related, in several ways. First, several large population studies indicate that people with depression are three times more likely to suffer from migraines. Studies also show that people with migraines are three times more likely to develop depression. However, one condition does not cause the other, rather, they probably share a similar mechanism. Indeed, there's some evidence that both share an underlying serotonin disorder. Lower levels of serotonin are well-documented in studies of people with clinical depression, and are the basis for the development of new antidepressant drugs.

Exertional headache

Some people experience headaches when they exert themselves physically. This doesn't mean that the exertion has to be strenuous. In fact, exertional headaches are also known as the *cough headache* and the *laughter headache*, as well as the *lifting headache*. Symptoms are a throbbing, sharp pain that can last for minutes or hours. These headaches can sometimes be prevented by taking anti-inflammatory drugs (such as aspirin) or herbs (see Chapter 9) before engaging in physical activity. Since the sudden onset of any headache symptom could signal a dangerous underlying cause, it's important to seek medical advice if the headache persists.

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Hangover headache

The cause of a hangover headache is rarely a mystery to the individual who suffers from the throbbing head, nausea and fatigue after overindulging in alcohol. There's some evidence that the alcohol itself is not the cause of hangover, but impurities in the liquor.

Low blood sugar headache

Abnormally low blood sugar, or *hypoglycemia*, can cause a variety of symptoms, including headache. While missing a meal or two will lower blood sugar, and induce headache symptoms, this temporary condition shouldn't be confused with hypoglycemia. True hypoglycemia is a potentially serious disease -- often a precursor of diabetes -- characterized by headache, light-headedness or dizziness, sweating, and trembling. In very severe cases, hypoglycemia can cause convulsions or death.

Constipation

Headache is thought to result from constipation either by the absorbance of toxic substances through the bloodstream, or the inflation of blocked intestines. The resulting toxins can cause headache symptoms.

Travel headache

Many people find that being a passenger in a moving vehicle -- plane, automobile, train -- can trigger the onset of headache, perhaps due to the visual stimulation or changes in atmospheric pressure. Missing meals, emotional tension and hormonal imbalances due to changing time zones, can contribute to stress and headache.

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Chronic fatigue syndrome

Chronic fatigue syndrome is thought to be caused by the Epstein Barr virus (EBV). The symptoms are varied. nonspecific and flu-like; fatigue is the main symptom, but headache is often present as well. Because of the general symptoms, EBV is hard to diagnose, but it's estimated that tens of thousands of Americans have the virus, either with or without symptoms. Highly contagious, EBV is spread by close contact and sexual contact. Upon contracting EBV, the body forms antibodies, which can be measured, but are not diagnostic. There is no vaccine or cure, and the cause is unknown. Some researchers suspect *Candida albicans* as a potential instigator; 60% of EBV sufferers have candida infections. Other suspected contributing factors include chronic mercury poisoning from fillings, anemia, hypoglycemia, hypothyroidism and sleep disorders.

CHAPTER 3: DIET, DRUGS AND HEADACHE

What is food to one, is to others bitter poison

On the nature of things, Lucretius

We are what we eat, so the saying goes -- and many headache experts take the adage very seriously. But few of us have managed to avoid the experience of eating a type or quantity of food that leaves us feeling sick, or have failed to notice how changes in our diet affect our sense of well-being or physical appearance. In spite of these messages from our bodies, eating is often a less-than-mindful activity.

All of us, but especially people with headaches, could benefit from being more aware of what we feed our bodies. There's striking evidence that certain foods (and other ingested substances, such as drugs) can trigger headaches, either immediately or within a day. For example, an estimated 25% of people with migraine can trace its source to foods that contain tyramines (see below). And that's just one food type, for just one type of headache. People with cluster and tension-type headache -- and even sinus headache -- have also linked foods with their head pain.

Certain people also are predisposed to food reactions. Individuals with chronic headache seem to be particularly vulnerable, for a variety of possible reasons, possibly linked to the factors that cause headaches. For example, migraine and cluster headache sufferers might be particularly susceptible to certain *vasoactive* foods (foods that exert activity on the blood vessels) because of ingredients or components. As discussed in Chapter 2, these imbalances could be aggravated by other factors, as well, such as stress, lack of exercise, changes in the climate. In other words, it seems that outside factors conspire with constitutional vulnerabilities to create conditions for headache.

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Many holistic disciplines -- Ayurveda, traditional Oriental medicine and macrobiotics, for example -- believe that our capacity for certain foods is influenced by our individual constitution, climate and lifestyle. Ingesting an amount beyond that capacity might create an imbalance and a physical reaction. On the other hand, you can raise your tolerance for specific foods by bolstering your strength in other areas of your life, as we'll see in Part 2.

COMMON DIETARY TRIGGERS OF HEADACHE

Though many studies have been conducted to identify the food sources of headache, much of the information is *anecdotal* -- that is, doctors know what they know because of what their patients tell them. The lists that follow come from a combination of studies and reports from headache sufferers to their doctors.

Keep in mind that no single person reacts to all of the foods, beverages, additives and pharmacologic agents listed below. Researchers generally agree that, with a few exceptions, headaches are brought on by a combination of substances, during a time of particular vulnerability. You might react to caffeine one day, for example, and have no reaction on another.

Alcohol

Alcohol is a potent headache trigger -- a fact well known even by people who otherwise never get headaches.

But, the mechanism of a hangover headache is different from that of a migraine or cluster headache trigger. In hangover, the headache is attributed mainly to dehydration. There are a few other ways that alcoholic drinks precipitate a headache attack. First, alcohol is a potent vasodilator. Flushed cheeks and red eyes are vivid outward signs of dilated blood vessels. In people with tension-type headaches, small amounts of alcohol might actually help

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relieve pain. But, as you remember, part of the mechanism of headache is not just the dilation of blood vessels, but spasm -- opening and closing. One theory holds that migraines begin with constriction (causing aura) and progress to dilation (causing blood to rush forth, producing a pounding sensation). So, when alcohol opens and stretches blood vessels, it could set in action the mechanisms of headache.

In addition, though alcohol first opens blood vessels, the body reacts to this influence by closing them off. In effect, alcohol acts ultimately as a vasoconstrictor.

Second, many types of alcohol contain additives or preservatives that precipitate headache. Red wines, for example, contain sulfites and tyramine, both prime headache-causing candidates. In general, the darker-colored alcoholic drinks -- red wine, beer, scotch, etc. -- are more likely to trigger headache.

People with cluster headaches are especially sensitive to alcohol, even in small quantities.

Caffeine

For headache sufferers, caffeine is a double-edged sword. On the one hand, small amounts of caffeine constrict blood vessels -- which makes it useful in controlling migraine. In fact, caffeine is an active ingredient in several migraine drugs. But too much caffeine (more than 2 or 3 cups a day) can make a headache worse, or even bring one on.

Caffeine is also a stimulant, and can interfere with sleep patterns. People with chronic headaches are especially sensitive to changes in their environment

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and lifestyle. Interrupted or inadequate sleep increases stress, which we know can set the stage for headache.

The caffeine withdrawal headache, common on weekends, is caused by sudden reduction or elimination of caffeine from the diet. If you're used to drinking 2-3 cups (300 mg of caffeine) or more a day, you might have developed a dependency on caffeine, and cutting down or quitting can cause a caffeine withdrawal headache.

Foods and drugs that contain caffeine

Cocoa

Chocolate (including milk chocolate)

Coffee

Decaffeinated coffee

Drugs such as:

- Anacin
- Cafergot
- Darvon Compound-65
- Dexatrim
- Esgic
- Excedrin
- Fioricet
- Fiorinal
- Midol
- No-Doz
- Norgesic
- Norgesic Forte
- Synalgos -DC

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- Vanquish
- Vivarin tablets

Soft drinks such as:

- Coca-cola (including diet)
- Pepsi-cola (including diet)
- Dr. Pepper
- Mountain Dew
- Tab

Tea, including some teas that are often considered "herbal"*:

- Chinese Green Tea
- Earl Grey
- Mint tea
- Oolong tea

* Herbal teas are generally caffeine-free, but it's important to carefully read the label, or ask before ordering or purchasing them.

Amines

Amines are amino acids found in many foods and are naturally occurring throughout the body. *Tyramine* and *tryptamine* is a common amine found in foods, as are tryptamine and dopamine. It's thought that amines trigger headaches either directly by constricting blood vessels, or indirectly, by activating certain biochemicals in the body that initiate a headache attack. Some studies have found that certain people with migraines have lower-than-normal levels of a digestive enzyme that breaks down dietary amines (see *Food Intolerance*, below).

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Phenylalamines are naturally-occurring amino acids that work to improve memory and produce the mood-elevating neurotransmitter, norepinephrine. They're also found in feel-good foods like chocolate and aspartame (the artificial sweetener, see below). So, while the phenylalamines might be mood-elevators, they also carry the danger of triggering headaches.

It should be noted that people who take drugs known as *MAO inhibitors* may be even more sensitive to tyramines. These drugs include such as isocarboxazid (Marplan), phenelzine (Nardil) and tranylcypromine (Parnate).

Some amine-containing foods

Some alcoholic beverages (beer and wine)

Avocados

Bananas

Bean pods and broad beans (including soybeans)

Breads that are freshly baked

Cabbage

Cakes that are freshly baked

Cheeses (especially, hard aged cheeses)

Chocolates

Citrus fruits

Chicken liver and other livers

Cream and sour cream

Eggplants

Fermented foods

Figs

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Fish that are pickled or preserved, including caviar

Meats that are aged or cured, organ meats , game meats, and pork

Nuts (including peanut butter and other nut butters)

Onions

Peas

Pickled foods

Pineapples

Raisins

Spinach

Tomato

Vinegar and foods that contain vinegar (eg, catsup, relishes, mayonnaise, salad dressings, Worstershire sauce, steak sauces, Tabasco sauce, horse-radish, prepared mustards)

Yeast-extract-containing foods (eg, bouillons, prepared soups)

Yogurt

Food additives and substitutes

Nitrites and *monosodium glutamate* (MSG) are food additives. Nitrites and nitrates are preservatives for meats, such as hot dogs and bacon, giving them a red color. They also add flavor and help prevent food poisoning. Nitrites are sometimes sprayed on fruits and vegetables in grocery stores and salad bars. Nitrites and nitrates are potent vasodilators -- thus, their connection with headache. In animal studies, they have proved to cause cancer, but this link in humans has not been established to the satisfaction of the US Department of Agriculture.

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MSG is a flavor enhancer most famous for as an ingredient in Chinese foods, but it's also added to many other prepared foods. An estimated 10-25% of the population is sensitive to MSG. [Saper: Freedom from headaches]. It's also a vasoconstrictor. The symptoms -- headache, sweating, dizziness and a burning sensation -- come on about 30 minutes after eating the offending food.

Some foods containing nitrites/nitrates

Bacon

Bologna

Bratwurst

Beef jerky

Corn dogs

Corned beef

Food coloring agents FD&C yellow #5

Fruits and vegetables in some grocery stores (sprayed with nitrate-containing preservatives)

Ham

Pre-packaged lunch meats

Liverwurst

Meat tenderizers

Pastrami

Peperoni

Pork and beans

Salad fixings at some open salad bars

Salami

Sauerkraut

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Sausage

Seasonings and flavorings (read the label)

Smoked fish

Soy sauce

Spam

Vegetables packed in brine

Some foods containing MSG

Bacon bits

Baking mixes

Barbeque sauces

Bouillon cubes

Bread stuffing

Breaded foods

Canned meats

Cheese dips

Clam chowder

Corn chips

Croutons

Dry roasted nuts

Frozen foods

Gelatins

Oriental food

Potato chips

Processed meats

Relishes

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Salad dressings

Salt substitutes

Seasonings with combined spices

Soups, canned and dry

Soy sauce

Unmasking MSG in prepared foods

MSG is most often used in prepared, packaged foods. But it's not always clearly labeled. It can be a hidden component of other products, or labeled as "natural flavoring." Here are some of the common "masks" for MSG:

Hydrolyzed protein

Sodium caseinate

Yeast extract

Yeast nutrient

Autolyzed yeast

Textured protein

Calcium caseinate

Yeast food

Hydrolyzed oat flour

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Chocolate

Chocolate can be triple-trouble for the headache sufferer. First, it contains chemicals that constrict blood vessels. Second, it contains caffeine. Finally, it is high in sugar content -- and dramatic changes in blood sugar can trigger headache, in sensitive individuals (see *Other diet-related factors*, below). People with migraine need to be particularly careful about chocolate, because many find themselves craving it during the prodromal period, before an attack.

Other potential headache triggers

The following list includes foods that contain vasoactive and other headache-causing substances:

Aspartame (NutraSweet)

Caramel candy

Corn

Corn syrup

Dairy products

Licorice

Olives

Passion fruits (mangos, kiwi, strawberries, papayas)

Shellfish

Wheat products

Not-so-sweet aspects of some artificial sweeteners

The FDA has received many complaints about adverse effects associated with aspartame, the generic for the artificial sweetener, NutraSweet. In addition to

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headache, sensitivity reactions include dizziness, malaise, nausea and visual disturbances. Many people add NutraSweet directly to their food or beverages -- but it should be known that NutraSweet is found in many diet products, from multivitamins and breathmints to cereals and yogurt. Check the label of all diet products for aspartame.

THE STOMACH-HEAD CONNECTION

While it's clear that certain vasoactive substances can trigger headaches, scientists are at odds over why others might cause headaches. There are several possible explanations -- some of which may overlap or aggravate the other.

These include:

- *Digestive disorders* which may manifest as improper or untimely digestion, disturbances of the natural bacterial "flora" in the digestive tract and/or build-up of toxic substances.
- *Nutritional deficiency* is another possible culprit, causing a host of problems that could lead to head pain.
- *Food sensitivity* refers to a heightened physical awareness to a particular substance that could cause headache, but is neither an intolerance nor a true allergy.
- *Food intolerance* which is distinct from allergy, caused by digestive problems or a deficiency in the digestive enzymes.
- *Food allergies* due to immunologic problems -- which can be genetically-based or originate from nutritional deficiencies -- are also under suspicion.
- *Stress*, the ubiquitous trouble-maker in headache, can aggravate or cause any of the above situations.

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Before entering this foray of conflicting theories, it helps to understand a little about the digestive system -- the basics of how whole foods become micronutrients or toxins.

The digestive system

The digestive process begins almost as soon as the fork leaves your mouth. Chewing food calls forth digestive enzymes in the saliva to make food softer and easier to swallow. The food then makes its 9-10 inch trek down the esophagus to the stomach.

In the stomach, digestive enzymes break food down even more. Protective antibacterial secretions help prevent food poisoning, and to regulate the healthy balance of good bacteria.

After 3 - 5 hours, foods leave the stomach for the small intestine. Fats tend to linger longer, and carbohydrates beat a faster retreat. Chemical changes in the small intestine break food down into its micro- and macronutrients such as carbohydrates, fats, proteins, vitamins, minerals, etcetera. These constituents are then absorbed into the bloodstream -- with the exceptions of alcohol, which is absorbed in the stomach, and oxygen (technically a nutrient), which is absorbed in the lungs. From the bloodstream, nutrients make their way to the liver and are then distributed to tissue cells throughout the body.

In health, the body is very selective and efficient about what it takes in and what it eliminates. Within the cells, nutrients are metabolized and made available to serve their life-maintaining or repairing purposes. Substances that are potentially toxic are excreted through the bowels and urinary tract.

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When good foods do bad things

Even healthy foods can cause unhealthy results when the digestive system isn't working optimally. Here are a few ways the digestive system can get into trouble and cause headaches:

Stress

Emotions can greatly affect digestion. Anger and hostility tend to speed up digestion -- fear and depression can slow or even stop digestion in its tracks, contributing to constipation or bacterial overgrowth and, possibly, headache.

Undigested foods

Due to stress, constipation and/or other underlying physical problems, foods can sit in the large intestines partially undigested, resulting in putrefaction. The liver, in an attempt to carry out the waste product, becomes overloaded and cannot adequately process the toxic substance. Headache could be one of the symptoms of this toxic overload.

A relatively new and somewhat controversial finding is that food and bacteria can also pass across the intestinal wall -- a phenomenon known as "leaky gut." When the gut is weakened either by disease such as *celiac sprue* -- intestinal malabsorption -- or by drinking alcohol or other factors (possibly genetic) these substances can circulate into the bloodstream. Over time, the liver may become overloaded by toxic substances. The result: sensitivity to toxic substance circulating in the bloodstream or immunologic dysfunction such as potential allergic reactions, according to Jerry Stine, Nutritional Biochemist with the Allergy Research Group in San Leandro, California. We'll discuss the immune system and food allergy later in this chapter.

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Imbalance of bacterial flora

Where there is life, there are bacteria -- and many foods carry these microorganisms. Most often, bacteria are not present in enough force to threaten the body, so that the immune system can keep bacterial levels from flourishing out of control into infection.

The digestive tract is armed with a natural balance of bacteria, called the natural bacterial "flora". Overuse of antibiotics can disturb the normal bacterial flora, resulting in possible overgrowth of specific bacteria, such as *Candida albicans* -- a yeast-like fungus found naturally in the healthy body. But when candida grows unchecked, *Candidiasis* can occur.

Candidiasis manifests in many ways including sore throat, vaginal yeast infections, irritable bowel syndrome (stomach pains, diarrhea and constipation), and headache. There's some evidence that candida is linked with Epstein Barr Syndrome, in which headache is part of the constellation of symptoms. In addition, candida infection is also known to impair the immune system, which is the underlying cause of food allergies, and possibly, headache-related symptoms. Yeast-containing foods, such as breads, cakes and crackers, can spur on Candida growth. Other Candida-promoters include sweets and wheat. These foods are all on the headache -sufferers checklist of possible triggers.

Enzyme deficiency

A genetic lack or deficiency in digestive enzymes, which are responsible for breaking foods down into nutrients, can result in food intolerance. See *Food intolerance* , below.

Nutritional imbalances

Researchers today know that there's a strong relationship between nutrients and the development and cure of diseases. A deficiency in nutrients can have many different effects on the body, depending on how much and how long one is deprived. Vitamin C deficiency, for example, is now known to contribute to immune system impairment and increase the risk of some types of cancer.

Overconsumption of certain nutrients can also have ill effects -- too much fat in the diet can lead to heart disease. Research also confirms that an imbalance of certain nutrients can contribute to headache. Here are some recent findings:

Magnesium deficiency

Magnesium is a dietary mineral that helps regulate blood vessel size, serotonin function, nerve activity in the brain, among other functions. It's estimated that up to 50% of people with migraine (10 million Americans) are deficient in the mineral. Magnesium deficiency is thought to be at least one important factor in migraine attacks -- among other conditions. Magnesium deficiency

Clinical study suggests that magnesium might be a common denominator in both the vascular and neural theories of migraine. In support of the vascular theory, magnesium deficiency results in blood vessel constriction [Scientific American, May/June 1995]-- and adding magnesium to the diet leads to the opening (*dilation*) of blood vessels. In support of the neural theory, magnesium deficiency has been linked with the production and release of substance *P* -- a biochemical that contributes to the inflammation of nerves, and headache pain. (We'll discuss the role of magnesium as a treatment option in Chapter 6.)

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Magnesium deficiency is commonly caused by a lack of the mineral in the diet (see below). In addition, magnesium can become depleted by the other factors:

- Stress
- Digestive disorders irritable bowel syndrome
- Drinking water that is "soft" (that is, with few minerals)
- Long-term use of diuretics, a common blood pressure medication
- Alcoholism
- Malnutrition

How do you know whether you're deficient in magnesium? Magnesium depletion most severely affects the heart, muscle nerves and kidney tissues. Headache may be the only sign of magnesium deficiency. Others include:

- Weakness
- Confusion
- Personality changes
- Anorexia (appetite and weight loss)
- Nausea
- Lack of coordination
- Digestive disorders

Copper metabolism problems

Copper is a trace mineral that helps form bone, hemoglobin and red blood cells. It works with zinc and vitamin C to create elastin, and is important for healthy nerves. Recent research suggests that copper deficiency could contribute to high blood cholesterol and anemia, particularly in people with high-sugar diets.

Along with zinc deficiency, copper's also associated with high blood pressure.

Copper deficiency is also implicated in immunodeficiency. [Nutrition desk reference, pages 111-112].

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The role of copper in migraines is not confirmed, but evidence strongly suggests that changes in copper metabolism can have a dual effect. First, it could have a direct effect on the functioning of blood vessels in the brain. Metabolic changes in copper cause the blood vessels to dilate or constrict, triggering migraine.

In a related way, copper might turn normally-benign foods into headache triggers. It's thought that copper's role in producing serotonin, tyramine and other amines lays the groundwork for foods that are high in phenylalamine content -- such as chocolate and aspartame -- to trigger headache. This same biochemical mechanism might cause headache by increasing the intestinal absorption of amine-rich foods, such as citrus fruits.

Vitamin B deficiency

Deficiencies in *niacin* (vitamin B₃) and *folic acid* are known to contribute to headaches. Niacin is needed for good circulation and a healthy nervous system. It also helps metabolize other nutrients (carbohydrates), certain drugs and toxins. Folic acid, also known as folacin, is responsible for producing red blood cells and DNA synthesis. It aids in the metabolism of proteins, and is vital for normal growth.

The role of these B vitamins in headache are not very well understood. Niacin helps increase blood flow to the brain, thus helping to prevent or reduce the vasoconstriction associated with chronic headache. Folic acid, as a key player in the production of red blood cells, keeps the body's supply of oxygen fresh. For these reasons, it's thought that deficiencies in these vitamins could contribute to headache.

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Niacin deficiency, known as pellagra, can affect every cell of the body. The first symptoms include lassitude, weight loss and loss of appetite, and indigestion. In addition to headache, nervous system symptoms include irritability, insomnia, emotional instability and loss of memory. The skin may be rough, scaly and uncommonly dark in areas that are exposed to sunlight. The digestive tract is afflicted in all areas, from the tongue, which becomes swollen and bright red, to the intestines, which may result in diarrhea. These symptoms are usually associated with other B vitamin deficiencies, as well.

Deficiencies of folic acid are among the most common, especially among pregnant women in the last trimester, and usually occurs along with a deficiency in B₁₂. The symptoms include irritability, headache, weight loss, weakness, shortness of breath, palpitations, forgetfulness, emotional disturbances and diarrhea.

The causes of niacin and folic acid deficiencies are usually related to depletions in the diet. However, folic acid deficiency can also be caused by:

- Intestinal problems
- Gastric surgery
- Certain medications, including aspirin and anticonvulsants

Vitamin A excess

The health benefits of vitamin A are remarkably varied. It's important to good eyesight, and prevents night blindness. It also promotes healthy skin. Vitamin A is an antioxidant and aids in immune function, helping to protect against pollution and cancer, colds and flu. Beta carotene is the food source of vitamin A.

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Vitamin A overdose has been shown to trigger headaches. Doses as low as 25,000 IU daily have been known to cause toxicity [Environmental nutrition, July 1995]. But the mechanism has not been well-studied. Sometimes, it's related to a side effect called *hydrocephalus*. Hydrocephalus, or an accumulation of excess fluid in the cavities of the brain, is caused by an interference of normal circulation and absorption of fluids. With vitamin A toxicity, this frightening effect is usually *transient*; it passes quickly. Under other circumstances, it can be a symptom of developmental defects, infection, trauma or brain tumor -- and is a potentially dangerous event.

In addition to headache, large doses of vitamin A are well known for producing harmful effects, especially related to the eye. Children are particularly susceptible to high doses. Other symptoms of overdose include:

- Yellowing of the skin
- Vomiting
- Weight and/or appetite loss
- Joint pain
- Abdominal pain
- Irritability
- Bone abnormalities
- Itching
- Dry, scaly, bleeding lips
- Stunted growth

Vitamin A overdose is not related to beta carotene in the food. You probably need to be taking vitamin A supplements to reach a point where you experience toxic effects.

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Vitamin D excess

Vitamin D is necessary for the absorption of calcium and phosphorous. It is vital to bone formation and growth.

At high doses, Vitamin D may cause platelets to aggregate [Thiesler], which, according to some theories, may contribute to vasoconstriction and headache.

Vitamin D toxicity is more common in infants and young children than it is in adults. Progressive bone loss (osteoporosis), a natural consequence of aging, increases the body's need for vitamin D and calcium. If you are on a high-calcium and Vitamin D diet, or are taking high doses of Vitamin D, you might experience toxic effects. Headache is just one symptom of Vitamin D overconsumption (in adults, that's more than 10 micrograms, or 400 IU, per day). Other symptoms include nausea, weight loss, weakness, digestive problems, arterial narrowing, skin problems, kidney damage and higher-than-normal calcium levels.

Iron deficiency

Iron is a mineral that helps oxygenate the blood and form hemoglobin. It's vital to the production of many enzymes, as well as disease resistance and growth in children.

The role of iron in headache is not well documented. But, it's been identified as an important factor in synthesizing neurotransmitters in the brain. We know that the neurotransmitter, serotonin, is an important regulator of headache pain. Iron deficiency occurs in the brain long before they become

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apparent in the bloodstream. It's possible, therefore, that headache could result from lower-than-normal serotonin levels due to iron deficiency.

Whatever the mechanism, headache can be a symptom of iron deficiency, as are tiredness, apathy, slower brain function, heart enlargement and fingernails that are spoon-shaped and have lengthwise ridges.

Iron deficiency is one of the most common deficiencies -- particularly among women of childbearing age because high quantities of iron are lost monthly through menstruation. In fact, any condition that causes blood loss can possibly lead to iron deficiency, including chronic ulcers and hemorrhoids, blood donations and surgery. Iron might also be less available in people with rheumatoid arthritis and cancer. Individuals with candidiasis and chronic herpes are more vulnerable to iron deficiency.

Food sensitivity, intolerance and allergy

There is a lot of confusion about the differences between food sensitivity, intolerance and allergy. Though they are technically different conditions, there are researchers who believe that one or all can produce chronic headaches.

Sensitivity may be defined as a heightened, usually negative, response to a substance. In a way, food sensitivity is a generic term that includes intolerance and allergy; it describes the *way* in which we react, not the reason why.

Chemical sensitivity, a specific sub-category of sensitivity, is a complex physiologic process that produces allergy-like symptoms but, unlike allergy, does not seem to involve the immune system. Its very existence as a clinical syndrome is disputed by most mainstream medicine. Chemical sensitivity is often dismissed as being a psychologic problem. Through the efforts of people

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who suffer such sensitivities, several national organizations have formed to encourage basic research, national awareness and information.

Briefly, chemically sensitive people appear to be highly sensitive to low levels of toxins in foods and/or the environment. The latest research shows that chemical sensitivity is probably a combination of central nervous system damage and enzyme deficiencies, which may be caused by genetics, chronic exposure to toxins, or both.

According to people who study chemical sensitivity, the problem can be difficult to diagnose for several reasons. First of all, people who are chemically sensitive seem to react to very low levels of chemicals -- levels that are generally considered safe for the general population.

Second, the standard tests for chemical reactions -- such as allergy tests or tests for blood levels of toxins -- do not show up positive. This makes sense since chemical sensitivity does not seem to be an allergic response involving the immune system. In addition, the body's reactions to low levels of chemicals happen very slowly, causing minor but irreversible damage that progresses until the injury reaches a critical point.

Third, the mechanism of chemical sensitivity may be complex. According to the most recent theories, the body forms an addiction to a chemical, so that if it fails get the regular dose, the body goes into withdrawal. The withdrawal symptoms such as headache will "mask" the real problem, which is internal damage due to chemical exposure. Also, once a person is sensitized to one chemical, the sensitivity can "spread" to include other, unrelated compounds. Once that happens, according to the Chemical Injury Information Network, chronic exposure will lower the body's tolerance level, and make it all the more vulnerable to other chemical assaults.

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Some substances in foods can cause chemical sensitivity, but more insidious are the hidden, and poorly regulated, toxins in the environment and commercial products. For more on chemical sensitivity, see *Chapter 4*.

Intolerance, according to the National Center for Nutrition and Dietetics, is defined as an adverse reaction to foods caused by:

- Digestive problems and other physical conditions that can mimic food allergy symptoms
- Enzyme deficiency causing a physical inability to digest certain foods (such as lactose intolerance)
- Allergy-like symptoms caused by ingestion of certain foods (wine, cheese) or exposure to certain substances.

Clinical study has shown that some migraine sufferers lack an enzyme, *phenolsulfotransferase*, which helps in the digestion of certain foods, particularly foods that contain phenylalamines. Chocolate and aspartame, the synthetic sweetener in NutraSweet®, also contain phenylalamine.

Allergy is an abnormal response of the body's immune system to foods or ingredients. For some people, eating small amounts of an offending food can cause a life-threatening reaction. Less allergic people can tolerate small amounts. The National Center for Nutrition and Dietetics believes that, while 33% of people think they have a food allergy, true allergy exists in only 1%.

Conventional Western medical study has failed to find a clinical connection: blood tests do not reveal signs of immune system dysfunction; there appear to be no family patterns; and, skin tests are not indicative of headache.

There are two theories about why people who have toxic reactions to substances might not show have positive blood tests. One is that headache represents a "delayed" allergic reaction that involves the immune system. One

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study showed that the allergic response is significantly different in people with migraine.

The connection between sinusitis and allergy is better established -- however, the allergens (see below) tend more to be environmental than they are food-related.

How allergy happens

An allergic reaction occurs when the immune system identifies certain substances as being harmful to the system -- this can occur even when the substance is not present in threatening amounts.

The healthy immune system is on guard all the time for potential invaders, or *antigen*. Antigen is defined as any substance that does not rightly belong to the body (*anti* = against; *gen* = type). Antigen include any substance that is not part of the body, including foods and other nutrients that are good for the body. When an antigen causes an allergic reaction, it's called an *allergen*. On exposure to an allergen, the immune system produces an antibody that recognizes only that specific allergen. One such antibody is known as IgE, which forms a connects up with other substances in the blood and tissue. This IgE complex then snares the allergen, activating a series of events aimed at protecting the body and ousting the intruder including inflammation and dilation of blood vessels.

Once an antibody has formed, it is always there to fight off any repeat invasions -- which is why people who are allergic to a certain substance remain so unless they avoid that substance altogether.

Most often, allergic reactions occur with amazing swiftness, within minutes of exposure. But allergies can occur over time, after repeated exposures,

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when the body becomes "overloaded" -- that is, when the amount of substance has surpassed the person's natural level of tolerance. To further complicate matters, ingesting certain substances can prime the body to react to others. And many different types of foods can be involved. These characteristics of delayed allergy make it much more difficult for the allergy sufferer to identify the offending substance. Making matters worse, victims of delayed allergy often crave the very foods that cause headaches.

Other diet-related factors

Many people report headaches after skipping meals. Some researchers relate this to hypoglycemia, or low blood sugar. While missing meals might, in fact, contribute to headache, there's little evidence linking this pattern with true hypoglycemia. Hypoglycemia is a very specific clinical condition that may be an early sign of diabetes. Short periods of low blood sugar do not constitute true hypoglycemia, but is rather defined as *functional hypoglycemia*. Symptoms of true hypoglycemia -- which often occur after carbohydrate-rich meals -- include headache, dizziness, lightheadedness, trembling and, possibly, nausea. If you have more than one of these symptoms, contact your doctor for an evaluation of your blood sugar. In the non-hypoglycemic headache sufferer, the physiologic stress of missing a meal is a more likely headache trigger than low blood sugar.

Drugs and headache

We've already looked at some drugs -- prescription and over-the-counter -- which contain ingredients that could trigger headaches. Virtually any drug, taken

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incorrectly or at higher-than-recommended doses, may cause headache as a side effect. Here are some that may cause headache at regular doses:

Vasodilators

The most obvious culprits are vasodilators, which are often used to treat high blood pressure or angina. These include, but are not limited to:

- captopril
- diltiazam
- erythrityl tetranitrate
- hydralazine
- isosorbide dinitrate
- minoxidil
- nicardapine
- nifedipine
- nitroglycerin (oral drug and skin patch)
- pentaerythritol tetranitrate
- reserpine
- verapamil

Rebound headache

Certain vasoconstrictive drugs can contribute to headaches; upon stopping them, the body responds with dilation of the blood vessels and, potentially, headache symptoms. Vasoconstrictive drugs that may cause rebound headaches include:

- Ergotamine
- Amphetamines

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- Caffeine

Intracranial pressure

Certain substances can cause pressure inside the cranium, and produce headache:

- Vitamin A overdose (more than 25,000 IU daily)
- Tetracycline
- Lithium

Noninfectious meningitis

Unlike bacterial meningitis, which can be life-threatening, inflammation of the meninges due to aseptic or noninfectious meningitis requires medical attention, but is not as dangerous. Drugs that contribute to this effect include:

- Ibuprofen
- Sulindac
- Tolmetin

Estrogen replacement

As you'll see in the Chapter 5, changes in blood levels of estrogen -- the "female hormone" -- can create bodywide effects that cause headache. The birth control pill and estrogen replacement therapy (such as Premarin®) are drug-forms of estrogen.

Cigarette smoking and illicit drugs

The following substances have been shown to trigger headache, or cause rebound headache upon withdrawal:

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- Cigarette smoking
- "Second-hand" smoking
- Benzodiazepines
- Cocaine "hangover"
- Inhaling glue

Withdrawal from virtually any addictive drug can produce headache; withdrawal from alcohol, cocaine and opiates should be monitored carefully to avoid severe, potentially life-threatening reactions.

CHAPTER 4: THE HEADACHE ENVIRONMENT

The air bites shrewdly.

Julius Caesar, William Shakespeare

Just as the foods we eat can set the stage for headaches, toxic substances or allergens in the air we breathe can also bring head pain. Also, other environmental factors such as the weather, noises and light might trigger a headache attack.

The question arises (as it has in Chapter 3): are these headache triggers direct causes of chronic headache, or do they switch on other mechanisms that are laying in wait? With certain headache types, like eyestrain headache or sinus headache, there is an organic cause of headache. But, for chronic tension-type, migraine and cluster headaches, the mechanisms are under dispute. The same theories uphold for environmental toxicity as they do for dietary toxicity (see Chapter 3, *Food Sensitivity, Intolerance and Allergy*, page [TK]). Briefly, reactions to substances in the environment may result from:

- *Intolerance* -- due to a functional, anatomical problem in breaking the substance down or eliminating it
- *Allergy* -- an immunologic problem whereby the body mounts an immune response against an offending substance
- *Chemical sensitivity* -- a non-immunologic syndrome, probably a combination of central nervous system damage and enzyme deficiencies, which may be caused by chronic exposure to toxins, or genetics, or both.

Removing the sensitivity-causing substance might relieve the headache for the time being. But, in its unbalanced state, the body remains poised for

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reactions to other substances. So, while identifying and eliminating toxic causes of headache is obviously important, it's also important to explore whether other, deeper factors are at play.

The air we breathe indoors

By now, most of us know that air pollution is bad for the health -- but it may be surprising for many of you to learn that *indoor pollution* can incur health consequences that are as grave, or even more serious, than those caused by outdoor pollution. Theron Rudolph, MD, an environmental physician and author of *An Alternative Approach to Allergies* (Harper Perennial) was one of the first to recognize indoor pollution as a potential health risk. Here are some startling facts:

The National Academy of Sciences estimates that indoor pollution contributes up to \$100 billion annually in healthcare costs. The Occupational Safety and Health Administration (OSHA) estimated that more than 20 million Americans work with chemicals known to cause nervous system damage, even when used in small amounts. And, according to the National Research Council, complete toxicity information is available for only 2% of the 70,000 chemicals in daily use.

Poor ventilation

The energy crisis in the 1970s can be blamed for many ills, not the least of which is setting the stage for environmental illness. To conserve energy, the government encouraged weatherization and energy-efficient construction. The upside was savings on energy bills; the downside was poor ventilation in new buildings. As a result, all of the new materials and products that contain

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petrochemicals, formaldehyde and other toxins (and they are ubiquitous) become trapped in our super-insulated environments.

Offices or homes built in the fall or winter in colder regions are particularly prone to causing indoor environmental problems. These new building materials are often treated with substances which, without the chance to escape through ventilation, will off-gas and "percolate" in an enclosed space. Environmental toxins that normally would have a chance to escape by opening a window in spring or summer are, in the winter, trapped and accumulate -- resulting in higher-than-normal levels of toxins, and a higher potential for causing toxic reactions.

Hidden headache hazards

Some of the biggest headache-causing suspects on the home front are humidity, dust mites, molds, yeast and algae. But other factors to consider include chemicals that emit from cleaning solutions, personal care products, dry cleaning, wood preserving, and other sources to be discussed below.

Humidity

I know of one headache sufferer who can predict humid weather more accurately than any weather man. But she is not alone. Many headache sufferers know when it's going to rain and can presage drops in barometric pressure. These individuals seem to be more prone to headache during air travel, or while climbing to high elevations.

There are a few possible explanations for her talent; perhaps her body is reacting to a change in the weather, or maybe it's reacting to factors that thrive under humid conditions, such as dust mites, molds, yeast and algae.

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Dust mites are microscopic insects that flourish under conditions that are common in today's American household. It should be noted that the dust mite itself is not the offender, but its droppings. The more dust mites you have, the more droppings, etc. Yeast, algae and molds coexist and proliferate under similar conditions as the dust mite.

The kitchen

We've already discussed how foods that you cook on your stove can trigger headache, but what about the stove itself? Gas stoves can be particularly hazardous due to the emission of *nitrogen dioxide*, *benzene* and *carbon monoxide*. Cleaning solutions might also contain ingredients that trigger headaches. Moist areas, for example under the sink, can be breeding grounds for dust mites, yeast, algae, molds and fungi. Cookware made of aluminum, or dishes made of plastic, might be the source of allergens.

The bathroom

As mentioned above, moist areas are perfect for the growth of common household allergens. The shower stall creates an ideal habitat for the proliferation of molds. Again, cleaning solutions should be suspected as possible headache-producing sources.

The volatile molecules in these and other *highly-scented personal products* (such as shaving lotions, soaps, moisturizers, shampoos, etc.) can quickly assault the nervous system, and bring on a headache.

House-wide considerations

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Dry cleaning, treated woods and insulation materials often emit *formaldehyde*. Polyurethane, a clear, plastic sealant often used in finishing woods and other materials, can be toxic for several months after its application. Other products used in during the process of pressure-treating woods may incite headache attacks, as well. *Carbon monoxide* from home heating systems is a potentially dangerous source of headache, an early symptom of possible poisoning.

The rapid changes temperature in heating/cooling ventilation systems are good breeding grounds for molds and fungi, which then become distributed throughout the building.

Insecticides often contain vasoactive agents that could trigger a headache. Consider also your *water supply*, which can harbor chemicals leached from nearby factories or farms. In one study, headaches plaguing a Western Illinois community were traced to water pollution with trichloroethylene (TCE). Even if water testing fails to uncover toxic levels of chemicals, many headache sufferers are highly sensitive to even low levels of toxins -- levels that may be considered safe for the general population.

Hidden ingredients that can cause headache

According to the Environmental Protection Agency, the following ingredients -- found in common personal care and cleansing products -- have been found to cause headaches.

	Benzyl alcohol	Ethyl acetate	a-Terpineol	Methelyne chloride
Aftershave		•	•	
Air freshener	•		•	
Cologne	•	•	•	•
Deodorants	•		•	
Dishwashing liquid		•		

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Fabric softener		•		•
Hairspray				•
Laundry bleach	•			•
Laundry detergent				•
Nail polish remover	•	•		
Nail polish		•		
Paint				•
Perfume	•	•		•
Shampoo	•	•		•
Soap	•			•
Varnish remover				•
Vaseline lotion	•			•

Headache in the office

Office politics aside, lurking within the carpeting and walls of your office building could be toxic substances that bring on chronic headaches. Factory workers may be exposed to noxious inhalants or chemicals absorbed through the skin which may cause headaches (see *Chemicals*, below). Consider these environmental factors in your place of work:

Chemicals

What types of chemicals are commonly used? If you work in a dynamite factory, for example, suspect *nitroglycerine*. A potent vasodilator, nitroglycerine is a common headache-triggering factor. In fact, any chemical factory work should raise a red flag. People who work with welding, mining, metalizing, metal grinding or finishing, paint (that contains lead) or any sort of combustion might be exposed to headache-causing inhalants. Farmers and farm workers should

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consider pesticide exposure. People who work in printing or art might not be aware that the fixatives and markers they use daily are noxious, especially for the sensitive headache sufferer. Individuals who work in building and construction might want to explore whether they're exposed chemicals were used for treating woods -- both in the woods themselves (formaldehyde and others) and in their sealing (polyurethane and others). Also, many offices have regular pest control schedules; consider whether your headaches coincide with fumigation .

Fumes and noxious odors

People with chronic headaches might also be highly sensitive to odors, such as fumes from the above-mentioned sources, perfumes, automobile exhaust and cigarette smoke.

Lighting and computers

As mentioned, those of you who suffer from migraine with aura can be especially sensitive to changes in light. Bright or flashing lights can precipitate a migraine attack. Infrared lights (from welding and other operations) can also precipitate headaches. Fluorescent lights, which tend to flicker -- sometimes almost imperceptibly -- can also bring on headaches, migraine and others. Reading, poor lighting or astigmatism are common causes of eyestrain headache.

Job activities

Sudden exertion can bring on a headache, as may bad postural habits. See Chapter 7 for more information.

Travel

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Many factors that occur during travel can, either alone or in combination, bring on a headache attack. For example, when hiking to altitudes above 10,000 feet, people who are not susceptible to headaches may experience them. Changing time zones can throw off your internal biological clock, resulting in stress and hormonal changes that may set the stage for headache. Travel-related factors that may cause headaches include:

- Atmospheric changes (see below)
- Changes in time zones
- Constant motion
- Altitude
- Enclosed environment (particularly during air travel, see *Poor ventilation* above)
- Skipping meals (see Chapter 3)

Is your office making you sick?

Complete the following questionnaire. If you answer "yes" to any of the questions, investigate the sources as possible headache triggers.

Yes No

/ / / / I am exposed to chemicals in my workplace.

If yes, please list (eg, glues and fixatives, aerosol sprays, sealants, pesticides)

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- / / / / The windows in my office building cannot be opened.
- / / / / The heating system uses gas or oil for fuel.
- / / / / I use a computer much of the day.
- / / / / My job requires a lot of air travel.
- / / / / The lighting source is fluorescent lights.
- / / / / My work requires physical exertion.
- / / / / My job environment is noisy.
- / / / / My coworkers smoke.
- / / / / I am exposed to perfumes, sprays or other fumes on the job.

Weather changes

It's hay fever season, and while everyone else is sneezing and wheezing, you're getting headaches. Is there a connection? Some headache experts might attribute it to allergies, while others point to changes in the weather. Many headache sufferers seem to be exquisitely sensitive to barometric and/or humidity changes. As we discussed above, humidity is a common headache trigger, possibly due to the proliferation of allergens. Other researchers attribute this weather reaction to ionic changes -- positive and negative charges in the air - - during changes in atmospheric pressure.

We'll explore ways of detecting and reducing environmental headache hazards in Chapter 6.

CHAPTER 5: SPECIAL POPULATIONS: WOMEN, CHILDREN AND TEENS

I am, being woman, hard beset

Elinor Hoyt Wylie "Let no charitable hope"

Throughout this book, we've emphasized that each person with headache is unique. You may share some characteristics with other headache sufferers, such as a sensitivity to particular foods or environmental toxins, but certain populations deserve special attention because their patterns of head pain are often quite distinct. These groups include women, children and teens.

Until puberty, the incidence of headaches is pretty well distributed between males and females. In fact, slightly more boys are likely to suffer from headaches than girls. But at puberty, hormonal changes set in, and set the stage for headaches -- especially for girls.

Before going any further, it may help to understand the role of hormones in headache.

The hormone-headache connection

Hormones help the body keep a healthy biochemical balance by informing it of outside stimuli, and regulating its responses. Essentially, they are messengers produced mostly by *endocrine* glands distributed throughout the body, and that travel through the blood to activate necessary changes in the body. Some of these changes contribute to headache.

The endocrine system

Adrenal glands

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Located above the kidneys, the two adrenal glands produce two different types of chemicals: *catecholamines* and *steroids* .

The catecholamines include hormones that activate the fight or flight response to stress. The greater the stress, the higher the output of hormones such as adrenaline.

There are three categories of steroid hormones: *mineralocorticoids* which regulate the balance of fluid in the body; *glucocorticoids* which perform several functions, including the control of blood pressure; and, *sex hormones* , estrogens (female hormones) and androgens (male hormones). We'll look more closely at estrogens and their role in headache later on in this chapter (see *The headache cycle in women*).

Pancreas

The pancreas is an organ located behind the stomach that produces insulin and other hormones that regulate blood sugar levels -- the energy of the body. In Chapter 3, we talked about how skipping meals can cause headaches due to low blood sugar levels.

Pituitary gland

Found in the head, the pituitary gland is control-central for the hormone system. The pituitary is connected to the *hypothalamus* , which teams up with the pituitary to help it control hormonal functions. For example, the pituitary produces hormones that control other hormone-producing systems. The pituitary produces *gonadotropins* which are vital in the female reproductive cycle, including follicle-stimulating hormone (FSH) and lutenizing hormone (LH).

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The pituitary glands also make *prolactin* , which is responsible for producing breast milk in pregnant women. Prolactin levels are also known to jump during periods of stress, and might be part of why headache sufferers respond to stress triggers.

Thymus

The thymus is a gland located behind the breastbone and seems to play an important role in the immune system.

Thyroid

The thyroid is a gland that sits in the hollow in your neck. It secretes hormones that help control metabolism. Higher-than-normal thyroid levels (known as *hyperthyroidism*) speed up the body's metabolism, and produce symptoms such as headache, nervousness, palpitations, fatigue and loss of appetite. Lower-than-normal thyroid levels (known as *hypothyroidism*) slow the body down, creating symptoms such as headache, accumulation of fluids in the body (*edema*), dry hair and skin, weight gain, a slow heart rate, and others.

The headache cycle in women

We mentioned earlier that, in women, the adrenals produce estrogens, and that the pituitary glands produce gonadotropin hormones, LH and FSH.

From puberty through menopause, women are ceaselessly influenced by fluctuations in these hormones, due to the repeated cycles of menstruation and, sometimes, pregnancy. In some women, precipitous drops in estrogen are thought to be responsible for premenstrual headaches.

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The menstrual cycle

Below, we'll look at how hormone levels change during the menstrual cycle, and how these changes can contribute to headaches. Keep in mind that, while 28 days is the average length of a menstrual cycle, most women have shorter or longer periods.

Days 1-5: Menstruation

The first day of menstruation marks the first day of the cycle. At this time, progesterone levels have dropped, and the uterus contracts, causing painful cramps in some women, to help release the lining of the uterus -- menstrual bleeding.

Headache-causing factors

Migraine: Before menstruation, estrogen levels drop quickly. It's thought that this sudden fall triggers migraine. The premenstrual phase sets the stage for a migraine during menstruation.

Tension-type headache: Stress and pain couple during menstruation to create ideal conditions for a tension-type headache. The heightened activity of the adrenal glands during this time pumps more estrogen into the system, which also might contribute to headache.

Rebound headache: Many women rely heavily on anti-inflammatory drugs during the first few days of their periods to relieve cramping and back pain. In some cases, rebound headaches (see Chapter 2) could result after discontinuing them.

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Days 5 - 9: Post-menstruation

With the exception of FSH, hormone levels are low. FSH levels are increasing to stimulate the ovaries to ripen an egg within the follicle (a kind of nest that forms on the ovary) , which in turn, puts estrogen production in faster motion.

During this time, women are feeling what one woman I know calls her "mid-cycle high" -- as a result, headaches are generally at an all-cycle low.

Days 9 - 14: Proliferative phase

Days 9-14 are called the proliferative phase because this is when the egg starts to mature. FSH levels decrease, estrogen levels increase and luteinizing hormone begins to accumulate. Again, the slow, steady rise in estrogen does not cause many headache-related problems during this time.

Days 14 - 28: Premenstrual phase

The oocyte, or egg, has matured and is expelled from the ovary to the fimbriae, where it makes its way down the fallopian tube and, ultimately, to the uterus. During this time, estrogen and LH levels fall dramatically; LH first then estrogen. The ovaries produce progesterone to nurture the developing egg in case it has been fertilized by sperm.

The vasculature of the uterus is now growing, producing more blood. If the egg is not fertilized, the uterine lining will shed during the process of menstruation.

Migraine and tension-type headache: the abrupt fall in estrogen and progesterone levels set the stage for migraine. Simultaneously, prostaglandin, a hormone that increases sensitivity to pain, also increases as a result of these

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hormonal swings. The result is not only conditions for migraine, but a higher sensitivity to pain.

The role of magnesium

There is also evidence that magnesium levels are reduced during the premenstrual phase. As mentioned in Chapter 3, magnesium deficiency has been linked with blood vessel constriction and with the release of substance P, the biochemical that sets in motion pain-causing inflammation. In my studies, about 50% of people with a migraine attack appear to be magnesium-deficient, and this deficiency strikes women with migraines more often than men.

Birth control pills

We've just seen how monthly hormonal changes, particularly in the levels of natural estrogen, can lay the groundwork for headaches in women. Hormonal changes also occur due to other biologic events in a woman's life, including pregnancy and menopause. Estrogen-containing drugs, such as the birth control pill and estrogen therapy (such as Premarin®) which is used to ease the symptoms of menopause, can also affect estrogen levels, and a woman's vulnerability to headache.

Migraine is one of the most common side effects of oral contraceptives, or the Pill. It can set off a migraine, worsen its severity, or increase its frequency. Though migraine is most common among women who are prone to headache, for some women, taking the Pill triggers their first attack.

The Pill helps prevent pregnancy by raising estrogen levels; it's the increase in estrogen that produces headache-causing changes in blood vessels.

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Estrogen can increase platelet aggregation, which increases the risk of headache-triggering events. It also heightens the risk of other problems related to blood clotting, such as stroke.

Certainly, the Pill does not cause migraine in all women, nor does it trigger migraine in all women who are vulnerable to it. In fact, some women notice a reduction in the severity and frequency of their headaches when taking the Pill. This effect may be more common among women who normally experience great fluctuations in estrogen and who, by taking the Pill, find that their estrogen levels are more stabilized.

Menopause and hormone therapy

Menopause is defined as the cease of menstrual periods. But, with the exception of women who undergo surgical removal of their ovaries, menopause is a process -- a natural series of biologic events that result in the end of menstruation -- it takes an average of four years for a women's menstrual periods to come to a complete halt. During these years before menopause (*premenopause*), women slowly start to experience hormonal changes that can cause headaches. The length of periods may change and the cycle between periods can get longer or shorter. This cyclic instability is caused by changes in hormone levels. The key word here is instability; estrogen levels (and levels of other hormones, such as progesterone) tend to rise and fall even more sharply during this time. The decline in estrogen will often result in dilation of blood vessels -- a set-up for headaches, as well as hot flashes.

Women who undergo surgical menopause due to removal of the ovaries (*oophorectomy*) or removal of the ovaries and uterus (*total hysterectomy*) are more likely to have a more intense reaction because of the abrupt decline in estrogen.

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For many women who suffer from migraines, menopause often harkens a new headache-free era. But a great many women experience other disruptive effects such as hot flashes, vaginal dryness, heart palpitations, joint pain and, possibly, headaches. These effects are directly linked to the loss of ovarian estrogen and progesterone.

Other long-term effects of menopause include osteoporosis (bone loss) and an increased risk of heart attack. For these reasons, many women take estrogen therapy, or hormone therapy, which combines estrogen and progesterone. Hormone therapy takes the form of a pill, creams and skin patches.

Clinical studies have shown that hormone therapy can help prevent osteoporosis, and ease the physical discomfort of menopause; but it could also aggravate headache. In much the same way as the Pill, estrogen therapy in any form (pill, cream or skin patch) can set in motion the biochemical events that lead to headache -- platelet aggregation, serotonin release, substance P release, inflammation of nerve endings and vasospasm.

Any change can bring stress. And "the change of life" can be a substantial stressor for women. As anyone who has experienced a hot flash knows, the physical symptoms alone can be a source of emotional stress. Loss of sleep due to night-time hot flashes (also known as "night sweats") disrupts the body's biorhythms, setting the stage for stress and headache. Also, laden with negative social symbology, menopause may be seen by some women as an adverse change, causing a decline in self-image. Thankfully, today, menopause is no longer as much a veiled subject as it once was, and there are many articles, books and magazines devoted to helping women gain an understanding of menopause -- which, hopefully, will help change some of the negative stereotypes surrounding this natural process. (See *Resources* for more information.)

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Pregnancy

Hormonal changes are highly charged during the first three months of pregnancy. The fluctuations in estrogen can be great enough to bring on the first migraine attack in some women -- or heighten the pain for those who already suffer. After the third month, however, most women experience relief.

After pregnancy, when estrogen and progesterone begin their sharp ascent, headaches might recur, or come on after several headache-free years.

Headaches and children

We often think of headaches as an adult disorder, and become particularly alarmed when a child complains of chronic head pain. While any sudden pain should be taken seriously in children since it may signal a serious underlying problem such as meningitis or encephalitis, the vast majority of headaches in children are benign. (See page [TK] of Chapter 2 for the warning signs of potentially dangerous headaches.)

But chronic benign headache is surprisingly common among children. It can occur in children of any age, from infancy through teenage years. Unlike adults, headaches strike children with less gender bias than adults: males and females are almost equally afflicted.

Headache sources in children

Children are prone to the same types of headaches as adults (except, of course, hormone related headaches), though they may be more vulnerable to headaches

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related to trauma due to falling down or bumping their heads. They may also be more sensitive to infections, reporting headache symptoms that are really caused by an ear infection, cold or sinus infection. With teenagers, particularly young women, the relatively sudden escalation of hormones could be a powerful headache trigger, often potentiating the first headache attack.

As with adults, headaches can be brought on by stress, improper posture, dietary factors, environmental assaults (bright lights, odors, etc.) or emotional distress. Indeed, the child may be more sensitive to the toxins in the environment, and is not well-armed to cope with potential sources of food allergies.

Migraine in children:

variations on a theme

Migraine is not uncommon among children; more than half of migraineurs have their first migraine attack before the age of 20.

Symptoms

Very young children may not be able to express the source of their discomfort. They may appear restless and irritable, pale and "fragile". If they have a severe headache, they may seek out a quiet, dark room -- just as adults would. Most migraine symptoms mimic those experienced by adults (see Chapter 2); they are more likely, however, to have pain on both sides of their head, whereas adults usually have pain only on one side. In addition to the migraine described for adults, migraine in children may take other forms:

- *Abdominal migraine*. Expressed as nausea and/or vomiting, with or without headache, lasting for hours or days. Children may be more prone to motion

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sickness. Clearly, it is important to rule out other potential causes for abdominal pain before marking it as a migraine.

- *Basilar migraine* . A prodrome to head pain, or accompanying head pain, experienced as weakness or numbness of the limbs, unsteadiness, dizziness or loss of consciousness. Some children also experience an *acute confusional state* , which can occur separately from the headache, where they become drowsy and/or listless and irritable. They may see shapes changing, or smell odors that do not exist. These symptoms usually disappear within an hour. This type of migraine may persist into adulthood.
- *Hemiplegic migraine*. Numbness and/or weakness of an arm or leg on one side of the body, along with head pain. May also persist into adulthood.
- *Ophthalmoplegic migraine* . Weakness of the eye muscles causing double vision, usually accompanying headache. Again, it is important to rule out other possible causes before settling on a diagnosis of migraine. May also persist into adulthood.

Tension-type headaches

Children are subject to the same responses to stress as adults. Bodily stresses caused by improper posture might be a source of headache-causing muscle tension -- which is more easily corrected at a young age. Also, as with adults, the source of tension-type headache can often be traced to emotional issues.

Symptoms of tension-type headache in children are similar to those in adults.

Emotional factors

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Children are often exquisitely sensitive to emotionally charged-issues at home, with friends and at school. In their book *Headache Free* (Bantam Books, 1996) Roger Cady, MD and Kathleen Farmer, Psy. D. describe the sick child as "an emotional barometer for the climate at home." Just as headache may be a symptom of an underlying physical disorder, it may also be the most clearest signal of deeper emotional problems -- depression, anxiety, frustration or hopelessness. How is the child doing at school? Is she experiencing great pressure from friends or schoolwork demands? Does he have fears or insecurities about his role in the family? Rather than view the child's chronic headache as a mere play for attention, parents may be well advised to see it as a real call for help.

Evaluating the child's headache

Even the most articulate and self-aware adult can spend several frustrating years before finding a doctor who can diagnose the cause of her headache. Children are at an even greater disadvantage. How do you distinguish between a headache that is potentially severe and life-threatening and one that is benign? Roger Cady, MD, and Kathleen Farmer Psy. D suggest asking the child the following questions:

- Where does it hurt?
- When did the hurt begin?
- How did the hurt begin?
- Does it hurt as bad as skinning your knee?

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If the headache continues to recur, Cady and Farmer suggest these ways of delving more deeply into emotional issues:

- Do your feelings hurt as much as your head?
- Are you mad at one of your friends?
- How is school going?
- Have you had any problems on the school bus?

Headache alternatives for children

An understanding of the sources of your child's headache is your best guide to the solution. Pay special attention to the timing of your child's headache -- did it occur after eating a particular food? Does it always happen after going to a certain friend's house? There may be a food or environmental sensitivity at work. You'll find pointers for detecting these sensitivities -- and solutions for averting them -- in Chapter 6.

Opening discussions about emotional issues can help defuse anxieties. Children are especially responsive to relaxation and biofeedback techniques -- described in Chapter 8.

Postural problems can be detected -- and reversed -- in several ways. See Chapter 7.

In short, holistic alternatives described in the next half of this book may be particularly appealing to the parents who want to avoid chronic drug therapy for their children with headache.

CHAPTER 6: NUTRITIONAL AND ENVIRONMENTAL APPROACHES

Tell me what you eat, and I will tell you what you are.

Anthelme Brillat-Savarin

After reading Chapters 3 and 4, you might feel daunted by the task of first, figuring out *whether* foods or environmental factors are contributing to your headaches, then identifying *which* are at play, and finally, *how* to cope with them. We'll try to give you some guidance here. In this chapter, you'll get the basics of a healthy diet according to several schools of thought. We'll also offer a method for identifying which, if any, substances are triggering your headache. And we'll recommend some ways to help you remove headache-causing toxins from your body, help boost your immune system and lessen your sensitivity or allergy to substances.

CREATING YOUR HEADACHE-FREE DIET

How do you know whether your headaches stem from the foods you eat? It's possible that, in reading the lists headache-causing foods, one type of food jumped out at you and triggered the thought: "Yes, that's it! Whenever I eat avocado (for example), I get a headache!" I would recommend that you follow your intuition and avoid chocolate to see if it helps. But few of us are that lucky. In the absence of a striking revelation, we offer here several approaches you can take.

Start with a healthy diet

A balanced diet is the foundation of good health. As adaptable as it is, the human body requires nourishment to function properly. This statement might seem too obvious for words, but it bears real consideration. We know that the

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lack of nutrients is a significant stressor on its own: our immune system fails to function properly, we lack energy, our organs fail to do the work they should. We become more vulnerable to headaches and other physical ailments. In this weakened state, we are less able to cope with the emotional and psychological stresses that can also trigger headaches, or set off other disease processes.

Even if you discover that you're sensitive to certain types of foods, and get headaches as a result, you need to replace the offending foods with others or supplements that provide similar nutrients. So, before trying to isolate food allergies or sensitivities, first evaluate your basic diet.

What, then, constitutes a good diet? There are several theories.

Conventional Western medicine

Nutritional guidance in the United States was first devoted to ways of preventing nutritional deficiencies and to promote consumption of agricultural products. Over the past few years, public health policy has taken aim at lowering the risk of diseases caused by over consumption. The shift reflects changes in the U.S. food supply over the past century -- from one of lack to one of abundance. The current consensus of Federal nutritional policy makers -- including the United States Department of Agriculture and the Food and Nutrition Board of the National Academy of Sciences -- is expressed as the Food Guide Pyramid.

The Food Pyramid (see below) was designed to give the general public information on how to adjust the proportions of common foods so that the diet includes the recommended daily allowance (RDA) of nutrients, while reducing the risks of nutrition-related diseases. The diet is high in fiber, low in fat and balanced nutritionally. There are no exotic foods or supplements recommended. It's also important to keep in mind that these foods and their proportions are

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recommended for the general healthy population -- a broad- sweeping generalization that doesn't take into account special populations (eg, pregnant women, children and people with specific disease conditions) or lifestyles (eg, very physically active).

Food Guide Pyramid

Fats, Oils, & Sweets

USE SPARINGLY

Milk Yogurt, & Cheese Group

2-3 servings

Meat, Poultry, Fish

Dry Beans, Eggs & Nuts

2-3 servings

Vegetable Group

3-5 servings

Fruit Group

2-4 servings

Bread, Cereal

Rice, & Pasta Group

8-11 servings

Source: U.S. Department of Agriculture and U.S. Department of Health and Human Services, 1990.

The Food Pyramid Guide, as we mentioned, is based on the RDA. According to nutritional experts, some people might need higher dosages of certain vitamins and minerals, including those who are:

- Physically active

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- Pregnant or lactating mothers
- Under stress
- Mentally or physically ill
- Taking other medications
- Recovering from surgery
- Smokers
- Alcoholics

In Chapter 3, we identified some vitamin and mineral deficiencies that could contribute to headache. Check the chart below for natural ways to supplement your diet with these nutrients. Briefly, they include:

Vitamins/minerals that could contribute to headache

<u>Too little</u>	<u>Too much</u>
Magnesium	Vitamin A
Niacin	Vitamin D
Folic acid	
Iron	

Nutrients and Dosages for Maintaining Good Health

What follows are the Recommended Daily Allowances put forth by the National Research Council in 1989. Keep in mind that these are average doses, for the healthy, average-weight adult male. Some nutritional levels should be slightly slower for females (except Vitamin D, calcium and phosphorous) and somewhat higher for pregnant and lactating mothers. Levels are often significantly lower for infants and young children. And they may be very different for people with

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underlying diseases. Consult a registered dietician, nutritionist or other expert for dietary recommendations that are right for you.

Vitamins	RDA	Food sources
Vitamin A	4,000-5,000 IU	Liver, chicken and turkey, green, leafy vegetables, root vegetables, yellow fruits.
Vitamin D	400 IU	Fish liver oils, fatty salt water fish, fortified dairy and eggs, sunlight, alfalfa, butter, cod liver oil, egg yolk, milk, oatmeal, salmon, sardines, sweet potatoes, tuna, vegetable oil.
Vitamin E	12-15 IU	Cold-pressed vegetable oils, whole grains, dark green leafy vegetables, nuts and seeds, legumes.
Vitamin K (alfalfa)	65 micrograms	Alfalfa, broccoli, dark green leafy vegetables.
Vitamin C with mineral ascorbates	60 mg	Green vegetables, berries, citrus fruits.
Folic acid	400 micrograms	Barley, beans, beef, bran, brewer's yeast, brown rice, cheese, chicken, dates, green leafy vegetables, lamb, lentils liver, milk, oranges, organ meats.
Vitamin B ₁ (thiamine)	1.5 mg	Dried beans, brown rice, egg yolks,

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		fish, peas, pork, poultry, wheat germ.
Vitamin B ₂ (Riboflavin)	1.7 mg	Beans, cheese eggs, fish, meat, poultry, spinach, yogurt.
Vitamin B ₃ (Niacin, niacinimide)	16-20 mg	Beef, broccoli, carrots, cheese, corn flour, eggs, fish, milk, potatoes, tomatoes, whole wheat.
Vitamin B ₅	4-7 mg	Beans, beef, eggs, salt-water fish, pork, fresh vegetables, whole wheat
Vitamin B ₆ (pyridoxine)	2- 2.5 micrograms	Brewer's yeast, carrots, chicken, eggs, fish, meat, peas, spinach, sunflower seeds, walnuts, wheat germ.
Vitamin B ₁₂ (cyanocobalamin)	3-4 micrograms	Beef, shellfish, eggs, salmon, yogurt

Minerals	Daily dosages	Food sources
Calcium (chelate)	800-1200 mg	Dairy, salmon (with bones), sardines, seafood, green leafy vegetables.
Chromium*	50-200 mg	Meat, whole grains, broccoli, brewer's yeast, fortified cereals
Copper*	2- 3 mg	Shellfish, beans, nuts, seeds organ meats, whole grains potatoes
Fluoride*	1.5 - 4 mg	Fluoridated water, marine fish,

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		tea
Iodine (kelp)	150 micrograms	Iodized salts, seafood, salt-water
	175 during pregnancy	fish, kelp.
Iron**	10 mg	Eggs, liver, fish, meat, poultry,
	30 mg during pregnancy	green leafy vegetables, whole
		grains, enriched breads and
		cereals.
Magnesium	280 mg men	Wheat bran, whole grains,
	350 mg women	green, leafy vegetables, meat
	320 mg during pregnancy	nuts, beans, milk, bananas.
		apricots
Manganese*	2.5-5 mg	Whole grains, nuts, vegetables,
		fruits, tea, beans
Molybdeum*	75-250 mg	Whole grains, liver, beans,
		leafy vegetables
Phosphorous	1200 mg	
	2300 mg during pregnancy	Plentiful in almost all foods
	800 over age 25	
Potassium*	1600 -2000	Oranges, bananas, potatoes
		with skin, dried fruits,
		yogurt, meat, poultry, milk
Selenium	55 micrograms women	Fish, shellfish, red meat
	70 micrograms men	grains, eggs, chicken
	65 micrograms pregnancy	garlic, organ meats
Sodium*	2400 mg maximum	Salt
Zinc	12 mg women	
	15 mg men, pregnancy	Seafood, liver, eggs, brewer's

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yeast

Other nutrients	Daily dosages	Food sources
Biotin	300 mcg	Cooked egg yolk, salt-water fish, meat, milk, poultry, soybeans, whole grains, yeast.
Choline	100 mg	Egg yolks, legumes, meat, milk, whole grain cereals.
Inositol	100 mg	Fruits, vegetables, whole grains, milk, meats.
PABA (para-aminobenzoic acid)	25 mg	Kidney, liver, molasses, whole grains.
EFA (Vitamin F) (essential fatty acids)	25 mg	Apricots, cherries, grapefruit, grapes, lemons oranges, prunes, rose hips.
Coenzyme Q ₁₀	30 mg	Mackerel, salmon, sardines.
Garlic (Kyolic)	60 mg	Garlic, Kyolic supplements
Germanium Ge-132	100 mg	Aloe vera, comfrey, ginseng, shiitake mushrooms, onions, suma.*
L-Carnitine	100 mg	Food supplements
L-Cysteine	50 mg	Food supplements
L-Lysine	50 mg	Food supplements
L-Methionine	50 mg	Food supplements
L-Tyrosine	100 mg	Food supplements
Lecithin	200-500 mg	Soybeans, eggs, brewer's yeast,

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		grains, legumes, fish, wheat germ.
Pectin	50 mg	Apples, carrots, beets, cabbage, citrus fruits, dried peas, okra.
RNA-DNA	100 mg	Food supplements

*No RDA established; ranges of Estimated Safe and Adequate Daily Dietary Intake from the National Academy of Sciences

** The safety of germanium supplements is under debate and considered toxic at doses between 27 and 450 mg per day over several months or years.

Sources for chart

American Dietetic Association

Prescription for Nutritional Healing, (Avery Publishing Group, Inc.) with permission.

University of California Wellness Letter, August 1992, Volume 8, Issue 11

Some vitamin pointers

- Women should get the RDA for folic acid (400 micrograms) to reduce the risk of neural tube birth defects
- Iron levels should not exceed the RDA because it may increase the risk of heart disease
- Very high doses of zinc (above 50 mcg/day) may compromise immune function
- Magnesium and calcium must be taken either in a slow-release form, or in several daily doses

Vitamin sources: supplements versus food

As you can see from the chart above, constructing a healthy diet can be a complicated and time-consuming matter. Wouldn't it be *easier* to just take supplements? Easier -- yes. Healthier -- not necessarily.

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Most experts would recommend that you get nutrients from your diet, rather than vitamin/mineral supplements. I generally agree. The nutrients in foods are more easily taken in by the body, and often confer other beneficial qualities that are important to health, such as dietary fiber. Also, it is very difficult to overdose on vitamins or minerals from food. Finally, taking dietary supplements provides no greater guarantee that your body will "utilize" the nutrients you take. Many factors can influence whether your body is actually using these nutrients properly -- your age, exercise level, underlying diseases, etc.

With all of this said, there are some cases where vitamin/mineral supplements are of value. For instance, people on food-restricted diets, due to allergy or other conditions, might need to take vitamin supplements. In addition, it is difficult to get the U.S. RDA of certain nutrients from a healthy diet alone. For example, studies show that at doses of 100 to 400 IU daily, vitamin E is a powerful anti-oxidant, helping to reduce heart attack and cancer. But to get this amount in food, you might need to consume a lot of fats (vegetable oils), which can have negative health effects.

Similarly, people with calcium deficiencies -- especially vulnerable are women of menopausal age -- often must turn to supplements to help stave off osteoporosis. In addition, the elderly (over the age of 70) often do not eat enough to get the nutrients they need. Our caloric needs might decrease with age, but our need for nutrients doesn't.

If you think you need vitamin supplements, here are some guidelines to help you select brands that meets your needs:

- Look for expiration dates. If they aren't obvious, ask the pharmacist to help you.
- Store in a dark, cool, dry place to optimize shelf life.

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- Choose multivitamins that provide 100% of U.S. RDA.
- Generally, time-release and sustained-release supplements are not only more expensive, but unnecessary. An exception: time-release iron for pregnant women.
- In their 1994 analysis, Consumer Reports magazine recommended buying the least expensive brand; it did not find any benefit from higher priced brands.
- In large doses, vitamins and minerals can be toxic. In 1991, U.S. poison control centers received 56,000 calls about supplement-related vitamin/mineral toxicity. Getting your nutrients from foods avoids this problem.
- In large doses (more than 300% of the RDA), vitamins and minerals can cause a deficiency of other nutrients. (For example, taking too much copper or iron could result in a zinc deficiency.)
- In large doses, nutrients may suppress your own natural immune system.
- Avoid high doses (more than 1500 mg daily) of sustained-release niacin to minimize toxicity.

Naturopathy

Nutrition is the mainstay of naturopathy, which often relies on foods and herbs as therapeutic approaches in and of themselves. Naturopathy espouses the healing power of nature. An eclectic system, naturopathic doctrine advocates a variety of holistic approaches to help individuals maintain or regain a state of vital, dynamic health. The naturopathic diet emphasizes natural and unprocessed foods -- particularly plants (fruits, vegetables, grains, beans, seeds and nuts), with very little refined sugar (honey, fruit juices, dried fruit, sugar, and white flour). It may be seen as a more natural version of the diet devised by modern Western science -- and one which focuses on cleansing the body.

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Vegetarian Diets

Vegetarians will be happy to hear that plant- and dairy-based diets have been shown to be healthier than those relying on meat as the main course. In general, they are more plentiful in foods that help lower the risk of nutrition-related diseases, such as grains, fruits and vegetables. Even with this said, vegetarians must be just as mindful of their menus as carnivores to make sure that they get adequate nutrition. *The Harvard Women's Health Watch* (January, 1996), a health journal published by Harvard Medical School Publications Group, recommends that vegetarians pay particularly close attention to the following nutrients, which are easy to miss in many vegetarian diets:

- Folate (leafy green vegetables such as kale are high in folate)
- Vitamin D (found in dairy products; needed for calcium absorption; vegans should consider supplements)
- Calcium (citrus fruits increase calcium absorption, while spinach can inhibit it)
- Iron (citrus fruits enhance iron absorption from other foods, while legumes, beets, grains and fortified flour can deplete it)
- Vitamin B₁₂ (found in dairy products; vegans should consider vitamin supplements)
- Protein (soy products are excellent sources of protein, equal to meat)

The risk of nutritional deficiency is especially high among people who follow *vegan* diets, which omit all meat and dairy products such as cheese, eggs, yogurt and milk. These diets should not be fed to children under the age of 5 because they may be more vulnerable to developmental problems due to anemia (iron

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deficiency) and B₁₂ deficiency. The Vegetarian Food Pyramid, below, shows how you can build a nutritionally sound diet from vegetarian, or vegan, sources.

Vegetarian Food Pyramid

[ART: VEGETARIAN FOOD PYRAMID from page 3 of *Harvard Women's Health Watch*, January 1996]

[Caption]

Adapted with permission from "Vegetarian Diets," Harvard Women's Health Watch Newsletter, January, 1996.

Orthomolecular medicine (megadose nutritional supplements)

Linus Pauling, winner of the Nobel Prize in 1968, coined the term *orthomolecular* to describe an approach to medicine that recognizes illness as a deficiency in nutrients -- and the use of nutrient supplements to reestablish health.

Orthomolecular physicians use nutritional therapy as their primary means of treating disease, often supplemented by vitamins in doses that far exceed the RDA range.

Herbalism

Many herbs are very good sources of nutrients. To medical herbalists, herbs and other foods are excellent therapies. They have traditionally been used to aid in digestion and for flavoring, but they are richly endowed with vitamins and minerals. As "whole foods," they have an advantage over supplements; they often contain vital nutrients plus the complementary qualities needed for the digestion and absorption of these nutrients.

However, while many herbs are rich in vitamins, some herbalists do not recommend taking them on a daily basis to correct deficiencies. Herbs, as

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mentioned, often contain other nutrients that might build up in the body over time -- like eating a certain type of food habitually.

What follows is a list of nutritional herbs. Remember, herbs are not by definition safe. While some can be consumed in high quantities or long periods of time without causing overdose, others should be prepared very carefully and taken sparingly; still others should be avoided during pregnancy or by people who have certain underlying illness.

Before taking any herbal preparation, it's best to consult a qualified herbalist.

Vitamin/mineral	Herbal source	Parts used	Cautions
Vitamin A	Alfalfa	Leaf, petal, flower, sprout	Do not use during pregnancy. All should use under supervision by qualified herbologist
	Black cohosh	Root, rhizome	
	Catnip	Leaf, flower	Large doses may cause kidney, liver, digestive problems
	Cayenne	Pods	
	Chamomile	Flower	Large doses may cause vomiting
	Comfrey	root, leaf, root	Avoid high doses, long term use; do not use during pregnancy
	Dandelion	All	
	Echinacea	Root, rhizome	
	Eyebright	All parts except seeds	
	Fennel	Seed, root	
Fenugreek	Seed	Harmful during pregnancy	
Garlic	Bulb		
Ginseng	Root	Do not use during pregnancy	
Goldenseal	Rhizome, root	Harmful during pregnancy	
Lamb's quarters	Leaf		

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Motherwort	Aerial parts	Harmful during pregnancy
Nettle	Leaf, flower, root	
Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
Red clover	Dried flower heads	
Rose hips	Fruit	
Sarsaparilla	Root	
Spearmint	Leaf	
Watercress	Stem, leaf	Use only commercially grown

Vitamin B complex	Alfalfa	Leaf, petal, flower, sprout	
	Goldenseal	Rhizome, root	Harmful during pregnancy
	Thyme	Flowering parts	Avoid oil remedy during pregnancy

Vitamin B ₁ (Thiamine)	Burdock root	Root, leaf, seed	May lower blood sugar
	Cayenne	Pods	Large doses may cause kidney, liver, digestive problems
	Dandelion	All	
	Garlic	Bulb	
	Hawthorn	Berry, fruit, leaf	
	Red clover	Dried flower heads	
	Sunflower seeds		
	Kelp	Whole plant	
	Watercress	Stem, leaf grown	Use only commercially
	Lamb's quarters	Leaf	

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Vitamin B₂

Cayenne	Pods	Large doses may cause kidney, liver, digestive problems
Dandelion	All	
Garlic	Use bulb	
Ginger	Rhizome	
Hawthorn	Berry, root, leaf	
Watercress	Stem, leaf	Use only commercially grown
Mustard greens		
Mullein	Leaf, flower	Teas should be strained to avoid throat irritation
Red clover	Dried flower heads	

Vitamin B₃

Cayenne	Pods	Large doses may cause kidney, liver, digestive problems
Sunflower seeds		
Eyebright	All parts except seeds	
Hawthorn	Berry, root, leaf	
Red clover	Dried flower heads	
Rose hips	Fruit	

Vitamin B₅

Black cohosh	Root, rhizome	Do not use during pregnancy. All should use under supervision by qualified herbologist
Blue cohosh	Root	Do not use during pregnancy, high blood pressure; seeds poisonous
Cayenne	Pods	Large doses may cause kidney, liver, digestive problems
Dandelion	All	
Eyebright	All parts except seeds	

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Fenugreek	Seed	Do not use during pregnancy
Ginger	Rhizome	
Hawthorn	Berry, root, leaf	
Mullein	Leaf, flower	Teas should be strained to avoid throat irritation
Red clover	Dried flower heads	
Yerbamate	All parts	
Cayenne	Pods	Large doses may cause kidney, liver, digestive problems
Hawthorn	Berry, root, leaf	
Hops	Berry, leaf, fruit	Limit skin exposure; has strong sedative effect
Red clover	Dried flower heads	
Sunflower seeds	Use seed	

Vitamin B₉

Dandelion	All	
Ginger	Rhizome	
Hawthorn	Berry, root, leaf	
Red clover	Dried flower heads	

Vitamin B₁₂ Burdock root Root, leaf, seed May lower blood sugar

Chickweed	Use different parts	
Comfrey root	Leaf, root	Avoid high doses, longterm use; do not use during pregnancy
Dandelion	All	
Dong quai	Root	Do not use during pregnancy
Eyebright	All parts except seeds	
Fenugreek	Seed	Do not use during pregnancy
Ginseng	Root	Do not use during pregnancy

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Hawthorn	Berry, root, leaf	
Mullein	Leaf, flower	Teas should be strained to avoid throat irritation

Mustard greens

Red clover	Dried flower heads
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White oak bark	Bark
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Vitamin C

Alfalfa	Use leaf, petal, flower, sprout
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Catnip	Leaf, flower
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Cayenne	Pods	Large doses may cause kidney, liver, digestive problems
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Comfrey root	Leaf, root	Avoid high doses, longterm use; do not use during pregnancy
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Dandelion	All
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Echinacea	Root, rhizome
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Eyebright	All parts except seeds
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Elder	Flower, berry	Do not use leaf, root, bark internally
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Fennel	Seed, root
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Garlic	Use bulb
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Goldenseal	Rhizome, root	Harmful during pregnancy
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Hawthorn	Berry, root, leaf
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Horehound	Use flower, leaf
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Nettle	Leaf, flower, root
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Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
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Peppermint	Leaf, flower	Avoid prolonged inhaling; do not give to babies; never use more than a few drops of oil at a time
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Red clover	Dried flower heads
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Red raspberry	Leaf, fruit
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Rose hips	Fruit
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Thyme	Flowering parts	Avoid oil during pregnancy
Watercress	Stem, leaf	Use only commercially grown
Wild strawberry leaves		
Mustard greens		
Yarrow	Aerial parts, flower	Do not use during pregnancy. May cause sunlight sensitivity
Yerbamate	All parts	

Vitamin D

Alfalfa	Leaf, petal, flower, sprout	
Chickweed	Leaf, flower	
Eyebright	All parts except seeds	
Fenugreek	Seed	Do not use during pregnancy
Mullein	Leaf, flower	Teas should be strained to avoid throat irritation
Red raspberry	Leaf, fruit	
Rose hips	Fruit	
Sarsaparilla	Root	
Thyme	Flowering parts	Avoid oil remedy during pregnancy

Vitamin E

Burdock root	Root, leaf, seed	May lower blood sugar
Alfalfa	Leaf, petal, flower, sprout	
Blue cohosh	Root	Do not use if you are pregnant or have high blood pressure; seeds are poisonous
Comfrey root	Leaf, root	Avoid high doses, longterm use; do not use during pregnancy
Dandelion	All	
Dong quai	Root	Do not use during pregnancy
Echinacea	Root, rhizome	
Eyebright	All parts except seeds	
Ginseng	Root	Do not use during pregnancy
Goldenseal	Rhizome, root	Do not use pregnancy; use

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sparingly if you have weak digestion; do not use for more than 10 days

Licorice root Root

Avoid prolonged use & high than especially if you have high blood pressure, kidney disease, or are pregnant

Rose hips
Skullcap

Use fruit
Aerial parts

Use sparingly; may cause dizziness, confusion

Yerbamate

All parts

Niacin

Dandelion All
Parsely

Leaf, root, seed

Avoid medicinal use during pregnancy

Lamb's quarters

Leaf

Mustard greens

Minerals

Calcium

Blue cohosh Root

Do not if pregnant or have high blood pressure; seeds poisonous

Borage
Chamomile

Leaf, flower, seed
Flower

Use in small doses
Large doses may cause vomiting

Dandelion

All

Fennel

Seed, root

Garlic

Bulb

Ginseng

Root

Do not use during pregnancy

Kelp

Whole plant

Lamb's quarters

Leaf

Mustard greens

Leaf

Nettle
Parsely

Leaf, flower, root
Leaf, root, seed

Avoid medicinal use during pregnancy

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	Red raspberry	Leaf, fruit	
	Slippery elm	Flower, inner bark	
	Watercress	Stem, leaf	Use only commercially grown
	White oak bark	Bark	
	Echinacea	Root, rhizome	
	Garlic	Bulb	
	Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
	Sarsaparilla	Root	
	Watercress	Stem, leaf grown	Use only commercially grown
Folic acid	Chicory	Root, leaf	May lower blood sugar
	Watercress	Stem, leaf	Use only commercially grown
Iodine	Kelp	Whole plant	
	Nettle	Leaf, flower, root	
	Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
	Watercress	Stem, leaf	Use only commercially grown
Iron	Black cohosh	Root, rhizome	Do not use during pregnancy. All should use under supervision by qualified herbologist
	Chamomile	Flower	Large doses may cause vomiting
	Dandelion	All	
	Echinacea	Root, rhizome	
	Fenugreek	Seed	Do not use during pregnancy
	Garlic	Bulb	
	Ginseng	Root	Do not use during pregnancy
	Goldenseal	Rhizome, root	Do not use pregnancy; use

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			sparingly if you have weak digestion; do not use for more than 10 days
	Kelp	Whole plant	
	Nettle	Leaf, flower, root	
	Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
	Dandelion	All	
	Sarsaparilla	Root	
	Skullcap	Aerial parts	Use sparingly; may cause dizziness, confusion
	Watercress	Stem, leaf	Use only commercially grown
	White oak bark	Bark	
	Yellow dock	Root	
Manganese	Burdock root	Root, leaf, seed	May lower blood sugar
	Catnip	Leaf, flower	
	Chamomile	Flower	Large doses may cause vomiting
	Goldenseal	Rhizome, root	Do not use pregnancy; use sparingly if you have weak digestion; do not use for more than 10 days
	Hops	Berry, leaf, fruit	Limit skin exposure; has strong sedative effect
	Licorice root	Root	Avoid prolonged use & high doses especially if you have high blood pressure, kidney disease, or are pregnant
	Red clover	Dried flower heads	
	Sarsaparilla	Root	
	Wood betony	Flower, leaf	Use sparingly
	Yellow dock	Root	
Magnesium	Blue cohosh	Use root	Do not use during pregnancy, high blood

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	Chamomile	Flower	pressure; seeds poisonous Large doses may cause vomiting
	Dandelion	All	
	Garlic	Bulb	
	Nettle	Leaf, flower, root	
	Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
	Red clover	Dried flower heads	
	Wood betony	Flower, leaf	Use sparingly
Phosphorous	Catnip	Leaf, flower	
	Blue cohosh	Use root	Do not use during pregnancy, high blood pressure; seeds poisonous
	Chickweed	Leaf, flower	
	Dandelion	All	
	Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
	Lamb's quarters		
	Licorice root	Root	Avoid prolonged use & high doses especially if you have high blood pressure, kidney disease, or are pregnant
	Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
	Slippery elm	Flower, inner bark	
	Yellow dock	Root	
	White oak bark	Bark	
	Wood betony	Flower, leaf	Use sparingly
Potassium	Alfalfa	Leaf, petal, flower, sprout	
	Blue cohosh	Root	Do not use if pregnant or have high blood pressure; seeds poisonous
	Borage	Leaf, flower, stem	Use in small doses only
	Chamomile	Flower	Large doses may cause

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			vomiting
	Echinacea	Root, rhizome	
	Garlic	Bulb	
	Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
	Kelp	Whole plant	
	Chicory greens		
	Dandelion	All	
	Mullein	Leaf, flower	Teas should be strained to avoid throat irritation
	Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
	White oak bark	Bark	
	Yarrow	Aerial parts, flower	Do not use during pregnancy. May cause sunlight sensitivity
	Yellow dock	Root	
Sodium	Alfalfa	Leaf, petal, flower, sprout	
	Catnip	Leaf, flower	
	Chaparral	Leaf	Use long-term only under supervision of a qualified herbologist
	Nettle	Leaf, flower, root	
	Kelp	Whole plant	
	Dandelion	All	
	Sarsaparilla	Root	
	White oak bark	Bark	
Sulfur	Alfalfa	Leaf, petal, flower, sprout	
	Catnip	Leaf, flower	
	Chaparral	Leaf	Use long-term only under supervision of a qualified herbologist

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Echinacea	Root, rhizome	
Eyebright	All parts except seeds	
Fennel	Seed, root	
Garlic	Bulb	
Lobelia	Seed, flower, leaf	Avoid excessive use
Mullein	Leaf, flower	Teas should be strained to avoid throat irritation
Nettle	Leaf, flower, root	
Parsely	Leaf, root, seed	Avoid medicinal use during pregnancy
Sarsaparilla	Root	
Watercress	Stem, leaf	Use only commercially grown
Lance-leaf plantain	Leaf	Psyllium plantain is a related herb which may cause asthma or indigestion
Sweet flag	Rhizome	Use only small doses
White oak bark	Bark	

Zinc

Chaparral	Leaf	Use long-term only under supervision of a qualified herbologist
Dandelion	All	
Garlic	Bulb	
Red clover	Dried flower heads	
Rose hips	Fruit	
Sarsaparilla	Root	
Watercress	Stem, leaf	Use only commercially grown

Sources: The Herb Book, by John Lust, ND, DBM, Bantam Books, 1974; Prescription for Nutritional Healing, by James H. Balch, MD and Phyllis A Balch, CNC, Avery Publishing Group, 1994; The New Age Herbalist, edited by Richard Mabey, Collier Books, 1988

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The healing properties of herbs go beyond their nutritional content. Some are medicinally valuable for the treatment of headache. For more about herbal remedies for headache, and their preparation, see Chapter 9.

Macrobiotics

"The macrobiotic way of life is based on achieving and maintaining a dynamic fundamentally with the proper selection and preparation of our daily foods."

This statement, which opens the first chapter of "Macrobiotic Cooking for Everyone," by Edward and Wendy Esko, encapsulates the macrobiotic view. Like everything else in macrobiotic ideology, the tenets of yin and yang -- the two basic opposite but complementary forces of the universe -- are at the foundation.

Macrobiotic teachings assert that, as warm-blooded beings, humans are constitutionally yang. To balance our yang tendencies, we generally need yin foods -- our complementary opposite -- to maintain good health. Yin foods include vegetables that are harvested during spring or summer and, generally, that grow above-ground (lettuces, peas, beans, herbs, cucumber, etc.), as well as vegetables and some fish, especially white fish and shell fish.

Yang foods include plants that are harvested later in the year and generally grow below ground (carrots, beets, acorn and winter squashes, etc.), as well as most meats.

Brown rice is regarded as the most balanced of foods. However dietary requirements differ depending on your gender, location, climate and general health. For example, men require more yang foods than women.

Common sense confirms what macrobiotic thought tells us, which is that the climate and season of the year affect our food requirements. For example, those living in a very cold, yin climate generally need to balance out with foods

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that are very yang, such as animal meat. On the other hand, those living in hot tropical, yang regions require the complementary opposite -- yin foods (more fruits and vegetables) -- to maintain a balance. This is why macrobiotics often espouse foods that are natural to your region.

Our lifestyle and physical make-up also play important roles in our food needs, and vice versa. Each person has his or her own capacity for yin and yang foods, and an intake beyond that capacity might create an imbalance and a physical reaction. For example, consuming small amounts of chocolate every day might not bother you until, one day, you've reached your limit and react with chronic headaches -- without ever really understanding the cause because you've become so habituated to eating chocolate. However, if you balance that intake with physical activity, you might never experience a reaction. Along the same vein, we all have experienced a headache from overindulging in a certain type of food or drink.

The preparation and ingestion of macrobiotic meals is almost as important as the meals themselves. The attitude of the cook, the cookware used, the cleanliness of the kitchen and utensils and the manner with which foods are eaten all influence the overall healthiness of the food, and ultimately, the health of the person consuming it. (See *Resources* for books on macrobiotic diets).

Ayurveda

Ayurvedic medicine also relies on a variety of healing tools to prevent illness and maintain health -- but good nutrition is central. Poor nutrition is viewed as being an almost sure-fire way to cause illness. Nutritional science in ayurvedic medicine is referred to as *Padthya-apadthya* .

As you might remember from Chapter 1, the ayurvedic belief is that all living things, foods included, embody different proportions of the five

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fundamental energies of the universe -- ether, air, fire, water and earth. Human beings are regarded constitutionally as three predominant types of bio-energies, or *doshas* : *vata* (ether and air), *pitta* (fire and water) and *kapha* (earth and water). Similarly, foods have different energies that have different effects on each individual.

The Ayurvedic diet is highly individualized, with foods matched to counterbalance disturbances in an individual's bio-energy. For people with an over-abundance of kapha characteristics, an anti-kapha diet will be recommended, etc. Similarly, you can be of a kapha dosha, and have illness that result from disturbances in vata or pitta, which might require an anti-vata or pitta diet.

Just as emotions can influence the way we digest (or don't digest) foods, foods can also influence emotions, according to Ayurvedic thought. Certain foods are known to expand the consciousness. These foods are whole foods of wheat, rice, milk, sugar, green vegetables, fruits and nuts. Others are known as passionate foods, and include spicy foods, alcoholic and caffeinated drinks, fried foods and others. Canned and frozen foods, strong alcoholic beverages and others induce greed, pessimism and laziness. These are just a few examples.

Based on your bio-type (see Chapter 1), you can get a *general* idea of the types of foods that are best-suited for you. However, keep in mind, that your age, climate, digestive process and general health will all influence the type of diet that is best for you.

To balance vata

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Most recommended: Grains (wheat, oats, rice); most vegetables; most fruits; most nuts and seeds; sesame oil; most spices; dairy products; natural (unrefined) sugars

To be avoided: Dry grains (cereals and soybeans); raw onions; pork and lard; refined sugar and chocolate

To balance pitta

Most recommended: Grains (wheat, mung beans); raw vegetables; most fruits; unfermented milk products; mild spices; unrefined sweets

To be avoided: Raw onions; peanuts; peanut oil; pork, lamb, beef and shellfish; salt and very hot spices (peppers, garlic, mustard); refined sugar

To balance kapha

Most recommended: Some cooked vegetables (especially celery, broccoli, cabbage and carrots); hard fruits (apples and pears); hot spices

To be avoided: White rice and wheat; bananas; peanuts; peanut and olive oils; pork, beef and lamb; refined salt; molasses, refined sugar, raw sugar and maple syrup.

When and how you eat is almost as important as what you eat, according to ayurvedic tradition. The timing (ideally, between 10 am and 1 pm for the main meal, when digestion is heightened), atmosphere (calm for adequate digestion) and spacing (allow 8 hours for full digestion) of meals should all be considered.

It cannot be overemphasized that the Ayurvedic approach is very individualized. We offer these *general* guidelines to give you an idea of the

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ayurvedic view of nutrition -- it cannot replace your own study of the subject (see *Resources* at the end of this book), or the advice of an ayurvedic practitioner.

Traditional Oriental Medicine

As with Ayurveda and macrobiotics, traditional Oriental medicine puts great emphasis on diet. Air, physical health and diet are the three main ways that we generate a healthy flow of qi (see Chapter 1 for more on the principals of traditional Oriental medicine). We have more control over our diet than we do any other health-influencing factor.

As Bob Flaws explains in *Migraine and Traditional Chinese Medicine*, (Blue Poppy Press, 1990), the digestive process is one of heating and processing foods in the "Fire" of the Stomach; it is distilled by the Spleen; then the "Pure" essence of the food is sent to the Heart and Lungs to be transformed into Blood and qi. At the same time, the "Turbid" residue is eliminated by the body. (Remember, in traditional Chinese medicine, the Stomach, Spleen, Heart and Lungs refer not only to the organs themselves, but the meridian channels that cross them -- the bio-system connected to them.)

Chinese medicine teaches that cooking foods gives the digestive process a head start. Similarly, drinks should be taken only sparingly with meals -- and they should never be cold. The liquid weakens the digestive process, and the coldness works against the important heating process of digesting foods.

During digestion, if the Pure and the Turbid are not separated, the foods undergo negative changes that can disrupt the flow of qi. For optimal digestion, the stomach should be half-full of food; one-quarter full of liquid and one-quarter empty.

In traditional thought, foods are characterized by many different qualities -- yin and yang are at the foundation. Food temperature, or "nature," is also

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important. This refers not only to the food's temperature, but to other intrinsic characteristics. Foods should be warm or room temperature when eaten. And they should be Warm or Neutral in quality. Spices and alcohol are, by nature, Hot or Warm. So, small quantities can be helpful in digestion. But, if they are taken in excess, they create too much Heat.

The important food qualities include:

- Taste (salty, sour, bitter, sweet, pungent and neutral)
- Direction (ascending, descending, floating, sinking)
- Meridian route
- Yin/Yang balance
- Five Elements (based on temperature and Taste)
- Contraindications (powerful adverse qualities)

Taken together, these qualities help determine the place of a certain food in an individual's diet. As with Ayurvedic medicine, diet can become a powerful therapy. Chinese dietary medicine is not only individualized, but complex. Interested readers are urged to explore books mentioned in the *Resources* section.

Identify foods that trigger your headache

There are several excellent books devoted exclusively to the dietary causes of headache. You can either follow these prescribed diets, which may mean making drastic changes, or you can try to identify the food(s) that trigger your headaches, and make adjustments to your diet (see *Resources*). Both approaches require some commitment and effort. But the second approach, which we'll

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describe below, may actually help you overcome your food sensitivity, and ultimately reintroduce that food to your diet.

As we've mentioned in Chapter 3, there is evidence that certain foods and drugs produce biochemical effects that can set headaches in motion. But the link between diet and headache is controversial. The "allergy" theory is not widely accepted by conventional Western medicine. Indeed, most mainstream experts believe that only 10 - 30% of headaches stem from food sensitivities, and only 1% are due to allergy.

On the other hand, others believe that most chronic migraines, tension-type and cluster headaches are caused by food allergy or sensitivity -- and that removing intolerance- or allergy-inducing foods helps control headaches. In one study, 82 out of 88 children with chronic, severe migraine were identified as having food allergies -- most commonly, milk, eggs, chocolate, oranges and wheat. And when the children were free of their food allergies, they also had higher tolerance for other headache-triggering factors, such as exercise, bright lights, noise, emotional stress and perfume.

Finally, many environmental physicians believe that food intolerance may stem from a combination of factors resulting in *chemical sensitivity* -- which is different from allergy (not based in the immune system).

Whatever the mechanism, many clinical studies have confirmed that detecting and removing foods that cause headaches can either eliminate or reduce symptoms. In a review of five different studies of people with migraine, for example, food control helped between 30% and 93%.

There are several ways you can go about identifying, and cleansing your body of, headache-inducing foods. An allergist may administer one of several different kinds of skin tests, whereby allergens are injected into the body and, if the skin reacts with an immune response such as redness, the test is positive for

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that allergen. Other allergists believe that this type of test might not be a good way to diagnose headache-related allergies, because the immune system, overstressed by the onslaught of allergens, is unable to respond adequately to show up in the skin test. One of the tests, the lymphocyte test, which measures the immune system's white blood cell response to antigen, is considered to give a more accurate reading of allergy. But many allergic people, according to some experts, even fail this test.

There are other ways to determine your food allergy or intolerance, which involves eliminating foods. There are two ways you can do this. You can follow all of the steps below, or simply try an *elimination diet*, followed by *sensitivity testing*. We'll go into more detail about each step on the following pages. Here's a quick overview of the long process, as outlined by several nutritional experts, including James F. Balch, MD and Phyllis A. Balch, CNC in their book *Prescription for Nutritional Healing* (Avery Publishing Group, 1990).

1. *Identify the foods you eat most often*

Look back at the past month. Which foods do you eat more than 4 times a week? This phase is simply to identify how often you normally eat certain foods.

2. *Keep a food diary*

Look at your food record. Eliminate all foods you eat or drink more than 4 times a week. Do this for thirty days. The idea is that when you eat certain foods habitually, your body starts to become intolerant to them, and you are more likely to have an allergic reaction. By omitting these "habit foods" for 30 days, you're giving your body time to cleanse your body and rebuild your immune system.

3. *Take the food sensitivity pulse test.*

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_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Grains

[list grains here]

[list how many times you eat them a week]

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Meats, poultry, fish

[list meats, etc. here]

[list how many times you eat them each week]

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Nuts and seeds

[list nuts/seeds here]

[list how many times you eat them each week]

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Oils

[list oils here]

[list how many times you use them each week]

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_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Spreads

[list spreads here]

[list how many times you eat them each week]

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Sweeteners

[list sweeteners here]

[list how many times you use them each week]

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Vegetables

[list vegetables here]

[list how many times you eat them each week]

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Other foods

[list junk foods, candy bars, chips, etc. here]

[list how many times you eat them each week]

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Headache Alternative

_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
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Step 2: Keep a food diary

- Look at your list from last month. Make a list of your "habit foods" -- what you ate or drank more than 4 times a week here:

Habit Foods (foods/drinks I consume more than 4 times a week)

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- For the next 30 days, eliminate all of the above foods.
- Keep a **daily** food diary of all the foods and drinks you consume.
- Describe in your diary the way you feel after you consume them.

Your food diary should look something like this:

Date	Meal	Time	Foods/Drinks/Medications	Symptoms
	Morning			
	Snack			
	Noon			
	Evening			
	Snack			
	Bedtime			

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Step 3: Take the food sensitivity pulse test

Now, try your "habit foods" again -- as well as any foods from your food diary that caused headaches. The food sensitivity pulse test was developed by Arthur F. Coca, MD. He and other allergists found that the pulse rate increases after ingesting foods to which we are sensitive or allergic.

- You will need a watch with a second-hand.
- Sit down and relax completely for 5-10 minutes.
- Take your pulse by putting your index finger on your wrist.
- For one minute, count the number of beats.
- Eat the food you think might be causing your headaches.
- Wait 20 minutes.
- Take your pulse again.
- If your pulse goes up more than 10 beats per minute, stop eating that food for a month and test it again.

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Now that you've given your body a rest from all the foods you eat on a regular basis, try each "habit food" again. Each time you do, take the sensitivity test. If your body reacts to the food, omit it from your diet for another 30 days.

Step 4: Cleanse your body

Note: do not fast if you are pregnant, anemic, under the age of 16 or over 70, diabetic or hypoglycemic, or think you might be, or have any medical condition. If you have *any* doubts, consult your doctor or health counselor.

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Fasting for more than 3 days should be done only under qualified medical supervision.

Fasting can be very safe and effective if you follow certain guidelines, and if you are generally healthy. A fast does not mean you do not eat or drink anything. In fact, it is vital that you take in nutrients during your fast. Vegetable and/or fruit juices are the mainstay of a fast. You should not chew anything, including gum.

Here are some guidelines for a healthy, cleansing fast:

- Two days before the fast: eat only raw fruits and/or vegetables
- During the fast:
 - DO drink distilled water or spring water and/or fruit and/or vegetable JUICES at least three times a day. Green drinks, made of leafy vegetables, are a good choice, as are apple and grape juices.
 - DO NOT drink tomato or orange, or grapefruit juice
 - DO NOT chew anything (even gum) as this will stimulate digestion
 - DO take fiber such as bran (diluted in distilled water) or other natural fiber drinks
 - DO drink freshly made vegetable broths
 - DO NOT smoke cigarettes or drink coffee
 - DO get plenty of rest, taking naps once or twice a day
 - DO exercise gently -- walk or stretch
 - DO avoid chemicals from deodorants, soaps, cleansing agents, sprays
 - DO take vitamin supplements if they are recommended by your health professional
- After the fast: eat only raw fruits and/or vegetables for two days

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To hasten the cleansing process, you might also consider an enema, using lukewarm, distilled water or lukewarm chamomile tea.

Step 5: Reintroduce other foods

After fasting, and eating only fresh, raw fruits and vegetables for a few days, slowly start to expand your diet.

- For two weeks: Follow a very simple regimen of fresh fruits, vegetables (raw, steamed or broiled), chicken or turkey, fish, brown rice, herb teas and unsweetened juices.
- Every day after that: introduce other foods -- only one new food per day. Pay attention to how you feel after eating the new food.
- If you have a reaction to a food: keep it out of your diet for 2 months. Then try it again. If it still causes a reaction, stop eating it entirely.
- Do not eat the same type food every day: skip four days between eating a specific type of food, such as bread.

Step 6: Rotation diet

Because eating the same food every day increases your chances of becoming sensitive or allergic to it, you might want to try rotation diets. With the rotation diet, you are ensured of maintaining variety in your menu, which helps avoid sensitivity reactions.

You can use the Food Pyramid Chart (shown earlier in this chapter) as a starting point to construct your own menus to get a good distribution of nutrients. Develop 4 days' worth of menus, making sure that you don't repeat

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any food types (for example, if you have bread one day, don't have it for the rest of the 4 days).

This 6-step program not only helps you identify foods that cause headaches, but may help lessen or eliminate your sensitivity / allergy to them.

Abbreviated allergy cleansing process

You can bypass some of the above steps by following an elimination diet, and using the "Food sensitivity pulse test." Stop eating all foods except one or two (such as a ripe, seasonal fruit like melon, or vegetable like potatoes). Be sure to drink plenty of liquids. After one day or more, but no more than five days, note whether your headaches disappear. If headaches go away, suspect foods as a source. Then add one food at a time back into your diet. Each time you do, test your pulse using the "food sensitivity pulse test," below. The "allergic" foods can be reintroduced in your diet after six months to a year without symptoms.

Nutritional recommendations for headache sufferers

There is, as mentioned, considerable evidence that nutritional deficiencies, or excesses, can contribute to headache. Balancing these nutritional problems has been shown, in some cases, to prevent headaches --or even stop them in their tracks.

For migraine

Magnesium

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For many years, researchers have suspected that magnesium deficiency contributes to headache. As mentioned in Chapter 3, magnesium plays a vital role in maintaining blood vessel health and serotonin function. In deficiency, magnesium causes blood vessel contraction. This mechanism has been implicated in migraine in studies that I have conducted, and other studies. We estimated that 50% of migraine sufferers are deficient in magnesium.

In our recent study published in the medical journal, *Clinical Science* (December, 1995), we reported an 85% success rate in treating migraine with an injection of magnesium. In the study, more than half of the magnesium-deficient men and women in the middle of a migraine attack experienced rapid and dramatic relief of symptoms when they received magnesium. Within 15 minutes, individuals felt relief of migraine pain. They also felt relief from nausea, sensitivity to light and to noise. Aside from a very few patients who had short-term lightheadedness during the infusion, there were no side effects. In the study, people who were not deficient in magnesium at the outset did not experience relief.

These results are early and not yet confirmed. Also, the study did not have a "control" group of people receiving placebo -- so there's no way to know how much of the effect was caused by magnesium, or by placebo. However, an 85% success rate is, by medical standards, very good -- much better than the average of 30% by placebo. So we can suspect that the magnesium, at least in people who seem to have a magnesium deficiency, can provide relief.

However, until other studies are performed that confirm the value of this type of treatment, it isn't likely that magnesium injections will be widely administered, except by some headache or nutritional experts. Until that time comes, you can supplement your diet with magnesium. The results of the study

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suggest that having adequate amounts of magnesium in your diet might help prevent migraines.

First, make sure that are getting the Recommended Daily Allowance of magnesium in your diet. See the chart at the beginning of this chapter for recommended foods. The most magnesium-rich foods include:

- Nuts
- Legumes
- Dark, leafy green vegetables
- Wholegrain cereals
- Wholegrain breads
- Seafoods

Ironically, several of these foods (nuts, legumes, breads), also appear on headache hit lists in Chapter 3. If you are sensitive to these foods, you might want to consider a supplement. It appears that when the magnesium supplement is "chelated," or slow-release, absorption is better. Many magnesium supplements are poorly absorbed and can cause diarrhea.

At recommended RDA doses, magnesium does not cause side effects. But at higher-than-recommended doses, it can cause drowsiness, weakness and lethargy. Severe overdose may result in irregular heart beat, paralysis, inability to breathe and even death.

People with kidney disorders, including the elderly who often have reduced kidney function, are especially vulnerable to toxic effects.

Unsaturated fatty acids (EPA/Fish oil concentrate)

EPA is eicosapentaenoic acid -- an unsaturated fatty acid (EFA) that is one of several omega-3 fatty acids natural to the body. It is most famous for its proposed role in lowering cholesterol. But several studies in the mid-1980's suggested that, in some people, the severity and frequency of headache can also be reduced by adding EPA to their diets. The research showed that EPA helps

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lower levels of prostaglandin (the biochemical in the blood that increases nerve sensitivity to pain, contributes to platelet clumping, and constriction of blood vessels). It also reduces serotonin activity. In both these ways, it is thought that omega fatty acids such as EPA can help prevent headache.

Here are the results of three studies in which migraine-sufferers received EPA supplementation (15-20 grams per day):

- Among 8 people with frequent and severe migraine who took the supplement, the number and severity of headache was cut by 50%
- Among 6 people with chronic migraine, 5 experienced significant relief
- In a slightly larger study of 15 people, fish oil concentrate reduced the number and severity of migraines in 8 people, but 4 people became worse

The government hasn't established a recommended daily allowance for EPA. Although the above-mentioned studies used 15 grams of EPA daily to prevent headache, some authorities conservatively recommend no more than 3 grams a day.

Foods richest in EPA are fish that inhabit cold, deep waters, such as salmon, tuna, mackerel and herring. However, you would need to consume 1/4 a pound of salmon to get 3 grams of EPA. Also, pollution of our waterways has made consumption of fish a somewhat risky matter, especially for people who eat a lot of it; toxins accumulate in the fatty tissues of fish. Essential fatty acids (EFA -- also known as Vitamin F) are related to EPA, and can be found in many vegetables and many unsaturated vegetable oils, such as safflower and olive oils. When these oils are heated, however, the EFA becomes inactivated. Evening primrose oil and black currant oil also are good sources of EFAs. Several EPA supplements are also available.

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EPA should be taken with caution in people who are diabetic, and those who are at risk of stroke, nosebleeds or bleeding disorders.

Other nutrient recommendations

Make sure your diet includes the RDA of these nutrients:

- Niacin (B₃) increases blood flow
- Pantothenic acid (B₅) boosts the adrenal glands
- Vitamin B complex (B₁, B₆, and B₁₂) feeds the nervous system
- Pyroxidine (B₆) improves brain function, enhances immune function

As mentioned in Chapter 3, there's some evidence that low levels of copper in the diet might contribute to migraine, but the results are not conclusive. Copper is essential to the health of blood vessels and their normal dilation and contraction; it's possible that copper deficiency causes the blood vessels to react abnormally. The RDA for copper, and good food sources, appears in the chart at the beginning of this chapter. Warning: do not exceed iron or copper RDA by more than 300% as this may result in deficiencies of other nutrients, or cause toxicity.

Studies have also shown that adding Vitamin B₂, riboflavin, to the diet may reduce the incidence of migraine. In one study of 49 migraine patients, very high doses of Vitamin B₂ reduced migraine severity by 70%. The RDA for Vitamin B is 50 mg daily; the doses used in the study were 400 mg.

For cluster headaches

Choline (lecithin)

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Choline is a B vitamin that is found in lecithin -- an essential fatty acid (see above) found in every cell. It helps keep cell walls soft and pliable; the meninges which surround and protect the brain, are made up largely of lecithin. Lecithin helps break up and distribute hardened (saturated) fats in the body.

At least one study, reported in the *British Medical Journal*, has shown that choline levels are low in people with cluster headaches. And increasing choline in the diet can help improve symptoms.

The recommended daily intake of lecithin is between 200 and 500 mg. Good food sources are soybeans, eggs, brewer's yeast, whole grains, legumes, fish and wheat germ. Keep in mind that several of these foods might also trigger headaches (yeast and legumes, for example). Lecithin supplements, in granular and liquid forms, are available.

Magnesium

As with migraine, magnesium has been shown to help people with cluster headaches. In one study of 15 people, magnesium supplementation reduced the incidence by 40%.

To reduce stress-related (tension-type) headaches

The body is better able to handle stress of any kind when it is well-nourished. The body under stress produces hormones that interfere with the immune system, which plays a role in food and environmental allergies. A good basic diet is the first line of action. To boost the body's defenses against stress, the following are recommended:

B Vitamins

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The B vitamins, particularly Vitamin B complex (100 mg daily) and B₅ (100 mg 3 times daily), are the most most important anti-stress vitamins. B₅, also known as pantothenic acid, is abundant in beef, beans, eggs, fresh vegetables and whole wheat. Though there have been no reports of problems with B₅ overdose, large doses of B complex can cause toxicities. Refer to the RDA guide at the beginning of this chapter and make sure not to exceed the dose by more than 200%.

Magnesium

Magnesium is depleted from the body during times of stress. And deficiencies can reduce tolerance to stressors. Guidelines for increasing dietary magnesium are listed above (see Migraine section).

Vitamin C

Vitamin C has been extolled for many virtues. It is vital to the adrenal glands, which controls the stress response, as well as production of important hormones which play a role in headaches. Vitamin C also may help reduce high blood pressure, boost the immune system and protect against platelet clotting (the latter sets in motion biochemical reactions that can lead to headache). A free radical scavenger, Vitamin C is a potent antioxidant that lends protection against the onslaught of various environmental toxins (see below) that can contribute to headache. Best food sources of Vitamin C include green vegetables, berries and citrus fruits; but remember that citrus may potentiate headache. The daily amount shouldn't exceed 5,000 mg, especially in pregnant women.

[Headline]

CREATING A HEADACHE-FREE ENVIRONMENT

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Like tracking down headache-causing foods, identifying headache hazards in your environment takes some detective work. Start with the "clues" offered in Chapter 4. For professional help, seek the aid of an allergist, particularly one who specializes in environmental medicine (see the end of this chapter). These specialists can not only help you identify the source of your problem, but give you recommendations for correcting it.

Headaches from your home

Humidity, as you remember, breeds molds, dust mites, yeasts and algae.

Eliminating humidity -- and reducing the population of headache-causing molds and mites -- can be as simple as investing in a de-humidifier, or as complex as overhauling your home. Consider these room-specific tips for reducing allergens in the home:

Problem area In the basement

Possible solutions

To reduce humidity

Due to poor soil drainage

- Install gutters and downspouts to direct rainfall away from house (and prevent it from seeping into basement)
- Dig trenches to direct water away from house (either from your own roof or from neighbors)
- Consult with a landscape architect to determine other ways of keeping water away from the home

General guidelines

- Ventilate properly
- Install a dehumidifier (keep humidity to 35%-50%)
- Cover floor with plastic
- Insulate ceiling and install vapor barrier
- Remove all dust-mite harboring objects (books, stuffed furniture, carpeting, boxes)
- Add a paint mold inhibitor to paint

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In the bathroom

- Use an exhaust fan or open window to remove humidity after showering
- Wash shower curtain and all surfaces with mold-killing solutions
- Do not carpet
- Use only natural, hypoallergenic cleansing products, especially personal products

In the bedroom

- Use only synthetic, hypoallergenic bedding (mites love natural fibers and feathers) but avoid foam rubber
- Replace mattress every few years
- Encase box spring, mattress and pillows in allergen-permeable covers
- Wash all bedding -- pillows, blankets, sheets and mattress pad -- in very hot water (130 degrees) every two weeks
- Remove all carpeting or clean often with a tannic acid solution to inactivate allergens
- Cover hot-air vents with filters, or close and use an electric radiator
- Avoid heavy curtains, or wash frequently
- Avoid overstuffed furniture
- Install an air cleaner
- Use a dehumidifier to keep humidity to 40-50%
- When vacuuming, use a vacuum cleaner with high allergen containment, such as a multi-layer dust bag and exhaust filter

In the kitchen

- Use an exhaust fan to remove humidity while cooking
- Clean refrigerator and garbage containers often to keep mold down
- Avoid plastic utensils and plates, which contain petrochemicals; use glass or ceramic instead

Reducing exposure to headache-causing toxins

- If refinishing floors, painting with oil-based paints, or laying new carpet, ensure proper ventilation for at least 2 months
- Replace cleansers with environmentally friendly solutions
- Eliminate aerosol sprays
- Avoid all products with a scent
- Use only scent-free, hypoallergenic soaps
- Wear only natural fabrics, never permanent press which contains formaldehyde
- If you must fumigate, allow for proper ventilation (luckily, fumigation is mostly needed during warm weather months)
- Each winter, before installing storm windows, have your heating system and gas appliances inspected to reduce the chance of carbon monoxide toxicity.
- Never leave your car idling in the garage
- Place a carbon monoxide detector in your home, make sure that it is labeled "UL approved"

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Water contamination

- Have your water tested for environmental toxins
- If you suspect toxic chemicals, install a water filter

Where carbon monoxide lurks in the house

Carbon monoxide is an odorless, invisible substance that commonly causes headache -- it is also potentially deadly. Here are some common sources of carbon monoxide, and ways to reduce your risk of toxicity.

- Tobacco smoke
- Car exhaust -- do not leave car idling in the garage
- Blocked or leaky chimney; clean on an annual basis
- Furnaces -- have annual inspections
- Gas cooking ranges -- have inspected periodically
- Fuel-burning heaters -- have annual inspections
- Hibachis and grills -- grill only outdoors
- Badly vented appliances -- have them checked by service repair person regularly
- Badly vented woodstoves and fireplaces -- look for woodstoves that are EPA-approved and don't burn wood that has been chemically treated -- and have regular clean-outs

Headaches at work

If you have headaches during the workweek, if your coworkers also complain of headaches or other vague symptoms (fatigue, difficulty breathing, dizziness,

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etc.), or if you work with known noxious chemicals (see Chapter 4), you might be suffering from an occupation-related headache.

Unfortunately, it is often more difficult to control the workplace environment than it is your home. Here are some suggestions:

- *Gather evidence.* See if your symptoms are shared by your coworkers. Try to identify the source. For example, if you're exposed to fumes or chemicals, find out whether they commonly cause toxic reactions (see Chapter 4 for starters). Noise, light, heat and cold can contribute to headaches. In office buildings, the headache hazards can range from inadequate ventilation to fluorescent lighting to exposure to computer screens. Contact the Human Ecology Action League (see below) for ways of identifying work-related toxicities, and ways to reduce them in your workplace.
- *Find out your rights..* Employers are required by law to provide a safe working environment. They should provide the means necessary to limit your exposure to occupational toxins, either through the manufacturing process or by offering protective clothing and/or masks. Ventilation should be adequate. Smoking in the workplace is prohibited in many cities. Noise and light (visible and infrared) may cause headache, and protective devices should be available for workers exposed to high levels. Unfortunately, requirements and monitoring of businesses for environmental protection varies from state to state, and very small operations may be exempt from state laws entirely. To find out your rights, contact the National Organization of Legal Advocates for the Environmentally Injured or the Chemical Injury Information Network (see the end of this chapter).

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- *Address issues with management.* Again, if you are part of a union, you can get help in this area. However, if you are not, or are the only employee experiencing symptoms, or if your employer *is* following safety regulations, it may be difficult to garner the support of the union. You may be on your own. Speak with your supervisor or employer about your problem, and try to develop solutions. You may not be able to convince your boss to change the air filtration system to cut down on molds, but you might be able to obtain some level of protection (such as a fan near your desk).
- *Take care of your health .* In the end, you are responsible for your own health. If your employer refuses to acknowledge a problem, find out what you can do to protect your health. It may involve keeping to a cleansing regimen that helps reduce the toxins in your body.

Clearing the air with plants

Air filtration and purification systems, ranging from building-wide systems to room areas, can be installed to remove indoor pollutants in some environments. But this method might not be economically feasible, or possible to effect in your workplace. According to recent findings from NASA's Skylab Project, indoor plants could offer a pleasant, and effective, alternative. Researchers have found that plants have a powerful ability to clean the air of certain toxins. And, they need not be exotic species to be great cleansers. Common office and house plants, that often thrive in shady spots and sustain benign neglect, are actually the best. For optimal cleansing, each 100 square feet requires three 8-inch pots.

Toxins

Purifying plants

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Formaldehyde

Spider plants

Boston ferns

Trichloroethylene

Peace lilies

Benzene

English ivy

Chrysanthemums

Carbon dioxide

Orchids

Bromeliads

Acetone

Orchids

Methyl alcohol

Orchids

Ethyl acetate

Orchids

Other air-cleansing plants include:

- African daisy
- Aloe vera
- Areca Palm
- Bromeliad
- Corn plant
- Date palm
- Difenbachia (poisonous to animals)
- Dracaena palm
- Dragonplant
- Ficus
- Golden Pothos
- Philodendron
- Pointsettia
- Snake plant
- Spathe flower

Adjust the lights, check your eyes

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As we explained in Chapter 2, migraine can be triggered by flickering lights; eyestrain headaches can be caused by poor lighting. To help prevent headaches, consider these tips:

- Replace fluorescent lights (which may flicker, even imperceptibly) with incandescent bulbs
- Always ensure adequate lighting when reading, sewing, typing or similar activities
- Get your eyes checked; eyestrain headaches may be the result of straining to compensate for bad vision
- If working at a computer for long periods, be sure to look up and away from the screen periodically; better yet, take short breaks every half hour
- Avoid watching television in a dark room for long periods of time

Keeping your body cleansed of toxins

I know of one woman who suffered severe headaches for no known reason. Finally, she traced it to recent renovation work in her house. She'd had her floors refinished in an art studio and, unwittingly, sustained progressive accumulation of toxins. She underwent a cleansing regimen to remove the toxins from her body, and her headaches disappeared.

Cleansing methods can offer you an extra measure of protection against headache-triggering substances from foods. As asserted by some allergists, environmental doctors, macrobiotic practitioners and naturopathic physicians, the body reacts with illness when it has overloaded its toxic capacity. Headache is a common symptom. Here, then, are some options you might want to explore to cleanse your body:

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General dietary guidelines

- Eat organic foods, with emphasis on fruits and vegetables
- Drink at least 8 cups of water daily, preferably distilled or purified water
- Supplement your diet with choline (lecithin), Vitamin C and fiber
- Make sure your diet covers the daily requirements of nutrients

Fasting

Fasting has been considered a therapeutic modality for centuries. A well-controlled food fast, preferably under medical supervision, can jump-start the cleansing process. We described one method earlier in this chapter. For more information, see the *Resources* section.

Nutritional and herbal supplements

To cleanse the blood, and remove toxins from the body, evaluate whether your diet includes enough of the following Vitamins. Also, consider choosing from the herbal or other supplements. For best effects, make sure your diet does not include processed, refined foods, sugar and heated oils:

Vitamin supplements

- Vitamin A (5000 IU daily)
- Vitamin C (1000 mg or less per day)
- Vitamin E (100-400 IU daily)
- Vitamin B complex (

Herbal supplements including one of the following:

- Echinacea (to promote lymph cleansing)
- Burdock root

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- Chapparal
- Goldenseal (tea or supplements)
- Dandelion (greens, tea or supplements)
- Red clover (tea or supplements)

Other supplements

- Chlorophyll (from juiced greens or in supplements)
- Alfalfa
- L-lysine (an amino acid)
- Garlic capsules
- Coenzyme Q₁₀
- Apple cider vinegar drink (warm water and one tablespoon apple cider vinegar) helps cleanse the body and add potassium

Chelation therapy

Chelation is a therapy that uses specific agents to bind with toxic metals in the blood system (such as lead), and help draw them out of the body. The chelating agents, as they are called, are taken orally or by injection. Intravenous chelation therapy should only be performed by a professional, certified by the American Board of Chelation Therapy (see *Resources*).

If you are exposed to metals, consider the following oral chelating agents to purify the blood:

- Alfalfa
- Coenzyme Q
- Garlic tablets
- L-Lysine
- Rutin

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- Vitamin C

Internal cleansing of the colon

The colon, or large intestine, not only functions to digest food, but as the main route for removing undigested foods. It is a hollow organ that extends from the small intestine about five feet to the rectum. It is here that water and many minerals are absorbed into the body. Also here, the body deposits wastes. As discussed in Chapter 3, improper digestion -- due to stress, bad nutrition, or underlying disease -- can cause constipation. This in turn, can produce a buildup of toxins in the colon, which are reabsorbed into the blood -- and produce illness. One symptom is headache.

Colon cleansing can take the form of *regular bowel movements, enemas* which remove waste from the lower third of the colon, or *full colonic cleansing*, also known as colonic irrigation or colonic hydrotherapy.

To promote regular bowel movements follow these recommendations:

- Try to move bowels first thing in the morning, either before or after breakfast, whether or not you feel the urge. Allow plenty of time, breathe deeply and relax. Get your body in the habit of regular elimination.
- Eat plenty of raw vegetables and fruits each day
- Chew foods thoroughly
- Drink at least two quarts (8 cups) of water a day, preferably distilled or purified
- Avoid processed foods, refined sugars, coffee, nuts and fried foods and pork

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For enemas. Used to bathe the lower third of the colon, therapeutic enemas date back to 1500 BC. With an enema bag, two quarts of warm fluid is infused into the lower colon and either flushed back, or retained for 10 to 15 minutes.

- Be sure to use purified or distilled water
- To lubricate the anus, use natural vitamin E oil
- Teas using fennel, coffee or lemon juice, wheatgrass, garlic can be used for non-retention enemas
- After inserting the fluid, slowly roll on your back from right to left

For colonic irrigation . Colonic irrigation or hydrotherapy is conducted by a professional (such as a naturopath, colon therapist or natural hygienist) with the aid of a colon irrigation machine. It involves use of warm, pure water to bathe the colon, along with gentle abdominal massage. The benefits of colonic irrigation include: removal of impacted waste in the colon, massage of the colon, stimulation of the colon to regenerate muscle activity.

The procedure begins often with a period of relaxation. A speculum is inserted into the anus. It is attached to a hose which, in turn, is attached to a machine containing water. The machine can be adjusted for water volume, pressure, temperature. The procedure averages 45 minutes, during which time water is inserted and waste material removed several times to remove waste throughout the length of the colon. In severe cases, several sessions may be required. If administered professionally, the treatment is usually painless and completely safe. Some people experience abdominal discomfort after the procedure, which usually disappears within a day.

Before undergoing colonic irrigation, consult with your doctor to rule out any reasons why it might be unsafe or unhealthy for you.

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Skin brushing Like the colon, the skin is the repository for many of the body's toxins. When they are not removed, the toxins may reabsorb into the bloodstream. Macrobiotic practitioners endorse skin brushing, as do several traditional healing disciplines

For best effects, use brushes with natural vegetable bristles. The brushing is not done in the shower, but dry. At first, you may need to brush lightly until you get used to the feeling. Brush the skin over your entire body (except your face). Do this for 5 minutes daily, working always in the direction toward your heart. This will help remove toxins, and help improve blood circulation and skin appearance.

Ayurvedic cleansing

In Ayurvedic medical belief, internal cleansing is an important way of balancing the doshas, and treating disease. Generally used as part of a complete regimen, *Antha-Shodoma* or internal cleansing, can include one of several therapies: emesis (or vomiting), purging (stool elimination with therapeutic laxatives), nasal therapy (to remove mucous using oils and nasal massage), enemas (using special cleansing medications, either an oil or herbal preparation, that is right for the individual), phlebotomy (blood removal). These procedures are often preceded by preparatory treatments. For example, enemas are often preceded by sweat therapy or oil therapy (massage with oils). The cleansing of bodily toxins prepares the body for the final step, which is a rejuvenating or strengthening treatment.

The type of cleansing procedure you receive, and the accompanying herbal or oil therapies, depends on your individual constitution or *dosha*, your ailment (beyond the symptoms of headache), and other factors, such as your

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nutrition and lifestyle. It is strongly recommended that you seek a qualified Ayurvedic physician to guide you in these, and other, Ayurvedic practices.

[Headline]

GETTING HELP

For referrals to experts in the area we've addressed in this chapter, contact the following organizations (also see the *Resources* section at the end of this book):

Nutritional guidance

American Association of Naturopathic Physicians
2366 Eastlake Avenue, East
Suite 322
Seattle, WA 98102
206-323-7610

Provides a directory of referrals to naturopathic physicians for \$5.00, offers information about nutrition and treatment of different disease processes by natural means.

American College of Advancement in Medicine
PO Box 3427
Laguna Hills, CA 92654
714-583-7666

Directory of physicians with training in nutritional medicine. Also offers printed information on nutrition.

American Dietetic Association
Nationwide Nutrition Network
800-366-1655

Weekdays 9-4 pm central time

Provides referrals to registered dietitians in different regions who can help you create a diet that meets your needs.

American Natural Hygiene Society
PO Box 30630
Tampa FL 33630
813-855-6607

The oldest existing vegetarian society, offers literature on lifestyle and diet.

Center for Science in the Public Interest
1875 Connecticut Avenue, NW
Suite 300
Washington DC 20009

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202-332-9110

Publishes "Nutrition Action Newsletter" and provides information about legislation and issues relating to public nutrition policy.

International Academy of Nutrition & Preventive Medicine

PO Box 18433

Asheville, NC 28814

704-258-3243

Refers to physicians who practice orthomolecular medicine, and provides information.

Price Pottenger Nutrition Foundation

PO Box 2614

La Mesa, CA 91943-2614

619-574-7763

Provides referrals to naturopathic physicians. Also offers a wide variety of books about natural approaches to nutrition.

Allergy and chemical/environmental sensitivity

American Academy of Allergy and Immunology

611 East Wells Street, Suite 400

Milwaukee, WI 53202

800-822-2762

In Wisconsin: 414-272-6071

Provides referrals to board-certified allergists.

American Academy of Environmental Medicine

4510 West 89th Street, Suite 110

Prairie Village, KS 66207

Offers referrals to doctors (mostly allergists) who specialize in environmental medicine. Produces a quarterly newsletter, "The Environmental Physician," and conducts conferences -- geared toward physicians and laypeople.

Human Ecology Action League (HEAL)

PO Box 49126

Atlanta, GA 30359

404-248-1898

In addition to a quarterly magazine, offers information about products for people with chemical sensitivities, brochures about legal rights, including a brochure describing the American Disability Act of 1990), and tips for creating an environmentally safe home and office. Offers a comprehensive reading list.

National Organization of Legal Advocates for the Environmentally Injured

PO Box 29567

Atlanta, GA 30329

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404-264-4445

A nonprofit organization which dispenses legal information to support the rights of people who have suffered environmental injuries on their jobs.

Chemical Injury Information Network

PO Box 301

White Sulphur Springs, MT 59645

406-547-2255

A non-profit, charitable organization that offers a variety of services for members (membership is free), including referrals to doctors specializing in chemical injury, peer counseling and educational materials. For people engaged in legal problems with employers, CIIN also offers referrals to expert witnesses and doctors. Send a self-addressed, stamped envelope.

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CHAPTER 7: PHYSICAL APPROACHES

**The healer must be acquainted with many things
and assuredly with rubbing.**

Hippocrates

Massage

Traditional Therapies

- Acupuncture
- Acupressure therapies
- Qigong
- Yoga

Pressure point therapies

- Trigger Point Therapy
- Myotherapy™
- Reflexology

Bodywork

- Alexander Technique
- Feldenkrais Method®
- Roling (Structural Integration)
- Aston-Patterning™
- Hellerwork™
- Trager® Psychophysical Integration
- Polarity
- PhysicalMind™ Therapy

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Joint and bone manipulation

- Osteopathic Medicine
- Cranial Osteopathy / Cranial-Sacral Therapy
- Chiropractic
- Applied Kinesiology / Touch for Health

Other physical approaches

- Exercise
- Dance therapy
- Hydrotherapy
- Transcutaneous Electrical Stimulation
- General tips

In recent years, machines and drugs have largely become proxies for the sensitive tools that once served as the healer's primary means of diagnosis and treatment: the physician's hands. As patients, we've become distanced from our healers, and out of touch with the healing ability of our own bodies. We, too, have come to rely on outside forces to fix our ailments, including headache.

Touch is probably the most basic form of healing known to humankind. Instinctively, when we feel discomfort, our tendency is to massage or rub the area in pain: think of how often your hands move naturally to your head whenever you feel a headache coming on. The healing effects of touch are innately understood by the infant who finds comfort from contact with a caring person. Scientific studies of this natural phenomenon suggest that contact and touch help the body mobilize its own healing powers, for example, by reducing the production of stress hormones.

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In a related way, movement is evidence of life -- and, in itself, it can be an energy- and health-generating tool. The way we move our bodies (or don't) can create patterns of tension that contribute to headaches, and other illness.

These general healing concepts underlay many of the alternative therapies to prevent or treat headache that are discussed in this chapter. They range from body-mind methods that intimately engage the individual's self-awareness of movement patterns that contribute to headache, to those which make use of physical manipulations to correct headache-related structural or muscular dysfunctions, to those that vitalize and balance the body's own healing energies. In addition, exposing parts of the body to heat or cold can open or close blood vessels to help regulate blood flow, or open sinus cavities, and in this way help relieve headache.

The name of this chapter may be misleading. We call it *Physical Methods*, which implies treatment of physical disorders. But most of these methods engage the whole person -- physically, emotionally, mentally and, if it is your intent, spiritually -- not just symptoms or a specific part of the body. All of the physical approaches require some interaction of the body and mind. In some cases, this communication occurs at first on an unconscious level. Pressing trigger points of sensitive muscles, for example, is thought to retrain the brain to release spasms that bring on headaches. In other cases, most of the work is being done by the conscious mind. The Alexander Technique, for instance, is an educational method by which insidiously habitual patterns of movement are brought into the light of consciousness and, through this awareness, corrected.

Since the causes of headache extend beyond the limits of concrete physiology, it makes perfect sense that the methods for treating it may also reach beyond, or deeper into, the body.

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What to expect from this chapter

With the exception of acupuncture, acupressure and TENS, most of the methods described in this chapter have not been studied for their effects on headache.

Many of the bodywork methods, for example, are *educational* processes that may, as a *byproduct* of increased awareness of postural tension, help relieve headache.

However, practitioners make no claims for effectiveness in headache.

MASSAGE THERAPY

Many of the methods discussed in this chapter are based in some form of massage. Through the use of pressure, holding or guiding, a practitioner manipulates the soft tissues to stimulate the body's own healing abilities. The American Massage Therapy Association defines seven types of massage:

Swedish Massage

Uses a system of long strokes, kneading and friction techniques on the more superficial layers of the muscles, combined with active and passive movements of the joints. Used primarily for a full-body session, it helps promote relaxation, improve circulation and range of motion, and relieve muscle tension.

Deep muscle/connective tissue massage

As the name implies, this type of massage deep finger pressure and slow strokes on contracted areas, either following or going against the grain of muscles, tendons and fascia to release chronic patterns of tension in the body. Massage therapists, osteopathic physicians, Rolfers (and related disciplines) use this approach.

Trigger point therapy

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This method applies concentrated finger pressure or to "trigger points" -- painful irritated areas in muscles -- in order to break the cycle of spasm and pain. It is often used to deal with pain. Bonnie Prudden myotherapists™, massage therapists employ this technique.

Shiatsu and acupressure

These are Oriental medicine-based system of finger pressure massage which targets special points along acupuncture meridians -- the invisible channels of energy (qi) flow in the body. Blocked energy along these meridians can cause physical discomforts, so the aim is to release the blocks and re-balance energy flow. Used by specialists in Oriental medicine, shiatsu (and related techniques) and massage therapists.

Reflexology (zone therapy)

Uses similar principles as shiatsu and acupressure, except the method is organized around a system of points on the hands, feet, head and ears that are thought to correspond, or "reflex" to all areas of the body. Used by reflexologists and some massage therapists.

Hydrotherapy

Traditionally used as an adjunct to massage and employed by some massage practitioners. It includes modalities such as hot packs and ice applications, along with saunas, steam baths and whirlpools.

In this section, we'll focus on Swedish massage, the most common form of massage in this country. The other massage approaches will be addressed later in the chapter.

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History

Massage is one of the earliest forms of treatment, dating at least to ancient China and continuing as a recommended treatment throughout history. In the United States, massage took hold during the mid 1800s. Its popularity in the medical community waned in the mid-1900s in deference to more "advanced" medical technologies. In the 1970s, massage experienced a renaissance. Today, massage is recognized as a therapeutic practice, requiring certification in 19 States. It is one of the most popular alternative therapies sought by Americans; an estimated 20 million have received massage.

How it works

Massage in the United States is generally based on Swedish massage, which employs five basic techniques: effleurage (gliding strokes), petrissage (kneading), friction (rubbing), tapotement (percussion) and vibration. These techniques lightly manipulate the superficial muscle tissue so that blood flows toward the heart. In this way, massage proponents maintain, blood circulation is improved. And when blood circulation is improved, the body receives more oxygen and nutrients, and toxic wastes are more readily removed. Some massage researchers have found that massage stimulates the body's production of endorphins, which have pain-killing and relaxing effects on the body.

Who can be helped

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People with headaches triggered by emotional stress or anxiety, postural problems or muscle tension may benefit from massage therapy.

What to expect

A reliable massage therapists will begin by asking questions about your reasons for getting a massage, your physical condition, medical history, lifestyle and stress level -- as well as areas of pain. You will be asked to undress in private and drape your body with a sheet, towel or gown. You can leave your underwear on if you like. Lying down on a padded table, the therapist may apply some oils to facilitate the massage. Often, your massage therapist will start with your feet or hands to help you get used to the feeling of being massaged. Using a variety of techniques (described above), the therapist will work on all of the muscles of your body. You should feel free to communicate with the massage therapist if you feel discomfort or pain.

Effectiveness

The effectiveness of massage in some forms of headache has been documented.

In one study of 21 patients suffering from chronic tension headache, general massage, as well as deep tissue massage of specific pain points, significantly reduced the frequency and severity of chronic pain by 50% -- and these effects lasted for six months after treatment. Cranial massage can be of particular benefit to headache sufferers (see CranioSacral Therapy, on page [TK]).

The effectiveness of massage may be explained in several ways. First, it has been shown to have an overall relaxing effect. By helping to keep tension in

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check, massage may help eliminate the trigger for tension-type headache and migraine. In a recent study conducted by the Touch Research Institute at University of Miami, office workers who received massage and relaxation techniques were 19% less anxious than those who received relaxation techniques alone, and job stress was significantly reduced.

Second, massage specifically helps relax tense muscles and tissues. As we explained in Chapter 2, muscle contraction is one of the accepted mechanisms of headache. Massage has been shown to help release restrictions of the fascia -- the deep connective tissue that envelopes and permeates bones, muscles and organs. Recent study has shown that massage work directed to the tissue connecting the rectus capiti (the muscle at the base of the skull) and the dura mater (the sensitive tissue surrounding the brain and spine) may help relieve tension-type headaches.

Third, by helping to improve circulation, massage also helps maintain the health of blood vessels.

Finally, massage has been shown to stimulate the body's production of endorphins, which helps reduce pain.

Treatment schedule

Periodic massages can be a helpful adjunct to other headache-controlling regimens. In the study mentioned above, headache sufferers were massaged ten times over a two-and-a-half week period, with long-lasting results. Unless prescribed by your physician for a specific number of sessions, you might consider getting a massage whenever you feel particularly anxious or tense, or are entering a time that you know will be tense, to help prevent headaches.

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Side effects

If performed by a trained and knowledgeable therapist, there should be no side effects from having a massage. Afterward, some of your muscles might feel tender -- as though you had been exercising.

Warnings

Let your massage therapist know of any illness. Massage should be avoided near areas of infectious, open wounds or bruises. Massage is not recommended for people with circulatory problems, especially phlebitis and thrombosis. In addition, it isn't recommended for people with high fevers, infectious diseases, cancer (some type), cardiac problems, certain skin conditions, inflamed or infected injuries, areas of hemorrhage or heavy tissue damage, recent fractures or sprains.

Finding a reliable massage therapist

It should not be difficult to find a qualified massage therapist -- there are over 10,000 in the United States. Word-of-mouth is your best starting point, or ask your physician or physical therapist. But, since massage is not regulated in all states, look for a massage therapist who is licensed (some states have licensing requirements), and who received training from a school that's been accredited or approved by the American Massage Therapy Association (AMTA) Commission on Massage Training Accreditation/Approval. The AMTA and the Associated Bodywork & Massage Professionals provide referrals. Licensed massage therapists will carry the initials, L.M.T. after their names, which stands for

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Licensed Massage Therapist. This means that they have received at least 500 hours of instruction. The International Association of Infant-Massage Instructors offers short classes for laypeople to become certified in the massage of infants and young children. The following organizations require that members meet specific educational requirements and follow a strict code of professional conduct and ethics:

Associated Bodywork & Massage Professionals
28677 Buffalo Park Road
Evergreen, Colorado 90439-7347
303-674-8478 or 800-458-2267

American Massage Therapy Association
820 Davis Street, Suite 100
Evanston, Illinois 60201
708-864-0123

International Association of Infant-Massage Practitioners
(IAIMI)
5660 Clinton Street
Elma, NY 14059
800-248-5432
716-684-3299

Questions and answers

Does massage hurt?

If given by a qualified therapist, the massage should be a very pleasant experience. You may feel some tenderness of tense muscles after a massage. If you have any discomfort during the massage, let your therapist know and he or she will either work more lightly on that area, or move to another spot.

I'm embarrassed about being naked. Is it absolutely necessary?

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Many people have this same concern before their first massage. A professional massage therapist will honor your ethics or sensitivities; if the therapist insists on your being nude, you should find another one. As you become more comfortable with the therapeutic aspects of massage, you may change your mind. But until you do, make certain that you feel comfortable.

Can massage be of benefit to children with headaches?

I do not know of any studies regarding the effectiveness of massage and headache in children, although massage has been shown to reduce anxiety in children, which may be a trigger for headache. Massage of infants is a traditional practice in India, and is becoming more common in the United States (see below); research shows that massage of premature babies helped improve weight gain and reduced hospital stay.

Can I be massaged if I am pregnant?

Yes, a reliable massage therapist will have the knowledge and skill to help reduce stress, improve the flow of oxygen and blood to your tissues and may help relieve swelling and edema, as well as backaches. It is quite safe, however, be sure to speak with your doctor before starting a massage program.

Is massage covered by medical insurance?

Massage may be covered by some insurance plans if it is prescribed by a physician. Ask your insurance carrier for details.

TRADITIONAL THERAPIES

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Albert Einstein changed our view of the world when he developed the equation $e=mc^2$. What it means, in very simple terms, is that all physical matter is made up of formless energy. Energy that coalesces creates matter; matter dissipates into energy. Energy and matter are in a constant state of flux. In Eastern tradition, this idea is not new. It is, in fact, the basis for a cosmology that guides a sophisticated system of medicine. In traditional Oriental medicine, *qi* (pronounced "chee") is an ancient expression of Einstein's recently rediscovered concept. Qi is the essential life force that is part of all living things; it is the transformative energy that manifests as matter. In the traditional Indian medicinal system of Ayurveda this phenomenon is known as *prana*, also translated as breath.

Today, researchers at esteemed institutions such as Stanford University and New York City's Mount Sinai Hospital are exploring this invisible phenomenon with scientific seriousness. And, while research is still in its nascent stages, investigators are finding proof of what is now referred to in alternative medicine circles as the *human bioelectric energy field*, or *bioenergetic medicine*, or simply, energy medicine.

Traditional systems of medicine, such as Ayurveda and Chinese medicine, have a head start on Western bioenergetic medicine pioneers. Over the past 5,000 years, physicians in these areas have developed formal therapeutic methods that harness (perhaps *access* is a better word) the power of this primary energy. Yoga and meridian therapies such as acupuncture, acupressure and qigong (pronounced chee-kung) are four common examples.

Traditional Eastern therapies

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After sustaining wounds at certain points in their bodies, warriors in ancient China noticed a paradoxical after-effect: they experienced relief from diseases they'd suffered for long periods before. In exploring this effect, Chinese physicians discovered and began mapping *acupoints* -- potent areas on the body that influence the health of vital organs and other body systems by regulating the flow of vital energy, or *qi*. This method of disease diagnosis, prevention and treatment became an important part of the sophisticated medical system today known as traditional Oriental medicine.

Rooted in the ancient Taoist philosophy of yin and yang in China, the practices of meridian therapy have made their way over the past 5,000 years to other Asian countries, notably Japan and Vietnam, and over the past 200 years, to Europe and the United States. In its cross-cultural transit, this basic language of healing has taken on the dialects of the societies that embraced it.

While it is useful to visualize *qi* as an energy that travels through hollow tube-like channels to nourish the body and the soul, its true meaning is more profound in traditional Chinese thought. *Qi* is the elemental force of life, found in all parts of all living things. It travels through the body via channels that are invisible, but not random. These channels, also referred to as *meridians*, mark the natural patterns of *qi* flow.

The meridians are the body's *qi* super-highways -- each relating to a specific organ or body system. In health, *qi* flows freely along the meridians to vital organs, bones, tendons, muscles and tissues -- enabling different parts of the body to work as a unified whole. When the body is not in good health, there may be jam-ups or vacuums along the channels that inhibit the flow of *qi*. The stimulation of *acupoints* is believed to activate the body's own resources to

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remove blockages or fill the vacuum, thus reducing pain, restoring the balance of qi, and maintaining overall health.

According to traditional Chinese belief, we are all born with a certain amount of qi. Over the years, as we age and endure the physical and emotional challenges of everyday life, such as illness and stress, our storehouse of qi becomes depleted. There are also physical and meditative techniques (notably *qigong*) for accessing, renewing and directing qi to bring about spiritual and physical health.

In the body, qi circulates primarily by 12 major meridians which are connected to the 12 vital organs. There are also 23 other channels circulating through the body, but we'll focus on the main 12. Because they are bilateral -- mirrored symmetrically on both sides of the body -- there are actually 24 channels. Each also has a yin or yang quality of its own. There are more than 2000 acupoints on the skin that connect with the channels; conventionally, 365 are most commonly used in traditional Oriental medicine.

[Table]

Meridians of Chinese medicine and relation to head pain

Symptoms in this part of

the head

Might indicate problems these pairs of meridians in

Back of head

Small intestine & Bladder

Side of head/temples

Gallbladder & Triple Burner

Front of head/forehead

Stomach & Large Intestine

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Band around entire head	Lung	&	Spleen
Crown of head	Liver	&	Pericardium
Cheeks and teeth	Heart	&	Kidney

Remember that these are generalizations -- each individual is unique, and while the location of pain might point generally to a pair of channels, other factors come into play, such as the person's overall health, diet and emotional state, in the diagnosis of obstructed qi.

Western clinical study has confirmed the effectiveness of acupoint stimulation, describing its success in terms of its mechanisms of action, which are only partly understood. So far, modern science has verified that stimulating acupoints also stimulates small nerve fibers in the muscle, which launches a three-pronged attack on pain.

The spinal cord responds by activating chemical messengers -- neurotransmitters called enkephalin and dynorphin -- to block incoming pain messages. In this way, the pain is blocked on a local level. But pain is also lessened by triggering the body's centralized pain-control processes, located in the brain. The neurotransmitters make their way to the brain to stop pain in two ways:

- In the midbrain, enkephalin mobilizes serotonin and norepinephrine, two other neurotransmitters, to block pain messages.
- In the hypothalamus-pituitary, endorphin is released into the blood and cerebrospinal fluid. As you might know, endorphins are the body's own pain-killing chemicals.

In spite of these documented findings, and more than 150 generations of clinical practice in Asian countries, many Western doctors are skeptical about the healing effects of meridian therapies. As scientists, we are trained to demand

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clinical proof in the form of rigorous study. Meeting this requirement is no small task.

The gold standard for clinical study is the double-blind placebo-controlled study design, where neither researcher nor patient know whether the placebo or the treatment have been given. With this design, it's impossible to compare drugs to acupuncture; "sham" acupuncture techniques, which serve as a placebo equivalent, have shown benefits, but there is much debate over the validity of these study designs. Single-blind studies are underway across the world, and continue to confirm the efficacy of acupuncture and acupressure. Yet, it may just be that meridian therapies cannot yet be fully proven in Western terms. Our views of health and disease are framed through different lenses.

While one does not need to understand or endorse the Taoist beliefs that shape traditional Chinese medicine to benefit from any of the practices, an understanding of the concepts that govern this sophisticated medical system can help explain the integrated logic behind its effectiveness. See the *Resources* chapter for more information.

Ayurvedic medicine

In Ayurvedic medicine, the mapping system for the flow of *prana* (the life force, the Indian equivalent of qi) is related to that of traditional Oriental medicine. The 107 Ayurvedic acupoints, called *marmas*, were recorded in the ancient Indian text, *Sushruta Samhita*, which originated before the 10th century B.C.

In the Ayurvedic system, injury to the marmas can bring severe illness or death, while therapeutic massage can rejuvenate and heal. For example, acupressure applied to the 42nd marma, *simanta*, which is located on the top of the skull, can help control blood circulation in the head. However, if this area is

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injured, it can cause premature death. The therapeutic means for regulating the marmas are varied, ranging from massage and acupressure to yoga and aromatherapy.

Acupuncture

From a scientific point of view, the most compelling reason for considering acupuncture is clinical proof. Over the past 15 years, acupuncture has earned a solid scientific status through proof of efficacy in clinical studies. For people with tension or migraine headache, there are several studies -- with positive results -- but relatively few have been controlled. (For an explanation of the difference between "controlled" clinical studies and "uncontrolled" studies, see the *Glossary*.) But the consensus is that, for many people with migraine and tension-type headache, acupuncture reduces the number and severity of headache.

Though acupuncture originally derived from the China, a growing number of physicians in the United States are beginning to learn the art and science of this time-proven method. An estimated 10 million acupuncture treatments are performed each year in the US. At the New York Headache Center, for example, I administer acupuncture frequently to help reduce my patients' head pain -- and I am not alone in this practice. Many physicians and osteopaths are beginning to fuse alternative methods such as acupuncture with modern Western approaches.

History

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A Chinese surgeon named Hua Tuo (A.D. 110-227, Han dynasty) is credited with being the first to use acupuncture for the treatment of headache. The idea behind acupuncture is rooted in traditional Chinese medicine, which also encompasses the concepts of yin and yang (female and male principles), energy flows, and other traditional healing principles (See above and Chapter 1 for an overview). Acupuncture was introduced to US physicians by Sir William Osler, one of the founders of modern medicine, who prescribed it for back pain.

Effectiveness

In studies, acupuncture has generally proved to be effective in 55% to 85% of people in reducing the number and severity of their headaches. But, at least 15% of people don't respond at all to acupuncture.

The effectiveness varies depending on who administers the treatment, and the duration of treatment. In one study conducted in the People's Republic of China, where proficiency would be expected to be quite high, 93% of migraineurs who failed to respond to Western medicine experienced relief with acupuncture. In a study of people with tension-type headache, acupuncture significantly reduced the frequency and intensity of headaches, and the effects persisted for the duration of the study -- up to 12 months after treatment.

How it works

[ILLUSTRATION OF MERIDIANS]

[Caption]

For the prevention of migraine, hair-thin acupuncture needles are often inserted in the scalp, face and hands for 20-30 minutes.

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As discussed in Chapter 1 and above, the concept behind acupuncture is that there are key pain-control points along different meridians on the body [see illustration above]. Headache is caused by obstructions in qi along meridians. Acupuncture not only induces physical changes, but it has the ability to tap deep emotional and mental levels that help balance an individual's entire being. Its effects are not only targeted to help correct specific physical symptoms, but reach to the source of the problem -- the body-mind imbalance. For these reasons, acupuncture can be applied as a preventive treatment for stress-related headaches, or as first aid for headaches in progress.

Who can be helped

Acupuncture has been shown to help people with tension-type, migraine and sometimes cluster headaches to reduce the number and severity of their headaches. It is used both to prevent headaches (prophylaxis) and to stop existing head pain (treatment). Though studies have not been as widely performed, acupuncture may prove beneficial for people with a other headache types as well, especially if acupuncture is administered by an individual trained in Chinese medicine.

What to expect

The session begins with an evaluation -- which varies in type and duration depending on the background of your acupuncturist.

A person trained in traditional Chinese medicine will take your pulse, look at your tongue, and ask you a variety of questions which may seem odd or irrelevant, such as, "do you prefer sweet or sour foods?" The answers to these

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questions help the clinician classify you according to the Chinese system of medicine, and help diagnose the source of your headache. On the other hand, a neurologist will follow a conventional headache "work up" consisting of a physical evaluation and medical history.

You will probably be asked to lie down on your back and relax. The practitioner will then apply hair-thin needles to specific acupoints. The needles are made of stainless steel and usually disposable, so there is no risk of disease transmission. (Some practitioners sterilize and re-use their needles; *you should insist on disposable needles to eliminate any risk of infection.*)

The needles are usually inserted at various points on the scalp, face, and hands -- depending on the type and location of your headache or facial pain -- to a depth of one-half to an inch (shallower for children). Usually, they are applied at the same points on both sides of the body. However, other points also may be used if your head pain is associated with other conditions. In traditional acupuncture, the practitioner may also twirl the needles slightly or flick them lightly to provide additional stimulation.

The acupoints for prevention may be different from those used for first aid of headaches in progress. When applied for first aid, acupuncture may first make a headache feel worse -- in a way, speeding up the course of symptoms -- before it begins to dissipate.

After the slight initial discomfort of having the needles inserted, you may feel a variety of sensations -- tingling, heat or a feeling like pressure, or even an electrical jolt. These are good signs that the correct acupoints are being activated. Unless you move, you should have little or no awareness of the needles after their insertion. This does not mean that you cannot move at all; the needles are very flexible and should not break even if bent.

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You will then be asked to relax for 20-30 minutes with the needles in place. Since you will need to remain more or less motionless for the treatment, you may be offered a very light blanket to keep you warm.

You may then experience a deep sense of calm, and even fall asleep. Again, this is a positive sign that the treatment is working -- in traditional Chinese medicine, it reflects the freeing of the flow of qi. After the allotted time, your practitioner will remove the needles.

Some variations on acupuncture

Applying the same principle that stimulating acupuncture points will relieve pain, many doctors and practitioners employ similar methods.

Japanese acupuncturists, for example, use thinner needles and inserts them less deeply.

Some schools of acupuncture limit application of needles to points in the hand, feet or ears.

Some practitioners pass weak electrical currents through the needles to enhance its effect -- a technique called *electroacupuncture*. Some also combine acupuncture with a traditional Chinese method called *moxibustion*, which is thought to pre-date acupuncture. With moxibustion, a small cigar-shaped roll of dried herbs (*artemesia vulgaris*) is placed at short distance from the acupoint and burned. When acupuncture and moxibustion are combined, a piece of dried herb is placed at the end of the needle away from the skin and burned. Another technique, *cupping*, uses a warmed glass to create a vacuum over acupoints. A few practitioners use *laser beams*, instead of needles, to stimulate acupuncture sites. Acupressure, the use of fingertip pressure to stimulate acupoints, is discussed below.

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Treatment schedule

Typically, the treatment course consists of weekly or twice-weekly sessions, which may continue for several weeks. Over time, if the treatments prove effective for you, their frequency can be reduced to once a week or every few weeks to maintain pain relief. Acupuncture can also be used for first aid of a headache in progress.

Side effects

When done properly by an experienced practitioner, acupuncture is very safe. Some people experience minor redness and irritation at the acupuncture site -- which usually disappears within a few days. Others may feel anxious about the needles. Some people may even faint. (Practitioners have noticed that men are more likely to faint than women.) This is one of the reasons why people are asked to lie down for treatment.

There also have been rare reports of puncturing the lung and damage to the eye -- which is why it's so important that you find a practitioner with experience.

Warnings

Let your doctor or practitioner know if you are pregnant, of any health conditions, or if you are taking medications.

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While you can still safely receive acupuncture treatments during pregnancy, there are acupuncture sites that should be avoided, as they may cause miscarriage.

People taking prescribed blood-thinning agents like warfarin (Coumadin®) or heparin should not receive acupuncture, because it will increase the risk of bleeding. Taking over-the-counter drugs that may thin blood, such as aspirin, ibuprofen or naproxyn, will not generally increase your risk, but let your practitioner know.

Finding a reliable practitioner

There are an estimated 6500 acupuncturists in the United States. There are several routes you can take to find a qualified person to administer acupuncture. Word of mouth is a good start.

If you are looking purely for someone who is qualified in acupuncture (but not an MD nor a doctor of Chinese medicine), the National Commission for the Certification of Acupuncturists sets rigorous standards, and can refer you to a licensed acupuncturist in your area: 202-232-1404. Some states require that non-doctors meet or exceed the NCCA's standards in order to practice, including: Alaska, California, Colorado, Florida, Hawaii, Maine, Maryland, Massachusetts, Montana, Nevada, New Jersey, New Mexico, New York, Oregon, Pennsylvania, Rhode Island, Utah, Washington, Wisconsin and the District of Columbia.

In addition, there are more than 40 schools and colleges of acupuncture and oriental medicine in the United States. About half of them are approved with the National Accreditation Commission for Schools and Colleges of

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Acupuncture and Oriental Medicine, which also sets standards for educational achievement.

There are also more than 3,000 conventional MDs or DOs who have become qualified in acupuncture through medical institutions. Many are licensed by the American Academy of Medical Acupuncture (AAMA), which sets standards for physicians. The number of medical colleges that offer courses in acupuncture is growing all the time. There are two advantages to having an MD/DO administer acupuncture: first, the physician can use acupuncture to complement other treatments; second, physician-applied acupuncture might increase the likelihood of receiving reimbursement by your insurance company. The AAMA can be reached at 1-800-521-2262.

To find a physician who is knowledgeable in all methods of Oriental medicine -- acupoint therapy, herbology, nutrition and meditation -- contact the Council of Acupuncture and Oriental Medicine. It is an umbrella organization for schools of acupuncture and Oriental medicine that meet basic requirements. More than 28 schools/colleges are now members. They can refer you to a school or college in your area, which can then refer you to a local practitioner.

Council of Acupuncture and Oriental Medicine
8403 Colesville Road
Suite 370
Silver Spring, MD 20910
301-608-9175.

American Association of Acupuncture and Oriental Medicine
433 Front Street
Catasauqua, Pennsylvania 18032
610-266-1433
Fax: 610-264-2768

National Commission for the Certification of Acupuncturists
1424 16th Street NW, Suite 501
Washington, DC 20036
202-232-1404

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Questions and answers

Does acupuncture hurt?

Many people envision large, hypodermic-sized needles when they think of acupuncture. In fact, acupuncture needles are so thin and light, most people barely feel their insertion. Others experience a distinct prick, or tingling (like hitting the funny bone) at certain acupoints, that can be momentarily uncomfortable. Sensation is generally a good sign that the correct point has been stimulated. Some practitioners use "needle guides" to lessen the pain even further. As mentioned, traditional practitioners often twirl or flick the needle slightly to provide extra stimulation.

How long do the needles need to stay in?

A typical treatment session lasts 20-30 minutes.

Can I "overdose" on acupuncture?

No. There are no reports of adverse effects due to having too many acupuncture treatments. But you might suffer irritation at the acupuncture site.

What happens if the needle is inserted in the wrong place?

Make sure that your practitioner is well-qualified in acupuncture to ensure safety. But, except in the case of pregnant women or underlying illness, there is very little risk to a misdirected acupuncture treatment (see WARNINGS and SIDE EFFECTS, above).

Will I need other treatments besides acupuncture?

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The answer depends on your practitioner. If your acupuncturist is also a physician of Chinese or Oriental medicine, you might also receive herbs, and/or recommendations for nutrition, meditation and physical exercise. Some doctors of Chinese medicine may recommend *qigong* (see below). Some MDs, osteopathic physician (DOs), and naturopaths are also skilled in acupuncture, and may recommend complementary treatments for your headache.

I've heard of people keeping acupuncture needles in for a long time -- will this happen for me with headache?

Occasionally, for the treatment of addictions or weight reduction, tiny thumb-tack-like needles are left in the ear for periods of day and weeks. Having a foreign body left in the ear carries a risk of infection. Few reports of the need for acupuncture of this sort have appeared in the medical literature. Since the advantages of this method are not clear, it is best avoided.

Is acupuncture covered by health insurance?

The answer depends on your health insurance. More than 80 private insurers and Medicare programs cover acupuncture. Many plans now accept acupuncture when it is either recommended or performed by a licensed medical doctor (MD). As complementary medicine becomes more accepted, and preventive approaches are seen as being economical, more insurance companies are beginning to offer coverage for alternative therapies, such as acupuncture.

Can children have acupuncture?

Yes. Even infants can safely receive acupuncture, except that it is important that they keep still. For this reason, it is recommended that children begin when they are old enough to stay motionless. In general, the needles are smaller and thinner, inserted to a shallower depth, and left in for shorter periods of time (5-10

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minutes, or just a few seconds). Contact the International Association of Infant-Massage Instructors (see *Massage* , above) for information.

Acupressure and related therapies

As with acupuncture, acupressure, shiatsu and related Japanese techniques stimulate and direct the vital energy force (qi or ki). With these techniques, the same acupoints and meridians that are activated by acupuncture can be stimulated by directly by the fingertips of a therapist -- or self-applied.

History

Acupressure, which is said by some to predate acupuncture, is more than 5,000 years old. It has undergone some transmutations over the years and is now a popular way to prevent and treat a number of chronic conditions.

Effectiveness

There are fewer clinical studies for acupressure than there are for acupuncture -- possibly because it is considered less a medical technology than acupuncture. However, the proof is in its endurance over thousands of years of use as a primary therapeutic tool.

How it works

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The same principles that guide acupuncture apply to traditional Oriental forms of acupressure. However, unlike acupuncture, acupressure can be applied with or without a therapist.

Guidelines for self-use

You can use acupressure techniques on yourself to prevent or treat a headache in progress. Because it takes only a few minutes, acupressure can be done virtually anywhere -- though a regular preventive regimen performed at the same time every day is more likely to produce good results. Michael Reed Gach, PhD, acupressure expert and author of several books including *Acupressure's Potent Points*, (Bantam Books, 1990), offers these guidelines and technique pointers:

- Do acupressure in a relaxing environment
- Do not do acupressure one hour before or after eating a heavy meal
- Pressure should produce a *twinge* -- neither extremely painful nor overly soothing; it should "hurt good."
- Apply pressure gradually -- don't push down too hard all at once
- Pump pressure lightly, in a steady, rhythmic way, until you reach your "edge" -- your twinge point
- Breathe deeply to encourage energy flow and relieve tensions

Acupressure points for relieving headache

Like acupuncture, acupressure points are identified by their location along different meridians, or channels. There are about 20 different acupoints for the variety of chronic headaches we've discussed in this book -- and the acupoints that are right for you depend on the type of headache you have. It is difficult to generalize, since headaches are outward symptoms of an underlying problem that relates to your general constitution, diet and other lifestyle factors. But

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many experts in Oriental medicine agree that obstructions in qi along the gallbladder, stomach and liver meridians are most strongly implicated in vascular-related headaches, such as migraine. These meridians may also play a role in TMJ and tension-type headache. Eyestrain and sinus-related headache *may* be associated with qi obstructions in the bladder meridian, as may some anxiety-related headaches.

What follows are some of recommended acupressure points. In addition, we've included a sample of shiatsu exercises, described by Toru Namikoshi, author of *Shiatsu and Healing*, (HarperCollins Publishing). This is just a sample of several points that *may* be of help for different types of headache. For more recommendations, specific to your headache syndrome, consult a qualified practitioner of acupressure or shiatsu.

[ART: Back of head with callout of caption describing type of headache and location of acupressure points]

Migraine, eyestrain, neck pain and tension headache and TMJ*

Located in the hollow between the neck muscles, just below the base of the skull. Tilt head back and use thumbs to press firmly for 2-3 minutes, while breathing deeply. Relax for five minutes afterwards.

Nervous tension, heaviness in the head, eyestrain, stiff neck*

Located on muscle one inch or so on either side of the spine, one finger width below the base of the skull. Hook index, middle and fourth fingers on the muscles and press for three long breaths.

[ART: Front of head]

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Sinus headache, eye pain, tension-related headaches*

Located on sides of nose, in the hollows between where nose bridge meets eyebrow the bone. Use thumb and index finger to press this point, hold and breathe deeply for a minute or two.

[ART: Front of hand]

Constipation-related headache, sinus headache, toothache, tension-related headache*

FORBIDDEN FOR PREGNANT WOMEN. Located at the top of the mound that forms when you bring your thumb and index finger together. Spread fingers apart. Squeeze point with thumb on back of hand, other fingers hooked under palm. Angle thumb toward the bone of index finger. Breathe deeply while pressing for one minute. Repeat on other hand.

Shiatsu technique for headaches in progress**

This technique is helpful for migraines and headaches related to constriction or dilation of blood vessels near the head.

1. At the first sign of a headache, apply medium pressure to the point of pain with your index, middle and fourth finger for 5 seconds.
2. Apply pressure with your entire palms for 10 seconds.
3. Repeat the above steps 3 times.
4. Apply pressure with both palms flat over your temples (right palm for right temple, left palm for left temple) for 10 seconds. Repeat 3 times.
5. Apply pressure with both palms over the the top of your head for 10 seconds. Repeat 3 times.
6. Place palms again over your temples (right hand over right temple; left hand over left temple). Applying pressure, rub the right hand up and down for 5

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seconds. Move the left hand up and down for five seconds. Repeat, alternating hands, 3 times.

7. Now, with palms still over the temples, move the right hand forward and back for 5 seconds. Do the same thing with the left hand. Repeat, alternating hands, 3 times.

** Adapted with permission from *Acupressure's Potent Points*, by Michael Reed Gach, PhD, Bantam Books, 1990

*Adapted with permission from *Shiatsu and Stretching*, by Toru Namikoshi, HarperCollins, 1985.

Variations on acupressure

Shiatsu is a Japanese variation of acupressure, translated as "finger treatment." The acupoints are called *tsubos* which can be stimulated by the fingers, palms of the hands, knees or feet (*barefoot shiatsu*). During a session with a therapist, you will recline while the practitioner stimulates acupoints -- however, shiatsu can also be self-applied.

Shiatsu is sometimes accompanied by stretching and specific movements (as in *zen shiatsu* and *acu-yoga*), massage (*Tui Na*), and *amma* which focuses on points in the head and neck area to relieve tension. *Jin shin jyutsu* and *jin shin do* are other related therapies. *Jin shin jyutsu* is the skill of awakening the circulation, developed in Japan by Jiro Murai in the early 1900s, and was the basis for *jin shin do*, which was developed in the United States. Both are pressure-point therapies used to stimulate the flow of ki.

Who can be helped

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All types of headache can be treated and prevented with acupressure; of course, for serious headaches of organic cause, it's strongly urged that you seek professional medical help.

What to expect

As with acupuncture, the approach of the acupressure therapist can vary greatly depending on his or her background and orientation. If you see a doctor trained in traditional Oriental medicine, you may undergo a series of evaluations -- tongue and pulse exam, lengthy questionnaire, etc. -- to help identify the underlying cause of your headache. Acupressure may be one of several techniques used to treat the disorder (see Acupressure, above).

Whether you see a doctor of Oriental medicine, or a practitioner trained only in acupressure (or related) techniques, the therapist will then administer a series of acupressure massages, relying somewhat on trial and error to determine which points evoke the best response. In most cases, you will then be taught some techniques to continue on your own.

Treatment schedule

The treatment schedule depends on the frequency and severity of your headache, as well as the underlying cause. As preventive therapy, acupressure practiced once a day, can also help reduce the frequency or lessen the severity of your headaches. In addition, acupressure can be used to lessen the symptoms of a headache in progress.

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Side effects

While acupressure generally helps you feel more relaxed, it may also lower your resistance. Make sure that you add a layer of clothing and avoid too much activity after using acupressure.

Warnings

Though simple to practice, acupressure is powerful therapy. Certain points should be avoided if you are pregnant (like the hand press described above). Let your therapist know if you're pregnant or of any medications or disease conditions. Don't work on recently-healed scars or burns or fractures.

Finding a reliable practitioner

See "Acupuncture" above. Specialists in traditional Oriental medicine will have a background in acupressure. Also, contact one of the following organizations:

Acupressure Institute
1533 Shattuck Avenue
Berkeley, CA 94709
800-442-2232
510-845-1059

American Oriental Bodywork Association
6801 Jericho Turnpike
Syosset, NY 11791
516-364-5533

National Commission for the Certification of Acupuncturists
1424 16th Street NW, Suite 501
Washington, DC 20036
202-232-1404

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Questions and answers about self-acupressure and shiatsu

Does acupressure hurt?

Acupressure should hurt slightly; as we described, it should twinge -- hurt "good." But if you feel severe pain at a certain point, use less pressure. If the point is very tender to any touch, try some more deep, rhythmic breathing for relaxation and try again. When pressing one point, some people feel pain at another part of their bodies. Michael Reed Gach recommends applying pressure to points near the "referred pain," as they are strong indicators of problems in these areas. To expand your repertoire of acupoints, see the *Resources* section for self-help books on acupressure.

How do I know I've got the right acupressure point?

It might take some feeling around to find the point described in the instructions. You'll know if you feel some sensation of pain, or twinging, at the point.

My skin is irritated when I do acupressure. Is this normal?

You should not feel any skin stretching or irritation. Remember to direct fingers at a ninety-degree angle (straight up) from your skin surface to get the most out of your treatment. Also, keep your fingernails clipped short and remove any jewelry from your hands and wrists.

How long do I apply pressure?

Typically, 1-3 minutes, but the method varies depending on the point you're pressing.

How often should I do acupressure treatments?

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It's up to you, but for preventive treatment, you can apply acupressure every day, or just when you feel a headache coming on. It's a good idea to develop an acupressure regimen that includes general body relaxation -- especially for people with tension-type headaches or other tension-related headaches such as eyestrain.

What happens if I apply pressure in the wrong place?

As with acupuncture, there is little risk unless you are pregnant or have other health problems. For example, you must avoid the hand point we recommend above. In most cases, the worst that can happen is that you do not experience the benefits. But you should check with a qualified therapist for specific guidelines before doing self-acupressure if you are pregnant, or have any underlying health condition.

I have some other health problems; is it safe for me to do self-acupressure?

If you have any health condition, including pregnancy, or are taking medications for any illness, seek the advice of a professional in acupressure, or a doctor of traditional Oriental medicine who can guide you on safe self-acupressure techniques.

Is acupressure covered by health insurance?

The likelihood of coverage is greater if you are under the care of a licensed specialist, or have been referred to one by a medical doctor. Check with your insurance company to make sure.

Can children have acupuncture?

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Yes. For infants and very young children, it's best to receive guidance from a skilled practitioner.

Qigong

Qigong (pronounced "chee koong") is also referred to as *Chi Gung*, *Chi Kung* and *Qi Gong*. It unites two concepts: *qi*, the life force, and *gong*, the skill of working with qi. The ancient Chinese martial arts *kung fu* and *t'ai ch'i* evolved out of qigong.

As with acupuncture and acupressure, the practices of qigong focus on renewing, unblocking and regulating the flow of qi through the channels of the body. Qigong is a relatively simple practice that uses movement and/or meditation techniques that can be learned by anyone. In addition, there are doctors trained in Chinese medicine who practice a form of qigong that involves transmitting qi to ailing subjects.

History

Qigong is thought to predate and lay the groundwork for traditional Oriental medicine. It was first recorded in the *Nei Jing*, the ancient sourcebook of traditional Chinese medicine. Early forms of qigong were practiced and refined by physicians and monks in ancient China. Estimates of up to 100 million people practice qigong throughout the world today. Among them are qigong masters who are reputed to heal masses of people and perform miracle cures. Many hospitals in China routinely include a staff of qigong physicians (different from qigong masters, who are very few in number) who are trained in traditional

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Chinese medicine with a specialty in qigong. In the United States and Europe, enthusiasm for this ancient method of self-healing is growing rapidly.

How it works

As with acupuncture and acupressure, qigong practices help the body generate and maintain health by nurturing and regulating the flow of qi.

There are two categories of qigong: internal qigong and external qigong. Internal qigong can be practiced by anyone for self-regeneration or therapy. External qigong, known as *waiqi*, is the form used by healers to transmit qi to another person. Within the category of internal qigong, there are meditational forms, known as *nei dan*, and movement forms, known as *wei dan*. Both share a spiritual component, and a focus on breathing. Today, according to Sheila McNamara and Dr. Song Xuan Ke, authors of *Traditional Chinese Medicine* (HarperCollins Publishers, Inc., 1995) millions of Chinese people "start their day with with a form of exercise which does not aim to burn off energy, but rather to accrue, store and reinforce it."

Within the two categories, there are hundreds of forms of qigong, and more are evolving still today. Some are widely available, while others are reserved for those with special knowledge and skill. Indeed, according to Roger Jahnke, O.M.D (Doctor of Oriental Medicine), in Santa Barabara, California, and author of many books about qigong (see *Resources*) adaptability is one of qigong's unique characteristics. Catching the *spirit* of qigong is more important and beneficial than precisely mirroring an instructor's movements. He recounts this story to illustrate the point:

At a conference I recently attended, a woman from the audience told me that she had been taught qigong by a friend who had attended one of my workshops, and had benefitted tremendously. Curious,

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I asked her to show me what she had learned. To my surprise, her movements were very new to me -- even though my lessons were the original source of her qigong practice.

Dr. Jahnke does not discount the benefits of his second-hand pupil's qigong practice just because her movements didn't match his lesson. Quite the contrary: the woman's positive experience serves as vivid testimony to the value of qigong as a self-care practice. Although there are many formalized ways of practicing qigong, at its core, it is a practice without prescribed movements. By following fundamental guidelines, qigong can be practiced virtually anywhere, by anyone - - from the most flexible to the bedridden. In Jahnke's words, "there are no barriers to qigong." It is the responsibility of the practitioner to be "filled with care," as Jahnke puts it; that is, to remain inwardly sensitive to the powers of qigong -- and adapt the practice to match one's limitations.

Qigong's effectiveness is rooted in the directed movement of qi -- either through meditation or physical activity -- to achieve connectedness with the fundamental forces of the nature and the universe. With directed actions, qigong practices can remove qi blockages along meridians in the same way as acupuncture or acupressure. It is said by some that when levels of proficiency are attained, the effects of qigong can be as powerful as those achieved by acupuncture.

Who can be helped

Qigong experts universally agree that the daily practice of qigong can help relieve virtually any physical illness, including all forms of headache. General internal qigong practice is considered a body-mind tonic which can only benefit the body by restoring levels of qi. But, as with any condition, it is easier to

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prevent headache than it is to deal with a migraine in progress. Ongoing qigong practice is a preventive measure. Therapeutic qigong, under the care of a qualified qigong therapist, can have specific health effects.

What to expect

There are hundreds of forms of qigong, and many ways of learning it. It can be administered by a qigong therapist, who will almost certainly teach you a series of movements or meditations to perform on your own; videos and group or private classes are also available. The route you take will define your experience.

A qigong therapist can instruct you on ways to activate qi along certain meridians that have been diagnosed as being obstructed. A qigong doctor may pass his or her hands across your body, often not touching it at all, to transmit qi to certain areas for therapeutic effect.

You might feel sensations of heat, lightness, tingling, or weightiness -- which are generally good signs that qi is being activated in your body.

Qigong fundamentals

As mentioned, there are many forms of qigong, and they can evolve almost spontaneously. Roger Jahnke outlines three fundamental steps for any qigong practice: regulating the breath, regulating the mind and regulating the body.

Regulating the breath simply means focussing on the breath to make it deep, natural and unforced. To regulate the mind means to bring the mind to a state of calm and near-stillness, as devoid of thought and worry as possible. Focusing on the breath or the sensation of qi is one way to regulate the mind. To

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regulate the body means to assume the correct position. There are at least two ways to regulate the body: by following a prescribed set of qigong movements, or by practicing *spontaneous qigong*.

Spontaneous qigong is a method of movement that aims, in Roger Jahnke's words, "to find a body process that feels like it's maximizing the circulation of qi." It is an intuitive movement guided by one's personal connection with qi. This could mean anything from long periods of stillness punctuated by micro-movements to maintain comfort, or continual movement. Basically, if the movement connects you with a sense of qi, do it.

An awareness of qi is fundamental to qigong -- which is not as mysterious as it sounds. A typical qigong session will begin with relaxing the body -- regulating the breath and the mind. Either standing, sitting or lying down, imagine your body connecting deeply to the earth, absorbing the earth's qi, or universal energy. With this image firmly rooted in your mind, you have already begun to access qi. The exercises could be as simple as taking deliberate steps -- ever mindful with each step down and each step up of the connection to the earth's qi -- or as complicated as a sequence of precise movements.

Getting in touch with qi

Try this spontaneous qigong exercise:

Stand with your feet shoulder-width apart, with feet pointed inward at a 45 degree angle (pidgeon-toed). Relax your whole body. If you feel strain at the small of your back, squat slightly until the pressure is relieved -- or sit in an armless chair. Relax your whole body. Focus on your breath. Wriggle your fingers. Then move your body rhythmically, or in a shaking pattern. Slowly, exaggerate the movements that you started, but keep them slow. Add head and neck movements to your body's movements. Continue moving, conscious of

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your breath. Follow the natural pattern of your movements wherever they want to go, exaggerating them or slowing them down, shifting your weight -- as you see fit.

Treatment schedule

Again, this depends on the type of qigong you want to experience. However, the effects of self-practiced qigong are thought to be very powerful. Daily practice for 20-30 minutes, with periodic advice from a knowledgeable instructor, can result in very rapid improvement. It is said that daily practice is a way of maintaining and health, and generating stronger defense against disease.

Effectiveness

There are few studies of the efficacy of qigong in migraine and headache. One of the mechanisms of qigong therapy is possibly linked to its effects on reducing stress. A recent report by Roger Jahnke OMD revealed that qigong produces the relaxation response -- reduced heart rate, blood pressure and muscle tension.

Side effects and warnings

Practiced with mindfulness of one's own limitations, there should be no side effects to qigong. And, if guided by an experienced qigong practitioner, even people with severe disabilities can safely practice some form of qigong. Indeed, qigong can be practiced while lying entirely still. However, some of the qigong movements may create a sense of heat, dizziness or even fainting. Since qigong movements are readily adaptable to anyone's physical or emotional limitations,

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any discomfort should be a signal to slow down your practice, or change the movements until the sensation passes, advises Roger Jahnke.

Finding a reliable teacher or therapist

As with many complementary healing methods, the recommendations of friends and acquaintances are your best resource. There are many organizations that can refer you to qigong practitioners or teachers in your area. A good start is the International Qi Gong Directory. A larger list of organizations can be found in the *Resources* section.

The International Qi Gong Directory and The Body-Energy Center
2730 29th Street
Boulder CO 90301
303-442-3131

Questions and answers

Does qigong hurt?

If performed with care, there should be no ill effects of practicing qigong. But, as mentioned above, people with emotional problems or physical disabilities would benefit greatly from the guidance of an experienced qigong instructor.

I am not very flexible. Can I practice qigong?

There are many ways to practice qigong. It is as flexible as the practitioner. If the "set" you were taught is causing pain, do not continue. For example, people with arthritis of the knees may not be able to practice qigong forms that include a lot of bending. Speak with your qigong instructor about ways to adapt your

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practice to your needs -- or if you are familiar with qigong movements, adapt it yourself. You can do this without sacrificing any benefits.

I practice regularly, but I don't feel anything. Am I doing something wrong?

If you are under the care of a therapist or instructor, ask his or her advice. If you took a class, review the practices. Make sure you are focusing on the movement or meditation techniques and, in time, experts say, you should begin to feel positive effects.

Is it normal to feel a little lightheaded after my qigong practice

This is not abnormal. You may also feel warmth, tingling or other sensations -- including the sense of energy traveling across your channels, or meridians. If the feeling becomes uncomfortable, adjust your practice by slowing down, or changing your movements, or simply stopping and regulating your breathing.

How long should I practice qigong each day?

For best effects, practice the entire set you were taught. It is recommended to practice qigong for 30 minutes a day. But even a few minutes or seconds of qigong will yield some benefit. Qigong can be practiced at any time that you can focus. Even regulating your breathing can be a form of qigong. Or sitting in a quiet place with your feet connected to the earth. Or walking slowly and mindfully of your connection with the ground.

How often should I practice qigong?

Follow the recommendations of your therapist. For general health, daily practice is recommended. But, again, qigong can be practiced for just a few minutes at

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any time during the day when you have time to regulate your breath, your mind and your body.

If I'm not sure of the movements, and do something wrong, can I hurt myself?

Generally, qigong movements are slow and gentle, and there is no harm in doing them differently from the way you were taught. Some experts might disagree, but instructors such as Roger Jahnke believe that, if you are sensing the circulation of qi, and you are not experiencing negative effects, you might just have invented a form of qigong that is right for you.

I have some other health problems, is it safe for me to do qigong?

If you have any health condition, including pregnancy, or are taking medications for any illness, it's a good idea to seek the advice of a person with expertise in qigong or traditional Chinese medicine.

Is qigong covered by health insurance?

The very few policies that cover alternative health practices may cover qigong, particularly if it is recommended by an MD, osteopathic physician or physical therapist. Check with your insurer.

Can children and the elderly do qigong?

Yes, anyone who can learn the simple meditations and movements can practice qigong. Children respond very well to the playfulness and spontaneity of certain forms of qigong, such as spontaneous wiggling or forms which use movements that imitate those of animals. The benefits for older people can be especially good, says Roger Jahnke, as long as the practice is adapted to their particular limitations.

Yoga and breathing

The word *Yoga* has its roots in the Sanskrit word *yuj*, which means to yoke, unite, join or integrate.

In its traditional Hindu context, yoga is more than a physical discipline: it is a system of philosophy and a way of life. It is a means of disciplining the body, mind and emotions to unify with the spirit, which a Hindu believes is part of all living things. From this philosophical foundation, one can see how deeply yoga acknowledges the unity of mind and body. Yehudi Menuhin confirms this connection in his introduction to B.K.S. Iyengar's classic text on yoga, *Light on Yoga*, "The practice of yoga over the past fifteen years has convinced me that most of our fundamental attitudes to life have their physical counterparts in the body."

Traditionally, there are eight stages of yoga, which address physical, ethical and spiritual aspects of life. But most Westerners are familiar with only three: the postures, *orasanās* (AH-sa-nas) breathing exercises, or *pranayama* (PRAH-nah-yah-mah), and meditation. (We'll discuss meditation in Chapter 8.) A wide range of therapeutic benefits of yoga, as we will discuss below, have been proven through clinical study. And its effectiveness as both a general stress-reducing method, as well as a way of reducing headache, has also been shown.

There are many types of yoga. *Hatha* yoga is one of the most popular in the United States. However, as it becomes more part of the mainstream -- yoga is now almost standard fare at health clubs -- and people start realizing the depth

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of its effects on mind and body, more obscure forms are becoming known. An estimated 5 million people in the United States do some form of yoga.

History

The first book to systematize the practice was the *Yoga Sutras* (aphorisms) by Patanjali, which dates to about 200 B.C. There are more than many, many yoga asanas, which are coordinated with breathing, and many individual pranayama.

Over the past century, investigators in India and the West have conducted numerous research studies to show the therapeutic benefits of yoga postures and breathing, which are synchronized during yoga sessions. Today, yoga is part of many health programs to treat chronic diseases, notably Dean Ornish's method for treating coronary artery disease.

Yoga classes have been avidly embraced by Westerners as a way of calming the mind and toning the body. While many people practice yoga with spiritual intent, others are drawn to its physical and therapeutic benefits. It is common to find non-sectarian classes adapted for all ranges of flexibility, endurance, and overall health. One can find yoga-aerobics, step-yoga and yoga workouts. There are yoga classes for people with back problems and people with HIV. Physical therapists often base exercises on yoga poses, says Nancy Ford-Kohne.

Some yoga traditionalists disparage the popularization of yoga and its adulterations. Others welcome it as a way of helping people with specific therapeutic problems.

Different approaches

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Asanas

Asana means "ease" in Sanskrit. Not because they are so easy to achieve, but because they help achieve a state of ease -- a balance -- mentally, physically and spiritually.

The asanas are very specific postures that involve stretching and holding different parts of the body. Yoga asanas were designed to exercise every muscle, nerve and gland in the body. Except for props used on occasion to aid in the postures, the asanas are ingeniously formulated so that the body works with itself to produce therapeutic benefits. These stretches can be very gentle, or quite rigorous, depending on the type of class you take.

Pranayama

Pranayama means "control of the breath." The word comes from *prana*, which means both breath and life force in Sanskrit, and *yama*, which means control. Prana flows throughout the body in a system of *nadi*, or channels. As with qi in traditional Oriental medicine, free circulation of prana is a prerequisite of health. Prana can become blocked due to improper diet, disease or constitutional imbalances. The objective of pranayama exercises -- breath-regulating exercises - - is to encourage the free flow of prana and eliminate blockages.

Yoga teaches that the breath reflects and influences the state of the mind. By focusing on breath, one focusses the mind; by making the breath steady and clear, the same effects are achieved in the mind.

How it helps headache

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According to Nancy Ford-Kohne, founder and director of the Yoga and Health Studies Center in Alexandria, Virginia and American editor of *Yoga for Common Ailments* (Simon & Schuster), yoga offers many benefits to people with headache. "From a physical view, the best thing yoga can do for people with tension-type headache is to increase blood flow and to release tension in the neck and upper body," she says. The asanas can also help drain the lymphatic system and to remove toxins. Certain poses, such as the twists and cobra can help the adrenal glands and kidneys. In addition, studies have shown yoga to help balance neural problems, regulate serotonin and release endorphins -- all of which have been shown to help relieve headache. The emphasis on breathing helps oxygenate the blood.

With regular practice of asanas, structural balance, flexibility and posture can improve dramatically.

In addition, yoga practice induces a general sense of relaxation, which also may ward off headaches.

Finally, if practiced with mindful intent, yoga engages the mind and the body; it is a truly holistic practice. One can learn, through awareness of the discomfort of the asanas, how to better manage pain. One also learns, through the experience of trying to master the asanas, how to work with one's limitations and have compassion for the body. Through pranayama and asana practice, one begins to grasp and harness the power of the mind to deal calmly with stressful situations. Says Iyengar in *Light on Yoga*: "A lamp does not flicker in a place where no winds blow; so it is with a yogi [one who practices yoga], who controls his mind, intellect and self, being absorbed in the spirit within him."

Who can be helped

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People with tension-type and migraine headaches can benefit from yoga.

What to expect

There are many traditional forms of yoga, and modern adaptations; the type you practice will shape your experience.

Wear loose clothing or footless leotards and bring a towel or yoga mat. Some classes begin with meditation or chanting; most start with at least a few moments of relaxation, either lying down or sitting in a comfortable position.

Most classes begin with breathing, or focusing awareness on the breath. Pranayama may range from taking complete, full breaths deep into the belly to specific pranayama. Gentle stretching exercises often precede the formal asanas, or postures, to help loosen muscles and joints.

In the asana portion of the class, the instructor will guide the group step-by-step into the stance. In most classes, the instructor will ask that you breathe through your nose while doing the asanas. The poses are performed with slow, steady motion and then held for several seconds, or minutes, giving attention to full, quiet breath and the sensations that arise.

The form of each asana is very specific, and should be practiced correctly to get the full health benefits -- and avoid injury. The instructor is there to help. Achieving good form takes time, patience and practice, so you should not feel badly about not doing it right. It can take many years to master asanas. During the learning process, many asanas can be adapted to your level of flexibility. For example, some of the balancing poses are difficult for beginners. In most classes, the instructor will encourage you to stand against the wall to help you gain a sense of balance. No matter what your ability, the main point is to do the best

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you can, and to practice the asana with concentration and awareness. Any level that you reach will yield some benefit.

Though the word asana is Sanskrit for "ease," some of the asanas will be challenging. You will be encouraged to explore your limits. At the same time, it's important to honor your "edge." If you cannot touch your hands to your feet, for example, it is better to go a little beyond your limit and back away to a stage of comfort than to make heroic gestures and risk injury. If a certain pose seems too impossible, advises Nancy Ford-Kohne, skip it until you feel comfortable trying it again. Having compassion for your body is a basic tenet of yogic practice. Over time, and with patience, you will find yourself getting closer and closer to the desired goal.

It may be tempting to compare your progress to that of others in the class. But yoga is not a competitive sport. A main point is to release judgment and, as much as possible, all other mind "chatter." A big part of yoga practice is training the mind to focus; a practice which helps cultivate concentration and mind-body (and spirit) unity.

After completing several asanas, many classes move to pranayama and then to a period of relaxation, usually lying down flat on the back while focusing on the breath, or on the contact of your body with the ground.

Classes often end with a short period of meditation and/or chanting *om*.

While some of the asanas will challenge you physically and mentally, the practice of yoga can bring great rewards. Most people leave classes feeling lighter and more relaxed. It is a practice with some immediate benefits, and many subtle, positive qualities that accumulate over time and with practice.

Breathing Exercise for Coping with Stress

Suggested by Nancy Ford-Kohne

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1. Sit with your spine as straight as possible. (If you need to sit in a chair, make sure your feet are flat on the floor with knees directly over the center of your feet. Use a book or cushion under your feet if they do not rest comfortably on the floor.) Place hands on the tops of your legs.
2. Close your eyes gently and let them rest behind closed lids.
3. Think about your ribs, at the front, back, and at the sides of your body. Your lungs are behind those ribs.
4. Feel your lungs filling up, your ribs expanding out and up. Feel your lungs emptying, your ribs coming back down and in. Don't push the breath.
5. The first few times you do this, do it for 2 to 3 minutes, then do it for up to 5 to 10 minutes. At first, set aside a time at least once a day to do this. When you learn how good it makes you feel, you'll want to do it at other times as well.

Asana to help prevent headache

Child pose (Balasana)

This posture gently stretches the muscles of the lower back and helps relieve shoulder tension. This position should be avoided in people with migraine or sinus headaches.

1. Kneel with your feet behind you and sit on your heels, the top of your feet flat on the ground. Keep your spine straight, but not too rigid.
2. Bend forward slowly. Rest your forehead on the ground, or on pillows (or folded towels) if you cannot reach the ground. Turn your face to one side. Let your arms fall to your side in a relaxed position.
3. Breathe regularly for 1-2 minutes.
4. Slowly and gently return to sitting.

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Neck roll

This exercise is a common warm-up for doing asanas but can also help relieve tension and improve flexibility of the neck muscles.

CAUTION: avoid neck rolls if you have whip lash, disc disease or problem in the bone of the cervical (neck) spine.

1. Sitting in a comfortable position, relax your shoulders, arms and hands.
Remember to breathe regularly and deeply.
2. Take in a deep breath. While exhaling slowly, gently tilt your head to the left, as though you wanted to touch your ear to your shoulder. Stop when you reach your "edge."
3. Inhaling slowly, bring your head upright.
4. Repeat to the right.
5. Repeat left and right 2-3 times, gently and smoothly.
6. Take in a deep, gentle breath. While exhaling slowly, gently lower your chin down, as though to touch your chest. Stop when you reach your edge.
7. Inhaling slowly, bring your head upright.
8. Take in a deep, gentle breath. While exhaling slowly, gently reach your chin to the sky. Stop when you reach your edge.
9. Inhaling slowly, bring your head upright.
10. Breathing gently and rhythmically, *very slowly* and gently move your head to the left, to the back, to the right and to the front -- ever mindful of your limits.
Continue rotating 2-3 times.
11. Repeat step 10 in the opposite direction.

Treatment schedule

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The best way to get health benefits from yoga is by regular practice. Some people take classes once or twice a week, and continue on their own. Instructors of traditional yoga recommend practicing either first thing in the morning or before retiring. Class lengths varies from 20 minutes to one-and-a-half hours.

Effectiveness

As mentioned, yoga asana and pranayama have been studied widely, and proved to have wide-ranging health benefits. More than 1,000 studies have shown the effectiveness of yoga and meditation in relieving pain and reducing stress, among other healthful benefits.

In one study, yoga proved to be a successful adjunct to treatment for people with migraine. A survey by the Yoga Biomedical Trust showed that 80% of 464 individuals with migraine benefitted from yoga therapy.

In several other studies, measurement of brain waves reflected a more relaxed state. Studies have also demonstrated increases in endorphins (pain controlling hormones) and serotonin in the brain. It's even been shown to improve job satisfaction.

Side effects

Yoga asanas, when practiced correctly, should not cause side effects. If you are not used to physical activity, and you overdo it, you may experience tender joints or muscles for a few days afterwards.

Warnings

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If you are over 35, have high blood pressure or a history of heart disease in your family, have a physical exam before starting yoga. Then let your yoga instructor know about any health conditions. You should avoid forward- bending asanas in the middle of a headache attack -- though these are good to help prevent headaches. Also, certain asanas should be avoided during pregnancy and menstruation.

Finding a reliable yoga instructor or therapist

While you can learn yoga asana and pranayama through books and audio or videotapes (there are many available), it's wise for beginners to start off with a qualified yoga instructor.

Recommendations from friends, physicians or physical therapists are the best way to start. A qualified yoga instructor may or may not be certified -- it is not a requirement in any state. And certification is not as important as having an instructor who understands your special needs. You can find help in both regards by contacting the International Association of Yoga Therapists. While they do not refer to yoga instructors, the IAYT can provide a list of schools that offer yoga teacher certification, which can then refer you to a certified instructor in your area. When you speak or write to the school, ask for an instructor who can help with headaches. Send a self-addressed, stamped envelope to:

The International Association of Yoga Therapists
109 Hillside Avenue
Mill Valley, California 94941
415-383-4587

Himalayan Institute of Yoga, Science and Philosophy
RRI Box 400
Honesdale, PA 18431
717-253-5551

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800-822-4547

Iyengar Yoga
2404 27th Avenue
San Francisco, CAL 94115
415-753-0909

Samata Yoga and Health Institute
4150 Tivoli Avenue
Los Angeles, CA 90066
301-306-8845
(Specializes in reducing stress and improving back problems)

Questions and answers

Does yoga hurt?

If you do not go beyond your limits, and practice the asanas with awareness, you should not feel pain. While holding some asanas for minutes or seconds, you may experience strong sensations: your body may urge you to move out of the posture, your mind may fill you with negative thoughts about your abilities. Yoga instructors will ask that you acknowledge these feelings, then move on to focus on the breath and posture. If the sensations are very loud and demanding, honor your body's limitations and back off to a level of comfort, or stop entirely.

Some of the postures I've seen look like contortions. Will I have to do them?

The asanas are designed to activate all of the body systems, from the muscles to the internal organs and blood system. To achieve this, some of the asanas may seem awkward-looking. Most beginning yoga classes start with fundamental postures, which help build strength, flexibility and balance. Over time, instructors will add more challenging asanas. You may be very surprised at how naturally you assume some of the odder-looking postures.

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Can I do yoga if I am pregnant?

There is some debate over this. You should definitely seek medical advice before starting any exercise regimen. Some sources recommend avoiding yoga during the first 3 months of pregnancy; others recommend only practicing during the first 3 months. However, yoga can be adapted to the needs of pregnant women, and there are yoga classes specifically for women who are pregnant. If you are in the least concerned, avoid yoga during pregnancy, or limit your practice to gentle, stretching postures.

Can older people do yoga?

Yes, yoga asanas are an excellent way to build strength and flexibility. Be sure to let your instructor know of any physical problems, such as arthritis or osteoporosis. If available, take a gentle yoga class, or one that is designed for elders.

Is yoga covered by health insurance?

If recommended by a doctor or physical therapist, it might be covered. Check with your insurance carrier.

TRIGGER POINT THERAPY (MYOTHERAPY)

Trigger point therapy, also known as myotherapy, is a method of relaxing muscle spasm, improving circulation and relieving pain. It is based on the concept that there are *trigger points* on muscles that are extremely tender to the touch.

Trigger points are damaged, spasm-prone areas of muscles caused by accidents, disease, postural habits and other factors. They can lie dormant for

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many years until physical or emotional stress causes them to flare up and cause pain.

Today, there are two techniques used to *defuse*, or neutralize, the trigger point: *Trigger point injection therapy* (injection of anaesthetics into the trigger point) was developed by Janet Travell, MD in the 1940s. Some physicians use electrical stimulation on trigger points, which is related to TENS (see below). *Myotherapy* (application of pressure by hand to the trigger point) was developed by Bonnie Prudden in the mid-1970s, who discovered that applying strong manual pressure to trigger points worked just as well as injections in relieving pain. Since myotherapy method does not use drugs, and is non-invasive, we'll focus on it in this section.

Although these therapies are widely practiced with significant effect in relieving all sorts of pain, including headache, the medical community is still in the dark about why it works. It has been thought by some, for example, that the pressure or injection denies the muscle of oxygen, and in this way relieves pain.

Others postulate that myotherapy is a way of re-educating the brain to break old patterns of muscle spasm. Myotherapists postulate that myotherapy helps re-educate damaged muscles. Any stress to the body will initiate communication with the brain, via nerve pathways. With myotherapy, pressure to trigger points in the muscle initiates a new mode of communication with the brain. With trigger point pressure, hundreds of thousands of signals are sent from the muscle to the spinal cord, and then to the basal ganglia of brain -- the part of brain that speaks to muscle. This messaging allows the brain to release the spasm and open the door for corrective movement. In essence, myotherapy prepares the muscle for freer movement -- one that breaks the habitual cycle of spasm. Once freed from the spasm, Bonnie Prudden's myotherapy method

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follows with corrective exercises designed to retrain the muscle into a new, spasm-free pattern of movement.

History

In the 1930s, a German physician named Hans Lange discovered that tender areas in muscles are 50% harder than surrounding areas. This discovery flew in the face of conventional medical wisdom, which upheld the belief that hard muscles are healthy muscles. In the 1940s, the American physician, Janet Travell, MD, developed trigger point injection therapy; she found that injecting Lange's "tender points" with an anaesthetic helped relieve muscle spasm. In many cases, trigger point injections are followed by muscle stretching exercises.

In 1976, an exercise specialist named Bonnie Prudden, was working with an internist named Desmond Tivy, helping to identify trigger points in patients before injection. By happenstance, she discovered that applying pressure to the trigger points relieved pain. Out of this discovery, she developed an integrated system of trigger point treatments and exercise known as myotherapy. Today, myotherapy by a Bonnie Prudden therapist is available only through referral from an MD, osteopathic physician, naturopathic physician, dentist or other medical professional. Laypeople can learn her method through books available from Bonnie Prudden Pain Erasure SM.

How it works

Myotherapists believe that trigger points are the cause of most non-organic headaches. With vascular headaches such as migraine and cluster, the pain is linked with the pressure that spasmodic muscles exert on blood vessels and

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nerves in and around the head and upper neck. Tension-type headaches are caused by direct muscle spasm in the area of pain. Sinus headaches are caused by blocked sinuses related to muscle spasms around the nose and cheekbones. In addition, headaches can result from trigger points in distant areas, called *matrix trigger points*, which cause referred pain to the head area.

Head muscles, according to myotherapists, are especially vulnerable to the assaults that create trigger points and muscle spasm. Think of how many times you fell on your head as a child, or chewed gum or experienced stress that made you clench muscles in the neck and jaw areas. All of these situations can set the stage for muscle spasm and trigger points.

By finding, then defusing, trigger points in the head and neck area, Bonnie Prudden myotherapists and physicians who use trigger point injections help relax muscles, improve circulation and relieve associated pain.

Who can be helped

Myotherapy and trigger point injection therapy is used to treat migraine, tension-type, TMJ and sinus headaches.

What to expect

There are typically four parts to the first myotherapy session. First, a history is taken to help determine when and where trigger points were "laid down" in the patient's muscles. You may be asked questions such as: how you were delivered as a baby (forcep births may insult head muscles), whether you suffered any accidents or injuries, the type of dental work you have received (eg, bridges, braces, etc.), whether or not you have any diseases such as arthritis or lupus.

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Second, you will be asked to wear loose clothing and lie down on a comfortable table. Then, you will be given a painless test to determine the strength and flexibility of key posture muscles.

Third, the myotherapist will locate the trigger points believed to be directly responsible for your pain. This step entails drawing a map of the afflicted area and marking off points that are especially sensitive to pressure. Since trigger points often congregate, the myotherapist will move inch-wise around that area in search for more.

Fourth, the myotherapist will erase the trigger point. This typically involves applying about 15-20 pounds of manual pressure to the trigger point for 7 seconds, then releasing slowly. The pressure will be lower if working on the face and greater if working on the gluteals of the buttocks. Depending on the area being worked on, the myotherapist will use hands, knuckles or even elbows to apply pressure.

Finally, the myotherapist will gently stretch the affected muscles. You will leave with exercises, tailored to your specific problem, to help keep the muscles free of spasm and pain.

Later sessions focus on continuing to erase your trigger points. Corrective exercises will be re-evaluated and you will learn how to apply myotherapy yourself to prevent pain from recurring.

Office Stress-Release Exercises

According to myotherapists, the neck, shoulders, arms, upper and lower back and legs are at risk for spasm-causing tension while sitting at a desk. The following exercises are recommended to be performed regularly -- after each phone call, each client or after each trip to another part of the office -- to ward off stressful tension.

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Shrug series

Do 3 sets of each, every hour.

1. Round the shoulders forward.
2. Press the shoulders down.
3. In a neutral position, look left, and look right.

1. Press shoulders back.
2. Pull shoulders up.
3. In a neutral position, look up, and look down.

Lower back stretch

1. Before you leave your chair, lean forward and let your upper body hang downward in short, gentle bounces.
2. If you are well-stretched, open your knees for a better stretch.

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Treatment schedule

To relieve pain, most people need fewer than ten sessions; the average number of sessions is five. Bonnie Prudden Pain Erasure also offers educational aids so that you can learn the technique yourself.

Effectiveness

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Based on experiences, Bonnie Prudden myotherapists report significant improvement among 90%-95% headache and TMJ sufferers with myotherapy and subsequent corrective exercise. Like many complementary therapies, few clinical studies have been performed. However, Ann Naylor, a Bonnie Prudden myotherapist in San Francisco, has recently concluded a study of 125 people, 72% of whom suffered from headache. Overall, 57% of patients had 85% improvement or better with myotherapy.

Side effects

Other than rare cases of minor muscle bruising, myotherapy is free of side effects.

Warnings

Underlying disease conditions might contraindicate myotherapy. Since you must receive written clearance for myotherapy from a doctor (MD, DO, chiropractor, dentist or naturopathic physician), your doctor will know whether you are a candidate. But, if you decide to go the self-help route and learn myotherapy from one of Bonnie Prudden's books, be sure to first seek the advice of your doctor.

Finding a reliable myotherapist

Certified myotherapists must train for 1300 hours, and undergo 45 hours of continuing education every 2 years by the Bonnie Prudden School for Physical Fitness and Myotherapy. The school also lists doctors and dentists who know

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about or use myotherapy. Ask your doctor, or contact Bonnie Prudden Pain Erasure for a referral and self-help books and videotapes:

Bonnie Prudden Pain Erasure
7800 East Speedway
Tucson, AZ 85710
800-221-4634
In Arizona: 520-529-3979

Questions and answers

What are the benefits of myotherapy over trigger point injection therapy?

Both achieve a similar effect on the muscle, however myotherapy does not involve injections or the use of drugs; it is a hands-on, non-invasive method. In addition, myotherapy can be learned (and self-taught) through Prudden's educational materials.

Why are the follow-up exercises important?

In the words of Ann Naylor, a certified myotherapist in San Francisco, "myotherapy prepares the muscles for movement by releasing the spasm, the exercises help imbed the new pattern of movement in the brain." The exercises help retrain the muscles to prevent spasms from recurring.

How come I might have a spasm recurrence?

If you re-injure the muscle, you might re-activate the spasm. The sooner you defuse the trigger point, say myotherapists, the less treatment it will take to break the pain-spasm cycle. For this reason, myotherapists teach their clients how to recognize and defuse trigger points themselves.

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Can children get myotherapy?

Yes, but the pressure used to defuse trigger points will be lighter. When children get myotherapy, parents are taught how to recognize and neutralize trigger points.

Is myotherapy covered by medical insurance?

When it is recommended by a physician, physical therapist, dentist, osteopathic physician or chiropractor, myotherapy is often covered by health insurance. But you should check with your carrier.

Reflexology

Reflexology is a type of pressure massage therapy which operates by the belief that there are reflex areas in the feet and hands that correspond with other systems of the body. Applying pressure to these points, reflexologists maintain, can release tension, improve circulation and bring the body into a state of balance.

History

Reflexology's roots can be traced to ancient China, with probable connection to the meridian therapies of acupuncture and acupressure. Historical evidence of reflexology has been found in ancient cultures of Japan, Egypt, as well as some Native American and African groups. Its emergence in modern Western culture took shape as a mapping system of pressure points on the hands and feet that correspond to different points of the body, developed by Eunice Ingham. Her

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nephew, Dwight Byers, founded the International Institute of Reflexology, which trains reflexologists and publishes books.

How it works

Reflexology operates by the concept that every part of the body is linked to a reference point, or *reflex point* on the foot, ear and hand. The foot is the favored therapeutic focus because of its extreme sensitivity: each foot houses thousands of nerve endings which, according to reflexology theory, are connected via the nervous system to organs, bones, muscles and glands throughout the body.

The reflex points corresponding to headaches and sinus problems are found at the tips and sides of the four small toes on both feet. But, since headache may originate from neck, face or shoulder tension -- or stress in general -- other reflex points may need to be pressed to achieve headache relief.

Reflexologists believe that applying pressure to reflex points helps stimulate the nerve pathways to corresponding body systems, which in turn helps improve circulation. According to reflexologists, ongoing massage with the right degree of pressure -- it should "hurt good" -- will also release endorphins, the body's own feel-good messengers, from the bloodstream.

Who can be helped

Theoretically, reflexology can benefit people with all sorts of headaches. However, reflexologists do not claim to cure illness-- or to diagnose it. The most that a reputable reflexologist will promise is to heighten your sense of relaxation and help improve circulation.

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What to expect

The reflexologist will begin by asking you the purpose for your session. Conventionally, he will warm his hands and apply a pleasant-scented cream to your feet, starting off with light massage of the feet. You may feel a tingling sensation as tensions are released. Then, taking your foot in one hand, the therapist will start working on specific areas with the other. Inching his thumb or fingers across your toes (a natural starting point for people with headaches), he will apply pressure that may feel painful.

While the reflexologist might be able to target problem areas by feeling or looking at your feet, your feedback is very critical. It is important that you let him know of any pain, sensitivity, tenderness or discomfort. These sensations sound the alarm that the therapist has landed on an area that may need work -- the area on the foot that should be massaged in order to restore health to the corresponding organ, bone, muscle or tissue. Other indicators of blockages in the neural pathways (and possible problems in the corresponding body system) are calcium crystal deposits which feel like grains of sand or salt under the skin. These deposits are massaged until they dissolve or separate.

Pointers for self-applied reflexology

Here are some pointers on do-it-yourself reflexology:

- Sit in a relaxing place, and a comfortable position on the floor or a bed.
- With shoes and socks removed, apply a greaseless moisturizer to your feet.
- Apply some powder and massage until your feet are no longer slippery.
- Hold your foot with one hand.

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- With your other hand, starting at the edge of your heel, press your thumb into the bottom of your foot near your heel. Apply pressure at a 45 degree angle.
- Inch your thumb up your foot from the heel to toe, like an inchworm, a little at a time. This is called "thumbwalking."
- To work the top of your foot, use your fingers in the same way. This is called "fingerwalking."
- Repeat twice.
- Return to any tender areas and work them by applying pressure.
- Repeat on your other foot.

Specific reflex points for headache

The whole-foot reflexology massage serves as a kind of reconnaissance tour for tender reflex points -- these are your best guides. Here are some of the more common reflex points for headache:

- For tension-type and sinus headaches: the four small toes, *top and bottom of toes*
- For migraine: the webbing between the big toe and the next toe, *top of foot*
- For eyestrain: at the base of your four small toes, in the crevice where the toes meet the ball of the foot, *bottom of foot*
- For neck muscles: the base of your big toe and the toe itself, *bottom of toe*

Treatment schedule

Your treatment schedule with a reflexologist depends on the nature of your problem. For prevention and relaxation, reflexologists recommend weekly sessions. A more economical way to get preventive help is to heal yourself.

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Learn reflexology from one of the many books available (see *Resources*); reflexology seminars are often taught at health fairs and YMCAs. Write to the International Institute of Reflexology for a schedule (see below, "Finding a reliable reflexologist.")

Effectiveness

Since the mechanism of reflexology is not completely understood, it has not been studied. However, massage therapists, reflexologists and clients have reported cases of headache relief. Since reflexology is very safe, there is no harm in trying it for yourself.

Side effects and warnings

Reflexology is quite safe -- and serves as a good proxy for massage when it is contraindicated. Be sure to apply pressure only to the point of tenderness, not pain, to avoid damaging your foot.

Finding a reliable reflexologist

You should seek a reflexologist who is certified by a reputable organization, such as the International Institute of Reflexology (IIR), which requires 200 hours of training and one year's practical experience. The IIR can refer you to a certified reflexologist, and provide you with a schedule of seminars geared to lay people for self-application of reflexology. Another organization, the Foot Reflexology Awareness Association, is a source for information and educational aids.

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Many licensed massage therapists also practice reflexology, and may not require as much training in order to bring skillful effects to the practice.

International Institute of Reflexology
PO Box 12642
St. Petersburg, FL 33733-2642
813-343-4811

Foot Reflexology Awareness Association
PO Box 7622
Mission Hills, CA 91346
818-361-0528

Questions and answers

What are the benefits of reflexology over massage?

Reflexology and massage are two completely different disciplines, but they can complement each other.

Reflexology is sometimes recommended by massage therapists for clients who, for health reasons, cannot receive massages (see "MassageWarnings," above). It's also a good option for people who feel uncomfortable about taking their clothes off.

In general, both massage and reflexology are methods that provide relaxation and improved circulation. However, whereas the focus of work for the massage therapist is the musculature, reflexologists claim that they can address problems of specific body systems (organs, etc.) through reflex points in the feet, hands or ears. In short, massage therapists work directly on the area of concern, while reflexologists work indirectly.

I' m very ticklish -- will I be able to stand reflexology?

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The feet are very sensitive because they are so richly endowed with nerve endings. You may feel ticklish at first, but a skilled reflexologist will apply firm, gliding pressure that will feel relaxing, not ticklish.

Can I have reflexology if I am pregnant?

Yes. However, avoid points that stimulate the uterus and pelvic area.

Is reflexology covered by health insurance?

It is not usually covered; but it's worth checking with your insurance carrier.

BODYWORK THERAPIES

The world of bodywork therapies is vast, and growing all the time. The term embraces a large category of treatments, most devised in the 20th century, which can be broadly defined as treatments that involve a therapist who works with one's body. They can be divided into several smaller categories, as defined by the Office of Alternative Medicine. For example, *Alexander Technique*, *Feldenkrais Method*®, *Hellerwork*™, *Structural Integration (Rolfing)*, and *Trager Psychophysical Integration*, can all be considered "Postural Reeducation Therapies." This technical-sounding term describes a group of methods that share a basic, organic goal: to help the body relieve chronic tension and achieve freer movement. Through the exercises taught by these methods, one becomes more aware of postural and movement habits that inhibit free movement, and an easier way of moving.

How they're similar

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- *Belief that structural misalignment is a common cause of muscle tension and many resulting illness, such as headache.* The body is engineered to move freely against the constant opposing force of gravity. The skull, which weighs 12-15 pounds, rests on the vertebrae, which weighs only a few ounces. The spine's curves, and the muscles and connective tissues in the body, work together to keep the body in balance. But balance is easily thrown off by a number of factors, including: improper posture, physical trauma (such as breaking a leg), or chronic emotional tension. When this happens, the body compensates for the misalignment by employing muscles that do not need to be used. When this compensating misuse is chronic, the muscles, bones and connective tissues that surround the muscles and bones can become distorted, resulting in chronic tension and pain.
- *Belief that emotional tension can produce physical tension and misalignment.* Like his mentor, Sigmund Freud, the psychiatrist Wilhelm Reich believed that people express and hold their emotions physically. Unlike Freud, who did not believe that the therapist should ever touch the patient, Reich felt that physical therapy was an important route to emotional well-being. His therapy combined psychoanalysis with physical manipulations to release the individual from his or her "armor block" -- the physical expression of psychological tension. While not all of the structural reeducation methods overtly delve into emotional issues, proponents do believe that the body's contortions may reflect the holding of emotional tensions.
- *Belief that conscious awareness of habitual postural patterns plays a key role in relieving them.* All of the approaches can be considered experiential; rather than the instructor demonstrate or tell you how to achieve ease of movement, or how to release movement-inhibiting postural patterns, you are encouraged

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to discover it for yourself. Conscious awareness of these patterns enhances your the ability to change them.

- *Headache is often the result of muscle tension.* Proponents of the structural reeducation methods we discuss here adhere to the concept that tension of the muscles (and/or connective tissue) plays a significant role in headache. As mentioned in Chapter 2, tightening of the upper body muscles may be linked with migraine or tension-type headache. In migraine, tension of the occipital muscles (near the nape of the neck) contributes to blood vessel spasm, resulting in auras -- which, in some people, precede head pain. In chronic tension-type headache, tense muscles cause nerve irritation; the muscles become deprived of blood and oxygen, triggering the production of nerve-sensitizing hormones, such as prostaglandin, that contribute to pain.
- *Belief that headache relief may be a secondary benefit of overall ease of movement.* Treatment of specific illness is not the primary goal of these methods; in fact, most proponents would strongly assert that their method is not a therapy, but an educational process. They make no specific therapeutic claims. For this reason, there are rarely any formal clinical studies confirming the effectiveness of these methods in relieving headache. At the same time, many of the experts we spoke with have observed relief of all types of chronic headache as a result of the body's general release of tension.
- *Many of the innovators of these methods were influenced by each other, though their methods are unique* FM Alexander (The Alexander Technique) was one of the first who developed a formal method for realigning the body through gentle manipulations. His work was deeply rooted in the idea that the body's innate "intelligence" can be a powerful tool in changing long-held patterns -- if informed of structural problems and new options for overcoming them. Alexander's work provided a springboard for Moshe Feldenkrais (The

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Feldenkrais Method®). Ida Rolf, the originator of Structural Integration (Rolfing), studied the Alexander Technique and communicated with Feldenkrais. Judith Aston (Aston-Patterning) and Joseph Heller (Hellerwork) were at one time avid followers of Ida Rolf, and have adapted Rolfing techniques as part of their methods. Milton Trager (the Trager® method) independently came upon many of the concepts that shaped methods by FM Alexander and Moshe Feldenkrais.

This is not to say that these individuals were the sole influences on each other's practices and theories. Ida Rolf, for example, was greatly influenced by yoga and osteopathy (which changed her life). In addition, each can be considered more than innovators of techniques. They were philosophers of human movement, exploring how the conscious mind and physical body are intimately linked.

These similarities notwithstanding, the methods are distinctly different in many ways. In the pages that follow, we'll give you a taste for how they work, their stance on healthy movement and, in certain cases, exercises that might help reduce stress to relieve headache.

Alexander Technique

The Alexander Technique is not a therapy; it is an educational process. The Technique is taught to pupils by instructors who are trained in anatomy and physiology, as well as specific ways to help pupils unlearn tension-producing ways of moving .

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History

F. M. Alexander, a Shakespearean actor born in the mid-1800s, was plagued by a problematic malady: he would lose his voice during performances. When conventional medicine failed to help him, he took on the task of curing himself. By watching himself recite in the mirror, Alexander came to a revelation: in preparing to recite, he would unconsciously pull his head back, causing his throat to tighten, and creating the need to gasp for air. Somewhere in his past, he had come to believe that it was somehow *necessary* to tense his neck muscles in order to perform. In actuality, he realized, the tension was not only unnecessary, but unnatural and, therefore, inhibiting to optimal ease of movement -- and performance. It was also a very inefficient use of his muscles.

By adjusting the position of his head, Alexander found dramatic improvement in his ability to speak, and noticed his entire body opening up. Heightened awareness of these unconscious, habitual patterns is one philosophical goal of the Alexander method.

Another goal is to regain the natural balance that allows freedom of movement -- the freedom we all innately experienced before these tension-causing habits took hold; the intuitive balancing ability known in bodywork parlance as our "original software package."

Over the next several years, Alexander explored how these concepts might apply to the rest of the body. He focussed his attention on the way the head, neck and back were anatomically connected and how movements in these areas affected the rest of the body. With his brother, Alexander went on to develop specific lessons that aim to help students uncover habitual tension in all parts of their bodies, and rediscover a more efficient, freer way of moving.

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The Technique was embraced by many famous people of Alexander's time, including George Bernard Shaw and Aldous Huxley. Today, its popularity continues to grow in the United States and Europe.

How it can help headache

Though proponents of the Alexander Technique do not proclaim therapeutic benefits, practitioners report success in relieving a variety of disorders, including headache, as a secondary benefit of the practice. Anecdotal reports of success in headache (it hasn't been formally studied) could be explained by the tension-relieving effects that Alexander-taught practices have on muscles in the neck, shoulder and occipital area near the base of the skull.

Alexander instructors put much emphasis on regaining a natural balance of the skull on the vertebrae. Here's why. The skull, which weighs 12-15 pounds, is designed anatomically to rest on the first vertebra of the spine, called the atlas. The occipital joint serves as a cushion between the skull and the atlas. The curves of the spine are designed to help keep the body upright, and the head balanced comfortably at the top. Altogether, one can see how the human structure is an example of exquisite engineering. But, considering that the vertebrae weigh only a few ounces each, one can also see how this balancing act is hard to maintain. In many people -- due to physical trauma, chronic emotional responses to situations or bad postural habits -- the skull is thrown off balance, causing the muscles in the head, neck, shoulders and sometimes the entire body, to compensate with undue tension. The head, instead of lifting upward in a natural state of balance, gives in to gravity and must be supported by other muscles.

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Alexander teachers call this response "compression" -- resulting in extra muscle work which interferes with blood flow, nerve transmission and muscular tone. The Alexander Technique helps pupils become aware of stimuli that cause downward compression and how to restore one's natural balance periodically during the day.

The Alexander Technique does more than simply relax muscles; that can be achieved with drugs, but it will be only a stop-gap measure unless the underlying structural problems are resolved. The goal of the Alexander method is to get to the root of muscle tension -- but not by layering new movements over old habits. Instead, Alexander believed that this can be achieved by "inhibiting" and "directing." The Alexander lessons teach pupils to become aware of their own individual tension-causing habits, then "inhibiting" that habitual action. The act of inhibiting, or not doing, opens up an opportunity for the body to choose a more efficient, easeful way of accomplishing the same action -- which Alexander believed the body will move toward naturally. Gentle manipulations by the Alexander instructor help increase the pupil's awareness of patterns of tension, and help correct them by guiding the pupil toward experiencing movement in a more easeful way.

At the same time, Alexander instructors stress that the real work is the responsibility of the pupil. Teaching people how to be responsible for themselves, versus being a caretaker, is the instructor's role. In essence, Alexander work is a team approach to help individuals learn how to be responsible for their general health.

Who can be helped

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All muscle tension-related headaches may benefit from Alexander instruction. However, as Alexander trainers clearly forewarn, the method is not intended as a therapy; it is a learning process that may help people with structure- and tension-related disorders. And, because these unnecessary tensions put pressure on organs, joints and the body's vasculature, a host of related problems may be relieved once you remove the tension.

What to expect

The Alexander technique is taught in a series of lessons. The subject of the first lesson is the head, neck and spine -- and its relationship to other parts of the body. The rest of the structural anatomy is addressed in subsequent lessons.

Lying down or sitting fully clothed on a massage table, the Alexander teacher will ask you to become aware of the table supporting your body. With gentle, guiding movements, he or she will call your attention to different parts of your body, such as the back of your neck. All along, your instructor will explain the structural relationships of the bones, muscles and tendons. You will be asked to consciously *inhibit* the tendency to help the instructor cradle your neck, or lift your arm. If this sounds like you're not doing *anything*, think again -- indeed, 'thinking again' is part of the point. You may be surprised at how difficult it is to follow such simple-sounding instruction. To *not do*, to let gravity and the natural balance of your body do the work of, is a primary Alexander lesson.

Through the guided experience of inhibiting, you will learn where you tend to hold tension. Through the guided direction of letting go, you will experience a new and more relaxed way of accomplishing the same movement -- whether it be sitting up or walking across a room. Soon, the simple act of lying

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on your back or standing up becomes a new experience. You will feel your body lengthening and opening; after working on your left arm, for example, you may notice that it has suddenly grown longer. An Alexander instructor can also help you with specific tasks that you regularly perform, such as sitting at a computer, or lifting your baby.

At first, these "new/old" movements might feel strange; even though you're actually using your muscles and bones more efficiently, the mere fact that it's a departure from your normal way of moving may make the movement feel unnatural. Breaking bad habits doesn't come easily. However, the Alexander practice is just that: practice. The real work comes when you leave your session; it's then incumbent on you to practice your newfound patterns of moving by being aware of how you move.

Treatment schedule

Most instructors recommend at least weekly sessions, lasting about 45 minutes each, until completion of the 20-30 session course -- but the number of lessons varies from person to person. After learning the basics (the instruction doubles as a course in structural anatomy), people may return for refresher sessions, or mini-series, if they feel old tension-causing habits creeping back.

Side effects and warnings

The Alexander Technique is a very gentle method of releasing tension; there should be no side effects. If you have an underlying illness, or acute pain, seek the advice of a health professional.

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Finding a reliable Alexander Technique instructor

There are several hundred Alexander Technique teachers in the United States. The North American Society of Teachers of the Alexander Technique (NSTAT) provides certification, which requires 1,600 hours of training, most of which is hands-on work. NSTAT can refer you to a trained Alexander instructor.

The North American Society of Teachers of the Alexander Technique (NASTAT)
P.O. Box 517
Urbana, Illinois 61801
800-473-0620

Questions and answers

Does the Alexander Technique hurt?

No. Since the focus of the Technique is release of tension, you should feel less pain, not more. The guided movements during sessions are very gentle, never abrupt. You may feel some *emotional* discomfort in practicing new tension-free movements, or inhibiting your normal habits of movement, but they will not be physically painful.

Why does it take so many lessons to learn the Alexander Technique?

An Alexander Technique instructor might explain it this way: we have spent a lifetime "learning" how to move with tension, which ultimately, might have contributed to our headache. A lifetime habit is not easy to erase. It takes time and practice to learn the structure of your body, awareness of your unique patterns of tension in different situations, and to allow your body to return to a new "habit" of easeful balance. The more committed you are to the Technique and applying it to your everyday life, the fewer lessons you will probably need.

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How long does it take to perfect the Alexander Technique?

Even FM Alexander, the originator of the technique, never perfected it. As long as we are alive, we will be confronted with new tension-causing situations and, according to people who practice the Alexander Technique, the option for releasing it. The Technique is a practice in every sense of the word; practice in awareness of our emotional and physical responses to situations and practice in inhibiting our habitual responses to them.

Feldenkrais Method®

Seemingly similar in many ways similar to the Alexander Technique, the Feldenkrais Method asserts that recognizing habitual patterns of movement and thinking is the first step toward changing them.

The techniques differ in their approach and in the resulting sensations. Whereas the Alexander Technique focuses on helping students to experience an opening of the body, even this open-ended directive is absent from Feldenkrais teaching.

Where the Alexander Technique puts forth a standard for easeful movement, the Feldenkrais Method puts forth options for *learning*; the method centers on learning how to learn. The resulting sense of movement, according to Feldenkrais, is one that feels right for the individual. The movement may *feel* like an opening or lengthening, but more important to Feldenkrais is that one uses the information in a way that makes a difference in one's life.

History

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A Russian-born Israeli physicist, Moshe Feldenkrais originally launched his exploration of movement as he attempted to heal his own knee injuries, and face the behaviors and thinking that produced the injuries.

As a trained scientist, he was thorough in his research, and finally arrived at a model that was inspired greatly by the works of FM Alexander (see above), GI Gurdjieff, martial arts, hypnosis and yoga. Alexander's concepts about awareness and inhibition of habitual movements were folded into Feldenkrais' theories.

In simple terms, one of Feldenkrais' goals was to learn how to become more aware of habits, so that he might use them as he wished, rather than being controlled by them. He maintained that, when presented with a choice, the individual will naturally select the motion that is least stressful and most efficient.

Today, the Feldenkrais Method is widely practiced in the United States, Canada, New Zealand, Australia and Europe, and is recommended by physicians and physical therapists.

How it helps relieve headache

As with the Alexander Technique, the Feldenkrais Method makes no claims for cure; it's an educational system whereby the instructions are communicated by teachers to students. It aims to enhance the way individuals experience themselves in the world and, as a byproduct of an increased awareness, of more harmonious ways of moving, to function with more freedom and less pain.

Feldenkrais believed that human beings are born with the possibility of learning all of the countless combinations of movement which make up the human repertoire. But over time, we become habitual with our choices; for

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example, we tighten our shoulders while sitting at the computer. the habitual pattern is engaged without thinking, and can result in tension that remains constant even during sleep.

When the strain that caused tension is no longer there, people act as though it still were. What ends up happening is that people become accumulations of their adaptations.

In the case of those of you reading this book, it can result in headache. According to Feldenkrais, people are good at adapting, but often do not have the awareness needed to let go of the adaptation after it's no longer useful.

When movement becomes dysfunctional (painful), people naturally seek out ways to minimize it. They naturally learn new ways of moving, not by verbal instruction, but by experience. And that begins with becoming aware of poor "self use," as Feldenkrais would say. Headache, or any other kind of pain, is not something that happens to you; it is something integrated with the self, and something an individual can affect. Recognizing habitual patterns of movement and thinking that contribute to headache is the first step toward changing them.

Moshe Feldenkrais maintained that the Feldenkrais Method helps make the impossible, possible -- and the possible easy, and to make the easy simple and elegant to do, and aesthetically pleasing.

Who can be helped

People with a wide variety of muscle tension-related headaches may be helped by the Feldenkrais Method.

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The benefits of Feldenkrais Method, like many postural reeducation methods, come as a result of increased awareness and functioning of the entire body. Feldenkrais described this effect as "generalization." When one starts exploring new options for moving, the action takes place on many levels. Feldenkrais, therefore, does not treat headaches, but helps people realize their desired goals.

What to expect

There are two ways of learning the Feldenkrais Method: *Awareness Through Movement*® (ATM) and *Functional Integration*® .

At the core of the practice is Awareness Through Movement a group approach consisting of hundreds movement lessons that address the relationship between the body / mind and the environment. The movements can be minutely small, or large gestures that winnow down to small movements, or quick movements becoming increasingly slower -- or slow movements becoming quicker. One aim of ATM is to enhance one's awareness of the effects of the movement, and the brain's response to the movement. Does it feel comfortable? Is it unnatural? Why? Does it present a new option for a habitual, dysfunctional movement? Many of the exercises intentionally evoke unhabitual responses that may feel uncomfortable; they aim to wake the brain up to new possibilities for the movement it directs.

Functional Integration is the private lesson form of the Feldenkrais Method. You will lie on a low padded table while the instructor guides you through different movements. "It's a nonverbal communication between two nervous systems," says Allison Rapp, a Feldenkrais Instructor in Alexandria, Virginia. "Together we establish a communicaton that helps the student enlarge

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areas of ability until the entire self becomes incorporated in a more harmonious way." Because private lessons are more customized, there is more opportunity to work on problem areas.

Schedule

The ATM lessons last between 45 minutes and an hour. They are taught in weekly classes and extended weekend workshops. Functional Integration Lessons are also about 45 minutes long, but the goal is to complete a lesson rather than fill an amount of time. The number of classes is flexible. Feldenkrais recommended that you use your age as a basic guide; if you're 30 years old, take 30 lessons. Add more if you have a specific physical challenge you want to overcome, such as chronic pain.

Side effects and warnings

While you should alert your instructor of any illness or limitations, there are no side effects as we generally think of them; the movements are very simple and shouldn't cause injury. The student is always in control of his movements and encouraged to stop whenever he needs to rest.

Finding a reliable Feldenkrais practitioner

Practitioners are certified by The Feldenkrais Guild®, a membership organization that establishes standards of practice, sets policy for and certifies training programs, and distributes information to the public. To become certified as a practitioner, one must have successfully completed 800 hours of training

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over 38 months. To maintain their certification status, one must attend 20 hours of advanced training per year. There about 750 certified Feldenkrais practitioners throughout the U.S and Canada. To locate one in your area, contact:

The Feldenkrais Guild®
PO Box 489
Albany, Oregon 97321-0143
800-775-2118.

Questions and answers

Does the Feldenkrais Method hurt?

It should never cause pain. The exercises are not designed to strain or even tone muscles; generally, they are very gentle and easy to do. However, each individual has different limitations. Be sure to let your instructor know of any physical problems.

How do I know if I'm doing it right?

There is no right or wrong way to do the lesson. Each individual learns how to establish his or her own standards. A person with multiple sclerosis, for example, has physical abilities that are different from those of a person who does not have MS. The only real requirement for participation is the desire to become more in touch with yourself, your abilities, your habits, and the ways in which you stop yourself from living as you wish.

Can children learn the Feldenkrais method?

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Many practitioners work with children. Debby Ashton and Stephen Rosenholz have developed programs for children, some are available in the form of books, videotapes and audiotapes; others are aimed at classroom use.

Rolfing and related bodywork methods

Rolfing, known as "Structural Integration," is one of several modern bodywork methods that were developed based on the concept that structure determines function -- and many painful conditions are the result of the body's structural imbalance. When the imbalance becomes chronic, the connective tissues (fascia) become rigid, which inhibits movement, and potentially causes muscle tension which causes an imbalance in the functioning of the rest of the body. It might be helpful to review Chapter 2, page X about the role of connective tissue in the body to understand osteopathic medicine, massage, Rolfing, and related disciplines, such as Hellerwork™ and Aston-Patterning®.

How fascia stretching may help headaches

As mentioned in Chapter 2, any local injury or focal point for stress will not only affect the fascia in that area, but have a rippling effect over the entire body.

Following this reasoning, chronic tension in the lower back, for example, can result in tightness of the fascia in the upper neck and head; it may cause headache if the rigidity is great enough to cause muscle contraction, vasospasm and nerve irritation.

While all three bodywork techniques adhere to these basic concepts and goals, their means for attaining them are different. Below, we'll review Rolfing, Aston-Patterning and Hellerwork individually.

Structural Integration (Rolfing)

History

Like many other bodywork innovators of the 19th and 20th Centuries, Ida Rolf's own injury initiated her journey into self-healing methods. As a recent college graduate, a horse kicked her, resulting in pneumonia, fever and painful breathing. An osteopathic physician adjusted her spine, resulting in an immediate return of normal breathing and reduction in fever. The success of this treatment convinced her of an osteopathic tenet: body structure determines body function.

Over the next several decades, Rolf went on to develop her own methods for establishing proper alignment, and health. In 1972, she established the Rolf Institute, and established standards for Rolfing.

Ida Rolf's method was influenced by physical therapy, osteopathic medicine, yoga and contemporary bodywork originators such as Feldenkrais. But unlike Feldenkrais, who developed a method of gradual progression toward alignment, Rolf felt that there needed to be a more direct action to achieve major changes.

Rolf believed that the body has an intrinsic order which organizes the body parts to function optimally. When factors disorganize the body, such as tightening or shortening of the fascia, the body does not function in its natural, orderly way.

She also believed that deep manipulation of the fascia -- the connective tissue that envelops bones, muscles and other body tissues -- was necessary in order to restore its original flexibility and order. By stretching the fascia, the

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body becomes free to align itself. Rolfers describe this process as one that "organizes" and balances the whole person. The purpose of Rolfing is to "soften the old inhibited order and introduce the client to another order which benefits posture and movement."

How it helps headache

See, "*How fascia stretching helps headaches,*" above.

What to expect

As writer Ann Lewis aptly put it in her article on bodywork for *Outside* magazine (March 1994): "where massage therapists rub, Rolfers sculpt." You will lie down semi-clothed on a table and, using fingers and palms, the Rolfer will focus on the areas that need to be opened and lengthened. The first of the 10-session Rolfings will often begin with a deep-tissue massage of the rib cage which, in addition to addressing the structural problems in that area, will help enhance your breathing. This will serve you in later sessions to help you work through any discomfort. In subsequent sessions, the practitioner will systematically move over the body, section by section, until the fascia covering the entire body has been stretched and mobilized.

Rolfing is famous for being a painful process -- both physically and emotionally. The physical pain varies, depending on the individual's threshold and the area being massaged. Rosemary Feitis, DO., an osteopathic physician in New York City who practices Structural Integration, and editor of the book, *Ida Rolf Talks About Rolfing and Physical Reality*, describes the pain in two ways: "The pain emerges because the tissue is changing," she explains. "For most

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people, it's like the Jane Fonda 'burn' -- it's a pain that hurts 'good.' Another dimension of the pain is emotional, which is nonetheless very real." Indeed, the deep tissue work of Rolfing taps into the Reichian concept of body armoring: the emotional memories that become lodged in the body.

Others assert that the pain of Rolfing serves a therapeutic purpose. In his book *Planet Medicine* (North Atlantic Books, 1995), Richard Grossinger says: "As in Zen, the pain serves as a reference point for remembering, a way to learn how to inhabit new postures."

Its utility as a mnemonic device notwithstanding, Rolfers are quick to point out that pain is *not* a requisite for successful Rolfing. Some clients may not experience pain, and still be successfully Rolfed. They also mention that the pain is not long-lasting, and immediately gives way to a pleasurable sensation of free movement.

Over the 10 sessions, your Rolfer will photograph you, to document your progress.

Rolfing® Movement Integration

Based on the concepts developed by Dr. Rolf, Rolfing Movement focuses on learning to move harmoniously with gravity, enhancing the opportunity to move without tension or armoring.

In a series of sessions, you and your teacher will explore your movement patterns -- paying particular attention to habitual movements such as walking and sitting, or occupation- and recreation- related movements such as desk work, housework and sports activities. As with Structural Integration, each section of the body is reviewed for holding patterns. Gentle movement exercises are developed to ease pain and stress.

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Movement Integration can be practiced alone, or along with Structural Integration. A series of 8 sessions is usually recommended, though the number is flexible.

Who can be helped

People with muscle-related tension, especially those with noted structural misalignments, may find that Rolfing helps reduce headaches.

Treatment schedule

Rolfing is a system of working with the entire body. There are 10 standard sessions, each dedicated to a specific area of the body. These sessions can be performed at your own pace: once a week, once a month, etc. The sessions last an hour.

Effectiveness

Like the Alexander Technique and Feldenkrais Method, Rolfing does not purport clinical benefits; it is an educational process designed to help its clients gain a better understanding of postures that inhibit their movement, and providing ways of experiencing more freedom. However, some studies have shown Rolfing to be effective in a number of areas, including improvement of muscle tone, psychological function and stress symptoms. Recent research at the University of Maryland confirms the effectiveness of Rolfing in reducing chronic stress, and neural (nerve) function. Specific studies of people with headache

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have not been conducted, but anecdotal reports have shown that Rolfing can benefit people with headaches.

Side effects and warnings

Rolfing can be uncomfortable. As mentioned above, some people experience no pain, while others find the pain almost intolerable. The first session, which focuses on the chest area and breathing, is designed help clients work through such pain. Rolfing instructors generally encourage clients to bear the pain as much as possible, but will definitely respond to your wishes to ease up, or move to another area. They will also help you find ways of dealing with the pain as it comes up.

Finding a reliable Rolfer

The Rolf Institute provides a degree training program which requires 28 weeks of class work. There are also three other schools based on Rolf's work. Licensing requirements vary from State to State. For referral to a certified Rolfer in your area, contact:

The Rolf Institute of Structural Integration
PO Box 1868
Boulder, CO 80306
800-530-8875.

Questions and answers

Why does Rolfing hurt?

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The technique used to stretch the fascia is akin to ironing out a wrinkled piece of stiff fabric. Once restored to its original, unwrinkled condition, the fabric becomes more flexible and better fits the wearer. The tissue changes that occur during manipulation of the fascia -- the deep connective tissue that envelops muscles, bones and other internal tissues -- is often experienced as pain. The pain varies from individual to individual, and some people never experience it.

Should I tell the Rolfer that I'm in pain?

Definitely. Acknowledging and expressing feelings are integral to the treatment, and essential to helping the Rolfer find a way to minimize discomfort.

What will the Rolfer do if I feel the pain is too great?

Generally, Rolfers will try to help you work through the pain, either by focusing your breathing or encouraging you to express it. If the pain is too great, certainly the Rolfer will respect your wishes to stop working on a specific area.

Is Rolfing covered by medical insurance?

If it is performed or recommended by a physician (MD or DO), Rolfing may be covered. Inquire with your insurance carrier.

Aston-Patterning®

Aston-Patterning is a bodywork technique based on the premise that each individual's body is unique and asymmetrical; release of one's patterns of tension and stress -- the "holding patterns," to use a term popular among bodywork practitioners -- entails working *with* the individual's unique structure

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to achieve balance and freedom of movement, rather than trying to change that structure to meet an ideal standard.

History

Judith Aston's interest in movement traces back to her childhood, continued through college (where she earned an MFA in Dance) and afterward, when she taught dance to athletes. After suffering two severe automobile accidents, Ms. Aston sought care from Ida Rolf (see "Rolfing," above) where she found significant relief. She trained with Dr. Rolf, and developed movement exercises to accompany the massage of connective tissues that characterize Rolfing. Joseph Heller, also a protoge of Ida Rolf, assimilated some of Ms. Aston's movements into his technique (see "Hellerwork," below).

Over time, Ms. Aston's views diverged from those of Dr. Rolf. She came to believe that there was no ideal standard for body structure -- that bodies were asymmetrical and should not be manipulated to become symmetrical. Instead, Aston asserts that easeful movement emerges not by making the body more symmetrical, but by respecting an individual's asymmetry and, within that context, allowing it to move as it needs to. In addition, she felt that Rolfing was unduly painful. Like Dr. Rolf, Ms. Aston believes that distortions of the fascia result from emotional and physical tension; and that release of these tensions can be accomplished by making the fascia more pliable. However, unlike Dr. Rolf, Ms. Aston feels that this can be accomplished without pain.

In 1977, Judith Aston formed her own organization. Aston-Patterning, as her technique is called, integrates several types of bodywork (massage techniques) with Movement Education; it also includes customized fitness programs. Ms. Aston has developed specific methods for addressing the special

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needs of people of all ages, from infants to people of advancing age. Today, aspects of Aston-Patterning have become adopted by many physical therapists, biofeedback therapists and other health professionals to complement their primary work.

How it helps headaches

See "How fascia stretching may help headaches," above.

Who can be helped

In theory, people with all types of non-threatening headache can benefit from an education in Aston-Patterning. However, clinical studies have not been conducted.

What to expect

Each session of the basic Aston-Patterning technique entails several steps:

In the first session, your practitioner will ask you many questions relating to your medical history, with a focus on events or practices that affected your body. You'll be asked about your job, recreational activities, parts of your body that are in pain, accidents and trauma to the body, etc. In subsequent sessions, you will be asked to report any updates.

To get a sense of how you move while engaging in normal activities, you will be asked to perform simple movements (such as sitting and walking), all the while the practitioner will call your attention to your body's patterns. At this

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time, your practitioner will chart the sources or areas of tension in your body for future reference, and as a guide for areas that need work. In some cases, the entire session will be videotaped.

The core of the session involves bodywork and movement education. Several concepts guide Aston-Patterning bodywork. First, muscle tissue naturally follows a spiral pattern. Second, the integrity of muscle tissue should always be honored -- tissue should never be compressed by force. Instead, body tissue should be gently stretched and manipulated following and restoring its natural direction, an approach Aston called, "matching," or "spiraling." In these ways, Aston-Patterning practitioners uphold Aston's primary goal of honoring the body's integrity.

There are three bodywork techniques, one or more of which may be employed for you.

- **Massage:** Since Aston believed that the body's tissues follow a pattern of spirals, the double-handed massage traces the direction of the tissue. Massage is generally used as a tension-releasing method, working on large areas of tension, or as a calming technique after deep tissue bodywork.
- **Myo-kinetics:** A firm, pressing movement with the fingertips is used to work on very small areas of tense muscles; though firmer than the massage technique, it is still gentle. Aston believed in stretching, rather than compressing, the deep tissue. The deep connective tissue of muscles is reached not by penetrating the superficial layers (as is done with Rolfing and Hellerwork), but by gently manipulating the superficial tissue to gain access to the deep connective tissue.

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- Arthro-kinetics: Addresses joints and soft tissue that has hardened. A specialized technique which requires specific training, not all Aston-Patterning practitioners are trained in arthro-kinetics. Often preceded by myo-kinetics to loosen the surrounding muscles, arthro-kinetics involves mobilizing the joints in spiral patterns.

Aston Movement Education is a part of all Aston-Patterning sessions. Once the muscles and joints are open, movement exercises are performed; these movements are customized to the specific needs of the client based on their own movement patterns, holding patterns (where they hold tension) occupation, etc. The main lesson in each session is to call one's attention to the shifting of weight during movement, and its relationship with gravity.

Like Feldenkrais and Alexander, the movement education portion of Aston-Patterning seeks to open new options for movement -- but one that follows naturally from the individual's structure.

In addition to movement education, clients receive an education on how to make their environment more compatible with their body, for example, evaluating and changing the ergonomics of your workspace.

As with many bodywork and movement techniques, especially those that reach deep tissue, Aston-Patterning may evoke emotions that have become ingrained in, and possibly helped shape, muscle tensions and movement patterns. While Aston-Patterning practitioners are sensitive to emotional responses, and expects them, they are not trained to help you cope with them in a psychotherapeutic way.

Treatment schedule

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The initial session lasts two hours, with subsequent sessions going from two-and-a-half to three hours. Eight to 12 sessions are generally needed before clients learn how apply their learnings in their own lives.

Effectiveness

As mentioned, Aston-Patterning is an educational process, not a therapy. However, there have been reports of headache relief from people who practice Aston-Patterning, though these claims have not been substantiated by clinical study.

Side effects and warnings

Some people experience soreness after Aston-Patterning sessions, particularly with the arthro-kinetic bodywork. In addition, your newly-learned ways of moving might, at first, feel uncomfortable; although they may be more attuned to your individual body structure, their newness may initially produce a sense of awkwardness.

Finding a reliable Aston-Patterning practitioner

Certification requirements for Aston-Patterning involve at least 18 weeks of coursework, including annual continuing education courses. To find a certified practitioner in your area, contact:

Aston-Patterning
PO Box 3568
Incline Village, Nevada 89450
702-831-8228

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Questions and answers

How does Aston-Patterning differ from Rolfing?

Proponents of both methods believe that the body's deep connective tissue thickens and becomes rigid when chronically stressed (either emotionally or physically), or when subject to physical trauma. They also concur that distortion of the fascia can have negative effects on the body's ability to function in a healthy, integrated way. And they agree that restoring the suppleness and moistness of the fascia helps release pressure on muscles, blood vessels and other body tissues -- and helps restore freedom of movement and health. But this is where the similarities fundamentally end. Whereas Rolfers believe that the goal of treatment is to achieve an ideal standard of symmetry for body structure, Aston-Patterning practitioners assert that the body is naturally asymmetrical, and that the integrity of the body's unique structure should be honored. In order to honor the integrity of the body, excessive force should not be used to manipulate the fascia; this would violate the structure of the muscles. As a result, Aston-Patterning bodywork techniques are not known to cause discomfort.

Can children benefit from Aston-Patterning?

Yes. Judith Aston has developed specific methods for addressing the unique needs of infants and children.

Why will I have an emotional response to Aston-Patterning, and how will the Practitioner handle it?

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Ida Rolf, Judith Aston and many other modern bodywork innovators were strongly influenced by the work of the psychologist Wilhelm Reich, who asserted that many of the tensions we hold in our bodies have an emotional source. This effect is known as "armoring." In essence, the body holds memories of emotional stress that, in some cases, the conscious mind has "forgotten." Rolfers and practitioners of Aston-Patterning believe that this emotional tension is manifested in distortion of the fascia. Manipulation of the fascia dislodges these memories, and brings them to consciousness.

If you experience an emotional response to Aston-Patterning bodywork, your practitioner is trained to allow you to experience it, and listen to it. If the emotional response is very troubling to you, he or she will respect your wishes to stop working on that area. However, practitioners are not trained to help you work through the emotions in any psychotherapeutic way -- and may suggest that you seek the help of a trained counselor.

Hellerworksm

Hellerwork comprises a series of one-and-a-half hour sessions of deep tissue body work, movement education and verbal dialogue that aim to realign the body in order to release chronic tension and stress. Like other bodywork methods, it is not a remedy for a specific illness, but a way of helping the body gain overall balance and health.

History

Born during wartime Poland, Joseph Heller (no relation to the novelist) immigrated to the United States in his mid-teens and ultimately pursued a career

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as an aerospace engineer. Under the guidance of Ida Rolf, the originator of Structural Integration, also known as "Rolfing", Heller became trained in the technique of manipulating the fascia (see above). Later, he studied with Judith Aston, also a protogee of Ida Rolf, and became trained in Aston-Patterning -- a movement discipline that helps individuals to "reclaim" their unique, and often asymmetrical, way of moving with ease (see "Aston-Patterning" and "Rolfing" in this chapter).

The synthesis of these two strong influences resulted in Hellerwork in the 1970s.

Who can be helped

Anyone with headaches related to muscular (or connective tissue) tension may benefit from Hellerwork.

What to expect

There are three related components of Hellerwork, all of which aim to align the body, release it of rigidity and tension, and increase awareness of the physical and emotional patterns that contribute to the imbalance and, possibly, headache:

- Deep connective tissue bodywork: Virtually identical to Rolfing, this hands-on massage works to release tension in the fascia and stretch it to its normal position.
- Movement education: To prevent the body from returning to a state of misalignment, movement education seeks to enhance your awareness of your

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body use patterns, and explore easier ways of moving. Video feedback is used to show how you move; visualizations are used to help find easier movement patterns.

- Verbal dialogue: focuses on helping you become aware of how your emotions and attitudes shape your movement patterns.

To benefit fully from Hellerwork, be prepared to explore the sources of your physical and emotional tension -- which can be painful. The bodywork involves massage of deep connective tissue. Some people experience no discomfort, while others experience pain in certain areas. However, Hellerwork strongly encourages a dialogue between the Practitioner and the client; the Practitioner is trained to be sensitive to the client's concerns, and responsive to needs for less pressure.

The Practitioners are trained to be very sensitive to their clients, and encouraging of their emotional expressions. The relationship you strike with your Practitioner will be intimate -- though the focus is on the client, not the Practitioner.

Treatment schedule

Hellerwork is structured in 11 sections, each of which have a "theme," which relates to and links the bodywork, movement education and verbal dialogue that comprise each section. Sixty minutes of the 1 1/2 hour session are devoted to bodywork (connective tissue massage).

Section 1: Inspiration

- Bodywork: muscles near the surface of the body

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- Movement: breathing
- Verbal dialogue: what inspires you?

Section 2: Standing on your own two feet

- Bodywork: muscles and connective tissue of legs and feet
- Movement: walking
- Verbal dialogue: security, self-support

Section 3: Reaching out

- Bodywork: arms, hands and torso
- Movement: breathing, arm relaxation
- Verbal dialogue: giving, receiving, asserting yourself, anger

Section 4: Control and Surrender

- Bodywork: inside of legs, pelvic floor
- Movement: relaxing the pelvic "core"
- Verbal dialogue: sensitivity to feedback, creativity, flexibility, trust

Section 5: The Guts

- Bodywork: front of the core, deep muscles of the pelvis
- Movement: relaxing pelvis and abdominal area
- Verbal dialogue: relationship with food, intuition, courage and strength

Section 6: Holding back

- Bodywork: spine and back muscles
- Movement: flexibility in the spine
- Verbal dialogue: self-expression and power

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Section 7: Losing your head

- Bodywork: facial muscles, alignment of head and release of tension in head, face and neck
- Movement: releasing the head from tension
- Verbal dialogue: balance of reason and feeling

Section 8: The feminine

- Bodywork: release tension in lower half of body
- Movement: walking from the core of your body, the pelvis
- Verbal dialogue: receptivity, attraction, complementing the masculine

Section 9: The masculine

- Bodywork: release tension in upper half of body
- Movement: upper body movement
- Verbal dialogue: initiation, insight, action

Section 10: Integration

- Bodywork: overall integrity of body through joints
- Movement: moving body as an entire, integrated whole
- Verbal dialogue: being in touch with self, sense of completeness

Section 11: Coming out

Focuses on reviewing the sessions and how to apply them to daily life.

Also presents an opportunity to give feedback to the Practitioner.

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Side effects and warnings

There are no known side effects of Hellerwork. However, as mentioned, the bodywork (like Rolfing) and verbal dialogue can uncover painful areas, both physical and emotional. But Hellerwork Practitioners quickly point out that the client is in control; if you want the Practitioner to stop or slow down, simply say so.

Finding a reliable Hellerwork Practitioner

Look for someone who is certified in Hellerwork, which entails more than 1200 hours of coursework, and continuing education. For a referral, contact:

Hellerwork
406 Berry Street
Mount Shasta, California
800-392-3900; in California, 916-926-2500.

Questions and answers

Does Hellerwork hurt?

Since it involves deep massage of connective tissues, Hellerwork may be painful. It's important to let your Practitioner know if you experience pain. This dialogue is encouraged with Hellerwork. However, the work is not dangerous and, like deep stretching or massage, the pain can be lessened by asking the Practitioner to work more slowly on areas of discomfort, or by your breathing deeply into it -- or stopping entirely.

Why is it important to explore emotions with Hellerwork?

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Like many bodywork innovators who were influenced by the psychologist Wilhelm Reich, Joseph Heller believed that emotions help shape the body; the body may hold and express emotional stress as rigidity in the fascia, which can distort muscles and cause physical imbalance. The process of Hellerwork bodywork massage of the fascia may bring out deeply lodged emotions; the themes of the sections explore emotions, as well. By uncovering emotions, Hellerwork helps the client to explore those that cause tension, and offers ways to help release them. The bodywork, movement education and verbal dialogue work synergistically toward this end.

What if I don't like my Practitioner?

Liking your Practitioner is not as important as trusting him or her. You must trust your Hellerwork Practitioner enough to freely express emotions and feelings of discomfort. If you don't, you should find another Practitioner. Your experience during the first session will inform you whether you want to continue with the full 11-session course.

Brief review of other bodywork approaches

Polarity Therapy

Born in Austria, Randolph Stone moved to the United States where he obtained training as a chiropractor, osteopath and naturopath. He studied in the Far East, and was influenced by Ayurveda. Out of his travels and research, Stone came to believe that life is energy in motion. In the body, the energy circulates in five currents, moving down the right side of the body and up the left side. The bodywork that Polarity Therapists perform is designed to free the flow of blocked energy, conceptually in much the same way as traditional Oriental

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therapies. The mapping system for energy is guided by the five chakras (of Ayurvedic medicine and yoga), each of which holds sway over different energy categories of energy. Instead of applying needles, pressure or heat, however, the Polarity Therapist tugs and pulls at different points of the body. In this way, by unblocking body energy, Polarity adherents claim to balance the body and relieve pain. Other methods employed to release and balance energy include exercise and diet therapy. For referrals to Polarity Therapists, contact:

The American Polarity Therapy Association
PO Box 44-154
Somerville, MA 02144
617-776-6696.

Trager® Psychophysical Integration and Mentastics

Developed by Hawaiian physician Milton Trager, the *Trager® Psychophysical Integration* is a hands-on process whereby a practitioner uses shaking, rocking and other rhythmic movements to loosen joints and muscles, ease movement and release chronic tension in clients. The mind, remembering the sensation of this "softening" of tensed-up muscles and joints, will return to the state of relaxation when needed. The goal is to interrupt deep-seated emotional and physical patterns. The process includes a meditative state which is designed to enhance the new-found experience of free, pleasurable movement that results from interrupting the habitual patterns. Another aspect of Trager's method is *Mentastics*, a system of physical movements designed to enhance results of Psychophysical Integration.

There are more than 800 Trager practitioners worldwide. For referrals to a Trager practitioner in your area, and more about the method, contact:

Trager Institute
21 Locust Avenue

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Mill Valley, CA 94941
415-388-2688

PhysicalMind Therapy

PhysicalMind Therapy is a method based on Pilates -- a mind-body exercise program developed by Joseph Pilates. Pilates is a system of physical exercise that strengthens muscles and realigns the body. Many of the exercises are done flat on the back, and usually entail repetitive movements. Some are performed using machinery, others with weights -- some without any props at all. The exercises are typically customized to meet individual needs.

Like Rolfing, Hellerwork and Aston-Patterning, PhysicalMind Therapy aims to alter the body's dysfunctional holding patterns by releasing the fascia. However, unlike these methods, PhysicalMind employs very slow, deliberate, mind-directed movements and breathing in order to accomplish that same goal. The belief that the mind and the body are vitally related, even people who have no range of movement can generate healing effects through imagery, according to Michelle Larson, co-founder of the PhysicalMind Institute in Santa Fe, NM. For example, one of the exercises for improving alignment entails coordinating breath with the lifting of the vertebrae, one at a time, from spine to skull. Once you reach the skull, imagine a circle floating above your head and trace the circle with your nose. This exercise, says Ms. Larson, serves to realign the vertebrae. "And it can be adapted to the needs of people with limited, or no, range of movement," she says. "For example, a person with migraine who does not want to move at all can perform the exercise through imagery until they regain enough confidence and ability in their movement to perform it physically." The effectiveness of PhysicalMind Therapy, according to proponents, is rooted in the

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mind -- as a result, mind exercises help imprint new patterns of movement in the nervous system that eventually become translated into actual movement.

There are currently more than 700 PhysicalMind Therapists around the world. Contact the PhysicalMind Institute™ for a local referral at 1807 Second Street #28/29, Santa Fe, NM 87505; 505-988-1990.

JOINT AND BONE MANIPULATION

If the body were a tree, the nervous system would be the root. Without a healthy spine -- the nervous system's main artery -- you cannot have a healthy body.

This is the belief shared by proponents of chiropractic, osteopathic medicine, cranio-sacral therapy and applied kinesiology. The route to identifying and correcting an unhealthy spine -- that is, one plagued by misalignments -- differs from one discipline to the other.

Osteopathic medicine (manual medicine)

Osteopathic medicine parallels conventional medicine in many ways.

Osteopathic physicians (labelled Doctor of Osteopathy, or DO) must go through 4 years of medical training. They can go on to practice a specialty such as cardiology or obstetrics. They must pass comparable state licensing examinations. Board-certified DOs are found in accredited and licensed hospitals in the United States. Like MDs, DOs can prescribe medicine and perform surgery.

Philosophically, however, most osteopathic physicians take a more holistic approach to medicine, and put more emphasis on prevention and treatment of underlying cause of disease than on symptom management.

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Looking at the roots of the word, osteopathic means a disease process (*patho*) that derives from the bones (*osteo*) one can see why DOs focus special attention on the bone and muscle systems of the body, which makes up about 60% of the body's mass. A routine part of the osteopathic medical examination is an evaluation of the bone and muscle systems. Many DOs practice *manual methods*, also known as *Osteopathic Medical Manipulations* (OMMs) in selected situations. In addition, you are more apt to find osteopathic physicians with training in other holistic medical disciplines, such as homeopathy.

History

Andrew Taylor Still, MD founded the first medical school for osteopathy in Missouri in 1874. Frustrated with the limitations of the surgical techniques and drugs he was taught to use, and the failure of these methods to save members of his own family, he founded a philosophy of medicine that harkened back to the Hippocratic concept of the body as an integrated unit: illness in one part of the body will affect other parts as well, and the musculoskeletal system was a key to good health. In addition, he strongly believed in the body's ability to heal itself - and stressed the importance of preventive health habits.

Today, osteopathic medicine represents a synthesis of Dr. Still's experience: full medical care knowledge and skills (prescription medications and surgery), emphasis on manipulation of the musculoskeletal system, holistic/self-healing modalities and disease prevention. Americans make 100 million visits to DOs each year. Today, according to the American Osteopathic Association, there are osteopathic physicians in each of the 50 states, numbering approximately 30,000.

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How it works

As mentioned, osteopathic physicians receive a classic medical education, and are licensed to prescribe medicine and perform surgery in all States. One of the distinctions between DOs and mainstream MDs is the emphasis on structural manipulation -- called *osteopathic manual manipulations* (OMM), or manual therapy. While all osteopathic physicians are trained in manual therapy, not all of them use it. An estimated 60% of osteopathic physicians use OMTs for selected situations, and only about about 5% use it routinely. Approximately 500 DOs nationwide have received special certification in manual therapy, requiring 500 hours of extra training.

The OMMs emerge from the principal that the body's structure and its function are interdependent. When the musculoskeletal system undergoes negative change, other body systems will suffer, as well. There are several manual methods that osteopathic physicians use:

Hands On Contact

ODs believe that touch is central to healing; the contact of the physician's hands on the "patient's" body initiates the treatment process.

Soft-tissue technique

Rhythmic stroking and pressing of the muscles surrounding the spine are designed to move excess fluid and to relax muscles.

Myofascial release

This technique aims to treat the myofascial (fibrous) muscle structures; the muscles and the surrounding fascia. There are two types of myofascial release:

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direct and indirect. With direct myofascial release, the tissues are restricted with constant force until movement returns. With indirect myofascial release, the tissues are guided toward free movement on the path of least resistance.

Cranial osteopathy

This is a specific discipline within osteopathy (see Cranial Osteopathy, below). The belief is that the structure and fluid surrounding the brain can be manipulated to initiate a self-healing effect throughout the body. It involves pressure and massage of the muscles and fascia surrounding the skull.

Lymphatic technique

There are several ways with which osteopaths help promote circulation of lymphatic fluids. In one, the OD will apply pressure to the chest wall, forcing the patient to exhale as much air as possible, then rapidly release the pressure.

Thrust technique

Fast, light thrusts on specific dysfunctional joints are used in this technique in an effort to help the joint "re-set" its reflexes.

Muscle energy technique

The OD applies pressure to a muscle in a specific direction while the patient resists.

Counterstrain

Suppose a patient has a frozen shoulder. With counterstrain, the OD will slowly guide the shoulder out of the restrained position to the area of greatest comfort.

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Visceral

Type of fascial release of viscera -- fascia release and cranial-sacral work -- to rest of body.

There are several ways the muscles and bones can affect organic function, according to osteopathic physicians. Since the nervous system helps keep the circulatory system moving, any impairment in the spine (which supports the main line of the nervous system) can influence the ability of blood vessels to do their work. Muscle spasms, for example, will cut off blood circulation to surrounding areas. In one recent study, scanning of muscles using MRI (magnetic resonance imaging) showed that muscles in spasm have reduced blood flow, and that manual therapy helped restore it.

Chronic muscle spasm will also cause the nerve muscles to transmit continuous signals to the spine, resulting in an overload of messages in the spinal cord; the cross-circuiting of messages could result in problems in other parts of the body, according to some osteopathic researchers. Manual therapies are designed to restore the soft and hard tissues of the body to normal structure and improve blood flow and the flow of cerebrospinal fluid.

Cranial osteopathy

Janet Xenos, an osteopathic physician in Santa Ana, California who teaches cranial osteopathy at the College of Osteopathic Medicine of the Pacific, explains that there are five ways that cranial therapy can help headache:

By increasing mobility of bones in and near the head and *increase mobility and motility of the strutwork within the cranium*, manual therapy helps *take pressure off the nerves of the skull, improve blood flow, and improve the flow of cerebrospinal fluid* inside the head.

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Who can be helped

Since osteopathic medicine training parallels conventional medical education, DOs can address the same scope of problems handled by MDs. Manual methods can be used to treat and help prevent all types of non-threatening headaches, according to Jane Xenos, DO. "Even people in the midst of a severe migraine attack can be helped with manual therapy," she says. "The body is an integrated unit, connected by a fabric of fascia throughout. Since the head will probably be extremely sensitive, I would start working on other areas of the body to help relieve related stresses in the connective tissue and, once the pain is reduced, work directly on the head."

What to expect

If you're used to seeing a conventional MD, your visit to an osteopathic physician is likely to look and feel familiar. After taking a medical history and ruling out threatening causes of headache, osteopathic physicians who specialize in manual methods and cranial osteopathy will start with manipulations. In the case of headache, 20 minutes of the half-hour manipulation will be devoted to cranial work. However, most specialists in cranial osteopathy will do some work on the rest of the body, as well -- based on the belief that the organs and bones of the body are unified by a three-dimensional 'stocking' of connective tissue. If the connective tissue or muscle becomes rigid in the head area, causing headaches, there is likely to be a reciprocal pull of connective tissue -- possibly the underlying cause of the headache -- in other parts of the body. DOs who

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specialize in manual therapy and cranial manipulations, will use any number of manual methods that are appropriate for the individual.

What does a cranial manipulation feel like? Patients report that cranial manipulations feel like a gentle pressure, pushing and pulling on various regions of the head. "Children sometimes cry because they're afraid of the new sensation, not because of the pain," Dr. Xenos observes. Some of the intra-oral methods -- working from inside the mouth to manipulate the bones inside the skull -- can be somewhat painful, she admits.

Treatment schedule for manual method

The treatment schedule will be heavier at the beginning and taper off.

"Generally, I will start patients with once-weekly treatments for 3-5 sessions," says Dr. Xenos. "This usually yields significant improvement in about 50% of patients. Then I will reduce the frequency to every 2 weeks, then every 3 weeks." Patients can then return as needed for preventive "tune-ups," or if they start having more frequent headaches, or if they have an injury.

Effectiveness

Studies on the effects of OMM in general are scarce. And studies on the effectiveness of OMM in the treatment of headache are even less common. Like many other mainstream and holistic medical groups, the American Osteopathic Association is stepping up research efforts in order to continue justifying their procedures to health insurance carriers. In years to come, says the AOA, the medical and lay communities can expect to see more hard data about the efficacy of osteopathic practices.

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Variations on osteopathic medicine

There are a number of osteopathic sub-specialties. As mentioned, about 500 DOs have received intensive training in manual methods, and use them regularly. An even smaller percentage specialize in *cranial osteopathy*, which focuses on the kind of cranial manipulations described above.

A discipline related to *cranial osteopathy* was developed by an osteopathic physician, John Upledger. His approach, trademarked as *cranio-sacral therapy*, is based on osteopathic manipulations, with focus exclusively on the cranium (head) and sacrum (pelvic area).

Cranio-sacral therapy arises from the concept that the 29 bones in the body can move. This concept defies conventional medical wisdom, which asserts that the skull bones are immobile. However, a turn-of-the-century osteopathic physician, William Sutherland, believed that the fluid that circulates inside the brain -- the cerebrospinal fluid -- moves rhythmically and causes the skull bones to expand and contract. To prove his theory, he performed an experiment by wrapping the skull tightly with bandages, and found that the flow of cerebrospinal fluid was reduced.

In addition, adherents to cranio-sacral theory maintain that the membrane that envelopes the brain, spinal cord and spinal nerve routes -- the dura mater -- is a key link between the sacrum and the head and neck muscles. Headache may result from chronic muscle contraction and joint restrictions in the sacral area. It could be due to tension of the dura inside the head, pulled tight by dysfunction of the sacrum. And it could be caused by compression of the nerves leading into the head (trigeminal nerves) due to compression in the lower back/sacrum.

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These concepts are shared by 'classic' osteopathic physicians, but the difference is that DOs believe that restrictions in the connective tissue and bones affecting the head are not limited to problems of the sacrum. These reciprocal restrictions could happen anywhere in the body. So, while a small percentage of DOs and MDs practice cranial manipulation, they do not limit their treatment to the cranio-sacral area.

One might say that cranio-sacral therapy is a very focussed subspecialty of osteopathy -- except that cranio-sacral therapists are not required to undergo the same extensive medical training as osteopathic physicians. Certification requirements vary from institution to institution. The Upledger Institute requires about 20 days, or 150 hours, of training, interspersed with hands-on work. The Colorado Cranial Institute follows a similar training format as the Upledger Institute. Cranio-sacral therapy is popular among massage therapists who want to expand their services and expertise, but can be learned by anyone; chiropractors, osteopathic physicians, dentists and a smattering of medical doctors (MDs) have also received training in cranio-sacral therapy as an adjunct to their primary approach.

Side effects and warnings

Assuming that you have ruled out organic causes (tumors or broken bones), there are no contraindications to osteopathic manipulations or cranio-sacral therapy.

Finding a reliable osteopathic physician (DO)

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Your best resource is word-of-mouth for a licensed Doctor of Osteopathy, or DO, or the American Osteopathic Association which can refer you to an osteopath in your region.

The 15 osteopathic medical colleges in the United States accept only college graduates students who have passed the Medical College Examination Tests and, through a personal interview "exhibit a genuine concern for people." The governing organization, the American Osteopathic Association, sets standards for the osteopathic schools of medicine that include four years of medical training, with an emphasis on the muscle and skeletal systems and preventive care. After graduating, they must complete a year-long internship; many then select a residency program in a specialty area. They also must complete a certain amount of continuing education each year. Licensing requirements differ from state-to-state; in some cases, the tests for licensing are the same as they are for MDs.

American Osteopathic Association
142 East Ontario Street
Chicago, IL 60611
800-621-1773
In Illinois: 312-280-5800

Finding a reliable cranio-sacral therapist

For therapists trained in *cranio-sacral* therapy (who are not necessarily DOs), the following institutions can provide referrals:

The Upledger Institute
11211 Prosperity Farms Road
Palm Beach Gardens, FL 33410
407-622-4334

Colorado Cranial Institute
466 Marine Street
Boulder, CO 80302
303-449-0322

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Questions and answers

Do Osteopathic Manual Methods hurt?

No. The manual methods rarely cause pain, though they may be somewhat uncomfortable, for example, the intra-oral manipulation used in cranial osteopathy can be painful. You should let the osteopathic physician know if you experience any pain.

What other types of treatment will an osteopathic physician give me?

Osteopathic physicians are licensed to do everything that an MD can do, such as prescribe drugs and perform surgery. Like MDs, osteopathic physicians may also specialize in certain areas, such as obstetrics or neurology. Depending on your condition and preferences, other treatments may be given. In addition, some DOs complement their practices with holistic modalities, such as homeopathy or herbal therapy. Given their preventive spin on conventional medicine, osteopathic physicians to recommend nutritional therapy and other self-healing methods more often than MDs, and to offer more drug-free options.

Can children have OMMs?

Yes, osteopathic physicians are trained to perform manual methods on children, and the elderly.

Are osteopathic procedures covered by medical insurance?

Osteopathic procedures are covered by most insurance plans, but you should certainly check to make sure.

Chiropractic

Chiropractic is an approach to healing based on manipulation of the spine. In keeping with the Greek roots of the term, manipulations are "done by hand." Like many holistic disciplines, chiropractors believe that the body holds the ability to heal itself. The spinal column and the nerves within it are key players in maintaining the balance of health.

History

"Bonesetting" techniques, as rudimentary chiropractic was widely referred to before the 1800s, date back to the ancient Chinese, Greeks and many Native American cultures [Consumer Report]. In the Middle Ages it was a skill handed down from generation to generation. Its transformation into a formal discipline can be attributed to the Iowa grocer, David Palmer, whose healing abilities were confirmed when he performed a spinal manipulation on a deaf customer and restored his hearing. He came to believe that misalignments (*fixations*) in the vertebrae -- the bones of the spine -- interfere with the functioning of the nervous system, causing *subluxations*.

Fixations are often marked by lack of mobility or hypermobility (over-extended movement) in the vertebrae. A joint fixation can feel painful and tender, without necessarily affecting the spinal nerves. But when a fixation causes a defect in a joint and the surrounding bones, muscles, tissues and nerves, this is called *subluxation*. A pinched nerve caused by misaligned vertebrae is an example of a subluxation.

By correcting subluxations, Palmer believed, chiropractors could improve the mobility of fixated joints, restore balanced movement, and restore health to

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the nervous system. Toward that end, different types of *manipulations* or *adjustments* are employed, which entail applying controlled, quick, forceful pressure to the subluxated areas. Usually, the manipulations are made on the spine, but can be applied to any joint in the body.

Early on, chiropractors split off into two groups, known as the "straights," and the "mixers." Straights uphold classical chiropractic theories, and focus almost exclusively on manual manipulations. Mixers blend other treatments such as nutritional counseling with manual manipulations.

In addition, there are now two broader groups of chiropractors. One group asserts that chiropractic can help alleviate any illness in the body; in general, they believe in preventive adjustments to keep overall health. Their governing organization is the American Chiropractic Association. The other group, represented by the National Association of Chiropractic Medicine (NACM) maintains that chiropractic is useful mainly for musculoskeletal problems, and focus their skills on treating head, neck and back pain.

Among these groups, there are a total of more than 50,000 licensed chiropractors in the United States today, and they make up the third largest group of health practitioners after medical doctors and dentists.

How it works

Chiropractors believe that most forms of tension-type, migraine and cluster headache ultimately arise from the musculoskeletal system. The blood supply and nerve supply to the head are closely linked to spinal anatomy and function. According to chiropractors, there are four ways that headache can result from fixations of the vertebra of the cervical spine:

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- Pain-sensitive nerve fibers in the joints, which are plentiful, can activate headaches *directly* due to compression or subluxation or *indirectly*, by causing spasm of the muscles surrounding the spine. This can happen due to an injury, such as whiplash, or chronic postural problems.
- Neck and head muscles are chronically damaged. In this case, the muscles are the main instigator of nerve pain, not the spine. Again, injury or bad posture can cause these problems.
- Misalignment and fixation of the joints can irritate the nerves, which causes a chronic mix-up or overload of pain messages. In this way chronic fixations, chiropractors say, can interfere with the vascular (blood vessel) system and cause headaches.

If the pain seems to come from fixated joints (not organic causes), then the chiropractor will make an *adjustment*, or manipulation. Most often, adjustments for headache focus on the neck area of the spine, or the *cervical* spine, says Dr. Rowe, but this may vary. (The spine is an integrated unit, and problems in one area can lead to pain in others. In one study, migraine pain was attributed to fixations in the lower back.)

As mentioned above, the chiropractor achieves this by applying fast, forceful pressure with her hands to the area of subluxation. In this way, according to chiropractic theory, the joint is freed from its restriction, allowing the nerves and muscles to return to normal functioning.

Who can be helped

Chiropractors from both schools -- the "treat every problem" school and the "treat only musculoskeletal problems" school -- will assert that many chronic, non-threatening headaches can be helped by chiropractic manipulations. The

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Textbook of Clinical Chiropractic points to specific treatments for headaches due to migraine, cluster, hypertension, digestive problems, sinuses, TMJ and whiplash. Eyestrain headaches are often referred to an optometrist or ophthalmologist. There are studies to support its effectiveness in migraine and tension-type headache (see *Effectiveness*, below).

What to expect

The chiropractor will first take a detailed history, asking questions about the nature, severity and frequency of your pain, as well as general questions about your health, your occupation and level of exercise, and about other methods you've tried for pain relief. Some chiropractors will also ask about your diet.

After a routine physical exam, like the one you're used to from a conventional doctor, the chiropractor will spend some time examining your spine. You'll be asked to bend forward, backward and from side to side. These movements give the chiropractor an idea of your range of movement and the shape of your spine. Then, with both hands placed on the spine, the chiropractor will feel how you move, a procedure called *motion palpation*, to help locate joints that do not move well enough, or that move too far out of the normal range of motion.

The chiropractor will also feel the muscles and tissues surrounding the spine -- sometimes with the aid of a metal gauge -- to get a sense of muscle tone and health, and help determine the type of manipulation that might be right for you.

In many cases, chiropractors will want to take an x-ray to get a base-line picture of your spine against which to monitor future progress. The initial x-ray

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also helps rule out problems such as tumors or fractures that would require a different type of treatment.

The x-rays are usually ready right away, and the chiropractor will review them with you, pointing out the overall shape of your spine, areas of fixation and subluxation and disc degeneration, as well as goals for treatment. For example, if you have migraines, the chiropractor might find fixations in the cervical, thoracic or lumbar regions of the spine -- basically the upper neck, throat and mid-to-lower back. Observing these problems, chiropractors would mark the spots on the x-ray (and the corresponding points on your back) and explain how the chiropractic adjustments will help resolve them.

Finally, the chiropractor will perform the adjustment(s). Sitting or lying down on a padded table, semi-clothed, the chiropractor will first lightly massage the muscles surrounding the spine to help relax you. Then, he or she will make the adjustment, which involves applying quick, forceful pressure to the spine. You might hear a cracking noise -- which might resonate especially loudly if your neck is being adjusted. This is more alarming than it is painful -- something akin to cracking your knuckles. In fact, the adjustment is rarely painful. In some cases, head pain is immediately alleviated.

In my opinion, good chiropractors routinely recommend an exercise regimen to complement the adjustments. This helps improve flexibility, when necessary, and maintain mobility. It may builds muscles to support changes in the spine.

In addition, many chiropractors emphasize dietary changes and vitamin supplementation. People with headaches may be prescribed an elimination diet to uncover hidden food sensitivities that might be triggering headaches.

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Treatment schedule

The treatment schedule depends on the severity of your headache -- and the orientation of your chiropractor. Some may initially recommend a few weeks of intensive adjustments, two to three per week. As needed, weekly sessions might be required to produce the necessary spinal changes. However, some chiropractors will recommend ongoing preventive maintenance. The value of this treatment approach is under debate in the medical community, and even among chiropractors. In studies of people with headache, ongoing preventive treatment was not needed to produce long-term benefits.

Effectiveness

There are several studies showing the effectiveness of chiropractic for migraine and tension-type headache. In one study, almost 80% of chronic headache sufferers who were resistant to other types of treatment found long-lasting relief. Relief of migraine with and without aura is reported to range from 72% to 90%. In one study, 87 individuals reported an average 74% improvement in migraine pain, which was maintained for two years after treatment had ended. However, these were all uncontrolled studies, that is, there was no control group for comparison.

Side effects and warnings

Chiropractic is generally considered safe, though there is a slight risk (less than 1%) of stroke due to compression of arteries leading to the brain, though evidence gathered by the medical community suggests that this risk is underestimated. The risk is higher when the spine is rotated during adjustments.

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With certain chiropractic techniques, such as the Gonstead method, the spine is not rotated before an adjustment, and there have been no reports of stroke among people treated by this method. To be absolutely safe, chiropractic should be avoided in people at risk of stroke, including those with high blood pressure or people taking blood-thinning drugs.

In addition, there is also a small risk of ruptured discs and paralysis. The medical journal *Neurosurgery* reported 138 cases of complications.

The common use of x-rays in chiropractic also presents the risk of cancer. Some chiropractors use x-rays more liberally than others, and their value as a way of monitoring progress is under debate.

Chiropractic is not recommended for people with severe osteoporosis, rheumatoid arthritis, fractures, tumors, infection or malignancies of the spine.

Finding a reliable chiropractor

Chiropractic is licensed in all 50 states. The American Chiropractic Association is the governing organization for chiropractors who view themselves as the equivalents of primary care physicians -- treating a wide range of conditions. Chiropractors who are members of the National Association of Chiropractic Medicine generally focus on musculoskeletal problems. The Orthopractic Society focuses on manipulations to improve joint mobility, and does not adhere to the concept of subluxations. For referrals and more information, contact these organizations at:

American Chiropractic Association
1701 Clarendon Boulevard
Arlington, VA 22209
703-276-8800

National Association for Chiropractic Medicine

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Send a self-addressed, stamped envelope to:
15427 Baybrook Drive
Houston Texas 77062
713-280-8262

International Chiropractors Association
1110 North Glebe Road, Suite 1000
Arlington, VA 22201
703-528-5000

The Orthopractic Society
PO Box 145
Beaconsfield, Quebec
Canada H9W5T7

Questions and answers

Is chiropractic painful?

The adjustments should not hurt -- however, there are reports in rare cases of chiropractic adjustments producing more pain due to ruptured discs. Make sure that your chiropractor has received adequate training and hands-on experience.

What causes the cracking sound of an adjustment?

The movement of joints can make a cracking noise; this is normal and nothing to worry about.

Can chiropractic help children?

Yes -- it is generally a safe practice for children and could be of benefit if headaches are related to structural problems. Children generally need fewer adjustments to correct fixations because their vertebrae have not endured as many years of degeneration as adults.

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How about older adults?

Chiropractic can be of benefit to people of advanced age. However, people with osteoporosis (bone thinning), osteoarthritis and rheumatoid arthritis should not receive chiropractic therapy.

Can I get chiropractic adjustments if I'm pregnant?

Yes, an experienced chiropractor will know how to focus the adjustment to make sure it's safe during pregnancy. However, you should avoid all x-rays during this time.

Is chiropractic covered by medical insurance?

This depends on your carrier, but 41 states now require coverage for chiropractic.

Variations on chiropractic: Applied Kinesiology and Touch for Health

The word "kinesiology" means the study of body movement. Today, it is a method practiced by many chiropractors based on manual muscle testing. A hands-on therapy, kinesiology blends concepts from chiropractic osteopathy, traditional Chinese meridian therapy, chiropractic and naturopathy. It was developed by chiropractor, George Goodheart, in the mid-1960's who found that muscle evaluation enhanced his diagnosis of spinal problems. With further research, Goodheart came to believe that muscle tone reflects the health of corresponding organs and body systems.

Kinesiology treatment is geared toward restoring total health -- as measured through muscle response -- through a triad of balancing approaches: nutrition, structural adjustments and mental attitude.

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The evaluation takes shape as a series of muscle strength tests which, at first, may make you feel like the main act of a magic show. You will hold your arm or leg while resisting pressure from the kinesiologist. One moment, you succeed with little effort. But after pressing a point on your chest, putting salt on your tongue, inhaling fumes, or simply thinking about an emotionally draining experience -- your limb turns to jelly. The reason? According to kinesiologists, muscles that are "switched off" and weak indicate a blockage or imbalance in the corresponding body system -- and the need for restoring energy flow. For example, a muscle's response to certain foods or supplements placed in the mouth (or near the mouth) help determine the body's needs for that nutrient. If the body needs that food, its "neuro-lingual" (brain-to-tongue) reflex will almost instantly reflect it with muscle changes.

Like other holistic disciplines, kinesiology views the body as an integrated whole. What makes kinesiology unique among Western complementary disciplines is its reliance on many body techniques to help the body achieve integrated wholeness, or balance. These include:

- Nutritional therapy, as determined by muscle response to contact with certain nutrients.
- Reflex therapies -- neuro-lymphatic massage, neuro-vascular holding points, meridian tracing, acupressure holding points and massage.
 - Neuro-lymphatic massage stimulates reflex points that trigger the flow of lymphatic fluids to different areas of the body
 - Neuro-vascular holding points, activated by very light touch, help stimulate blood flow and enhance circulation
 - Meridian tracing, based on the traditional Chinese meridians, involves lightly following the meridian line to enhance the flow of energy (qi)
 - Massage of muscles helps stretch and strengthen them

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In addition to these primary techniques, kinesiologists may use chiropractic adjustments, acupuncture, acupressure, aromatherapy, homeopathy and other adjunctive treatments to help relieve head pain.

Kinesiology is mainly available through chiropractors (an estimated 37% practice applied kinesiology), though some are MDs, osteopathic physicians and dentists. For referrals to certified kinesiologists in your area, contact:

International College of Applied Kinesiology®
6405 Metcalf Avenue, Suite 503
Shawnee, KA 66202-3929
913-384-5336

The Touch for Health,® Association offers courses and a manual outlining aspects of kinesiology for laypeople. Contact:

Touch for Health Association of America
6955 Fernhill Drive, Suite 5A
Malibu, CA 90265-4238
800-466-8342
In Missouri: 314-647-0115

Touch for Health Tension Headache Relief Exercise

The following exercise, actually an acupressure technique, was described by Elizabeth and Hap Barhydt, for Touch for Health Association. It accesses the gall bladder meridian (of traditional Oriental acupuncture).

1. Standing erect, drop your hands to the sides of your legs. Press with your middle finger, looking for a sore or tender point in that area. It may take a little searching, but the point will be there.

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2. Once you have found a sore or tender point on one or both sides of your thigh, massage these points with your fingertip with firm pressure until the headache goes away.
3. Concentrate on the headache disappearing while you do this. It is OK to rub on one side at a time. It may be sufficient to rub on one side only to get rid of the headache.
4. Sometimes the headache will disappear in just a few seconds. Other times you may have to rub one or both points for a minute or so.

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OTHER PHYSICAL APPROACHES

Exercise

The health virtues of regular exercise have been extolled for thousands of years. It keeps your weight down, improves circulation, strengthens cardiac muscles and tempers the ravages of gravity and age on muscle tone.

But researchers have recently been finding that the effects of aerobic exercise on stress are not what they once thought. Back in the 1980s, scientists believed that, by increasing heart rate, aerobic exercise stimulated the body to release endorphins, the body's own mood-elevators. In addition, by raising body temperature, an intense work-out helped relax tense muscles. Finally, aerobic exercise helps oxygenate the body. All of these effects can be of benefit to people with chronic headache, such as migraine, tension-type headache and cluster headaches.

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New evidence suggests, however, that going for the burn is not the only route to the tension-relieving benefits of exercise. An analysis of more than 100 studies from the University of Illinois showed that relaxation is equally effective in reducing anxiety as a workout.

The message here is not to stop exercising. All of the physical health benefits of aerobic exercise remain in valid. But the mind- and body-relaxing benefits of exercise -- which are among the primary goals in helping prevent headache -- can be accomplished with any type of regular exercise that you enjoy. Even dance, which combines physical activity with rhythmic movement to enhance the relaxation effect, can be of benefit in relieving stress. Walking and swimming are excellent exercises for people with chronic headache.

According to Herbert Benson, cardiologist and director of the Mind/Body Institute at New England Deaconess Hospital, combining exercise with a simple mantra -- a word or phrase that helps focus your mind from worrisome thoughts -- can bring the stress-releasing benefits of meditation to your routine. (For more on meditation, see Chapter 8.)

Exercise is generally a preventive tool; but you should avoid exercise during a headache attack. Also, be sure to stop exercising if a headache comes on in the middle of your routine.

As with any physical method, be sure to consult you physician before embarking on an exercise program.

Dance/Movement Therapy

Dance is an expression of body and mind. For people with headaches, its physical benefits include relief of body tension and body armoring. Mentally, dance can help reduce stress.

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It is the belief of some Dance Therapists that dance method can promote the inner healing process by improving mood states and awakening stored feelings. By stimulating the circulatory, respiratory, skeletal and neuromuscular systems of the body, dance therapy has been clinically shown to decrease anxiety, reduce body tension and reduce chronic pain.

The American Dance Therapy Association sets standards for professional practice. It also serves as referral resource for certified dance therapists (who carry the initials D.T.R. after their names) who have completed a master's degree and 700 hours of supervised clinical internship; the title of Academy of Dance Therapists Registered (A.D.T.R.) means that the therapist has completed 3,640 hours of supervised clinical work.

For information and referral to a regional organization (which can refer you to a certified instructor), call, or send a self-addressed, stamped envelope to:

American Dance Therapy Association
2000 Century Plaza, Suite 108
Columbia, MD 21044
410-997-4040

Hydrotherapy

Hydrotherapy is the use of water, of varying temperatures and pressures, to alleviate pain and relieve tension. Whirlpools, directed water pressure, hot and cold compresses and saunas are all examples of hydrotherapy.

With tension-type headache, it has been shown that application of heat to the neck and head area for 10-20 minutes can relieve headache by opening blood vessels and relaxing muscles.

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With migraine, which is initiated by dilation of blood vessels, *alternating cold with hot compresses* has been effective with some people at the onset of a migraine attack. Regular use of *hot compresses* can help prevent tension headaches by relaxing muscles. Wearing *cool wet socks* directs blood flow away from the head to the feet, and help relieve sinus headaches.

As a preventive measure, warm baths, whirlpools and saunas may help provide overall relaxation and release tension. **Note:** avoid very high temperatures if you have high blood pressure, are pregnant, or have circulatory problems. If you have any health problems, consult your doctor before starting hydrotherapy.

To locate sources for hydrotherapy, ask your doctor or physical therapist for a recommendation. Or, contact a naturopathic physician who practices hydrotherapy:

American Association of Naturopathic Physicians
2366 Eastlake Avenue Suite 322
Seattle, WA 98102
206-323-7610

National College of Naturopathic Medicine
11231 Southeast Market Street
Portland, OR 97216
503-255-4860

Head band therapy

A recent study of people in the middle of a migraine attack showed that using an elastic band to put pressure on the head, particularly the temple area, helped 87% of the study group relieve pain by more than 80%. The band they used was made of elastic, secured with velcro, with rubber disks inserted underneath to apply direct pressure to the area that hurt the most.

Electrical stimulation

It has been shown in some studies that electrical stimulation of nerves can help people with headache. This concept is based on a theory of pain developed by Ronald Melzack and Patrick Wall, MD in the 1960s. They maintained that there are is a group of cells that regulate pain signals; some transmit pain, some close the gateway to pain. This theory is known as the Gate Control theory. Based on this concept, proponents believe that overstimulating the cells that inhibit pain will get them to travel faster to the brain, and close the gate before pain-transmitting cells get there. The most common method for achieving this goal is known as *transcutaneous electrical nerve stimulation* (TENS). For application to the head, there are special low-level electrical devices known as transcranial electrostimulation devices.

With TENS, two electrodes are placed on the skin over the source of pain; in the case of headache, this would be on the head, wherever it hurts. The wires from the electrodes are attached to an electricity generating device which can be regulated. The device sends measured pulses of electricity through the wires to the electrodes, which are then transmitted through the skin to the cells.

There are more than 100 FDA-approved TENS devices available. Some are small and portable, so that they can hook onto a belt.

Studies have shown possible effectiveness of TENS and transcranial electrostimulation in reducing headache and anxiety. You do not need a doctor's authority to purchase TENS devices, but it is a good idea to get a physician's guidance.

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General tips

Posture

The way we hold our bodies can have a dramatic effect on our health -- so says most bodywork therapists and many headache experts. As discussed in this and other chapters, chronic patterns of bad posture put undue tension on the muscles and connective tissue around the head and neck, reduce blood circulation, deprive the blood of oxygen, and compress nerves...which can lead to headache. Good posture is often a matter of eliminating bad habits. What follow are some tips for improving your posture (you might also want to investigate some of the structural re-education methods described above to carry your postural awareness to a deeper level.)

Standing

Standing with your back against a wall with your heels about 3 inches from the base, distribute your weight evenly on both feet. Your ears, shoulders and hips should be aligned in a straight line. The curves of your back and neck should be slight and balanced.

To test your posture, put one hand behind your neck, palm inward. Now, put one hand behind the small of your back, palm toward the wall. Your hands should fit easily, without much extra room.

From the front, check to see whether your hips line up; one should not be higher or lower than the other. Kneecaps should face straight ahead. Your ankles should be straight.

Tips:

- When standing for long periods of time, shift your weight every so often from one foot to the next.

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- Strengthen your abdominals three or four times with this isometric exercise: flatten your stomach muscles and hold for a few seconds; then relax.
- Imagine that your head is suspended by a thread, floating effortlessly on the top of your spine. Relax your back and stomach muscles.

Sitting

Sit down in a straightback chair. Shoulders should be at the same height. The head should rest directly over the shoulders, without straining forward or backward. They should be slightly elevated from your hips. The neck should be relaxed. Shoulders kept down. The back should be upright or slightly angled from the hips, keeping a slight natural curve of the lower back. Knees should be slightly lower than hips. Feet planted firmly on the floor, or on a foot rest.

Tips:

- If your feet don't reach the floor, place a foot rest or phone book so they do.
- Change positions often
- Stretch every half hour or so
- Roll your neck very gently every so often

Working at a computer

When working at a computer, follow the above recommendations for sitting. In addition, make sure that:

- Elbows: relaxed and at a right angle to the arms
- Wrists: relaxed and in a neutral, floating position -- without flexing up or down
- The computer screen: at eye level or slightly lower
- Fingers: gently curved

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- Keyboard: should be flat and level with, or just below, the elbow. Keys should be reached by moving the entire arm, from the shoulder down, rather than twisting the wrists or straining the fingers. Take frequent breaks.

Sleeping

Make sure you have a firm mattress. Avoid sleeping on your belly. If you sleep on your side support your neck with a pillow so that the head and middle of your chest are aligned in a straight line.

Walking

Avoid carrying packages, briefcases or purses on one side all the time, and avoid high heels and platformshoes for long walks. This can put strain on your muscles. Wear a backpack, distribute the weight to both hands, or alternate hands.

Lifting

Lift heavy loads by using your legs to lift you up, keeping your back straight. Never bend your back or shoulders.

Driving

Position your seat so that you can reach the steering wheel and foot pads easily. Support your lower back with a rolled towel or pillow. Adjust the seat so that your knees are just a little higher than your hips. For long trips, stop every few hours and walk around.

Isometric exercise

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To help keep your neck elongated and in a balanced position throughout the day, try this isometric exercise:

[INSERT ILLUSTRATION]

[Captions]

Press from the front

Press from the side

Press from the back

1. Sit in a neutral, balanced position (see above). Throughout these exercises, breathe slowly and deeply.
2. With palm on your forehead, begin to press against your head. Gradually press harder, but resist with you neck muscles, so your head remains in the same place.
3. Hold for 5 seconds, then relax.
4. Repeat 5 times.
5. Follow steps 2-4 pressing on each side of the head. Repeat 5 times on each side.
6. Follow steps 2-4 pressing from the back of the head.

For TMJ

- When not chewing, teeth should never touch
- Monitor your jaw for signs of clenching
- Place your tongue lightly on the top of your mouth behind your front, upper teeth
- Avoid habits that put tension on jaw muscles, such as biting cheeks or lips, pushing tongue against teeth, clenching jaws

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CHAPTER 8: MIND-BODY THERAPY

A new world is only a new mind
William Carlos Williams

Relaxation methods

- Progressive relaxation
- Hypnotherapy
- Imagery and visualization
- Meditation

Biofeedback

Psychotherapy methods

- Behavioral therapy
- Cognitive therapy
- Social Support

Energy/spiritual methods

- Prayer
- Therapeutic Touch
- Reiki

"Where does the mind end and the body begin? Where does the body end and the mind begin?"

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Not too long ago, the answers to these inquiries, posed by BKS Iyengar in *Light on Yoga*, would have been clear to most Western physicians. The body and mind were thought of as distinct entities: disease was caused by physical stimuli, and improved by physical interventions -- period. The concept that the mind can influence the health of the body, though not new to some systems of medicine, was certainly not entertained by most serious medical researchers. Today, there is mounting evidence from renowned research institutions that supports the mind-body connection -- and the use of techniques using the mind to influence the health of the body.

That the body reflects what the mind perceives is a physiologic fact widely accepted by modern medicine. If the brain is the seat of the mind, it is also home base for almost all physical responses and expressions. Twenty-four hours a day, the brain and the body interact through a vast network of lightning-quick biochemical and neural (nerve) messengers. Modern science can acknowledge that this interaction happens on a unconscious level -- but it has a harder time accepting that willful, conscious thought can create specific changes in the body.

The advent of psychiatry and behavioral sciences in this century has done much to bring the mind-body connection into the clinical spotlight. Through studies, we have learned that the way patients *perceive* their conditions can influence their "quality of life," regardless of the severity of disease. An optimistic and relaxed outlook, it is widely believed (and has been proved), helps improve quality of life, which may make pain more bearable.

Why do patients who feel better emotionally also fare better physically? In search for answers, medical research has used sophisticated tools to look closely into the brain, and how the nervous system interacts with the rest of the body. As we begin to penetrate the mysteries of the brain, we have started to

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see that its influence extends beyond the skull. A relatively new medical science, *psychoneuroimmunology*, has done much to advance our understanding of the mind-body link.

Psychoneuroimmunology, also known as PNI, is the study of the interactions between the mind (*psycho*), the nervous and endocrine system (*neuro*) and the immune system (*immuno*). PNI got its start with the work of psychologist Robert Ader, who found in the 1970s that the immune system could be conditioned to react to brain-generated stimuli. Since then, a number of other studies in PNI and other medical disciplines show that the immune system harbors nerve tissues that are connected to the brain, that chronic stress may impair the immune system, and that psychological and that social attitudes shape not only the way one perceives illness, but can physically redirect the course of it.

Another important, and related, area of mind-body research focuses on the physical effects of relaxation (see Chapter 2). In the late 1960s, Herbert Benson, MD and coworkers monitored the physiologic functions of people in a state of meditation. They found that meditation induced a variety of measurable physical effects: breathing slowed down and brain wave patterns slowed down. In future work, Dr. Benson and colleagues found that meditation and other mind-body activities induced a condition that he called *relaxation response* -- the inverse of the fight-or-flight response described decades earlier (see Table below). A variety of methods have been used to induce this response by Dr. Benson, who founded the Mind/Body Medical Institute at Harvard Medical School, including progressive muscle relaxation, hypnosis, prayer, yoga and meditation.

The effects of stress and relaxation on different body functions

Headache Alternative

Body system	Fight or Flight Response	Relaxation Response
Heart rate and blood pressure	Increased	Decreased
Blood flow	Directed toward muscles, lung and heart	Directed toward internal organs
Breathing rate	Increased to supply heart, muscles and lungs	Decreased due to reduced oxygen demand
Digestive enzymes	Reduced	Increased
Blood sugar levels	Increased	Unchanged

Finally, the field of energy-based medicine, or biofield therapeutics, which has its origins in age-old concepts that all living things are imbued with a vital life force, has been making quiet strides along the formal alternative road to health. Examples of these methods include Therapeutic Touch, prayer and Reiki -- although some forms of external qigong (see chapter 7) are also considered biofield healing methods.

What all mind-body techniques have in common, and what makes them so extraordinary in the context of modern medicine, is the use of the mind to *willfully* direct healthful effects on the body.

Mind-body approaches are generally safe and free of side effects. But those interested in these techniques should pursue them with one caveat: make sure to first rule out potentially serious causes for your headache.

RELAXATION

Can something as basic as relaxation really be effective? The answer is in clinical proof. Relaxation is thought to be the primary power behind the effectiveness of mind-body techniques for preventing headache.

- In one recent study, tension-headache sufferers had up to 98.2% *fewer* headaches with the use of relaxation -- and they remained virtually headache-free for one year.

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- At the State University of New York, at Albany, progressive relaxation helped 96% of headache sufferers reduce the number, duration and severity of headache after 10 therapy sessions.
- In a review of several studies, relaxation combined with cognitive therapy or biofeedback was shown effective in up to 75% of headache sufferers.
- Relaxation helped people with TMJ disorder reduce pain by 56%

Many studies also have confirmed the value of mind-body methods in children with headaches. In one, progressive relaxation and/or autogenic relaxation helped reduce headaches in children over long periods of time.

One of the most appealing qualities of these methods is that you can practice them on your own -- though at first you might benefit from qualified instruction.

Progressive relaxation exercise

We know that muscle and vascular tension trigger headaches. Progressive relaxation, developed by Edmund Jacobsen in the 1920s, is a simple way to relax the muscles. You need no training or special skills -- just the ability to tense and relax muscles. Tensing and relaxing your muscles, one by one, teaches the mind and body how to recognize when stress creates muscle tension, and a method for releasing it.

Here is how progressive relaxation works:

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- Get comfortable. Wear loose clothing, remove your shoes. Make sure you are neither too warm or cold. Find a quiet room where you won't be distracted for 15 minutes.
- Sit in a comfortable chair, or lie down on the ground on your back, using an exercise mat or soft carpet.
- Take a few deep, easy breaths.
- Tense all of the muscles in your body, from head to toe. Hold the tension for several seconds. Let your mind feel the sensation of this tension.
- Holding onto the tension, inhale deeply and hold your breath for several seconds. Let your mind and body register the sensation of this tension.
- Exhale slowly as you let the tension go. Let your mind and body register the sensation of this relaxation.

Now, work on individual muscle groups. As you tense the following muscles, try to keep the rest of your muscles as relaxed as possible. Repeat each of the exercises three times.

- Tighten your fists. Feel the tension radiating up your arms. Inhale deeply and hold the tension for several seconds. Exhale and let your hands relax.
- Press your arms down against the ground or chair. Inhale and hold the tension for several seconds, concentrating on the sensation. Exhale and let your arms relax.
- Shrug your shoulders up to your ears. Experience the tension in your neck and shoulders. Inhale and hold. Exhale and let your shoulders drop.
- Frown and raise your eyebrows. Study the tightness in your face. Inhale and hold the tension. Then exhale and release.
- Press your eyelids closed as tightly as possible. Inhale and hold. Exhale and open your eyes gently.

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- Open your mouth as wide as possible. Inhale and hold. Exhale and release your jaw.
 - Clench your jaw, biting your teeth down. Feel the tension spread across your skull. Inhale and hold. Exhale and release.
 - Inhale deeply into your belly, letting your chest expand. Hold the chest tension. Exhale and let your breath return to normal.
 - Tighten your abdominal muscles. Hold then relax.
 - Arch your back, chest up and hips down. Inhale and hold. Exhale and release your back gently.
 - Tighten your hips and buttocks. Inhale and hold. Exhale and relax.
 - Tense your left leg, from thigh to heel. Inhale and hold. Exhale and relax.
 - Tense your right leg, from thigh to heel. Inhale and hold. Exhale and relax.
 - Curl your toes under. Inhale and hold. Exhale and relax.
 - Remaining still, scan your body. Experience the relaxation over your body. If you need to, return to areas of tension and repeat the exercise for that muscle group. Breathe naturally and deeply for several moments, experiencing the relaxed state. Gently and slowly, stand up.
-

Hypnotherapy

Hypnotherapy has come a long way since the days of Svengali. More than opening act entertainment, hypnosis has earned solid scientific status as an approved medical treatment by the American Medical Association (AMA).

Coming from the Greek word, *hypnos*, which means "sleep," hypnosis is a state of focussed concentration that makes the participant highly receptive to suggestion. In its therapeutic application, hypnotic suggestion allows the

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participant to get in touch with thoughts and actions of the mind that are difficult to access consciously.

The World Health Organization reports that 90% of the general population can be hypnotized, about a third of whom are highly responsive to hypnotic suggestion. Hypnosis can be self-applied, or induced by a hypnotherapist.

History

Hypnosis has been around since ancient times. There is evidence that hypnotic trances were part of early Greek religious rituals. Hypnosis was introduced to modern medicine in the late 1700s by Franz Anton Mesmer, a German physician.

As a therapeutic practice, hypnotherapy fell in and out of favor until the early 1900s when Sigmund Freud used it with psychoanalysis. In 1958, the American Medical Association approved hypnosis as a therapeutic modality. Today, the American Society of Clinical Hypnosis is the governing body for more than 4,000 physicians, dentists and psychologists who use hypnotherapy as a healing technique -- but its use also extends to other physicians.

How it works

Hypnotherapists assert that hypnotic states can occur at any time: people fall in and out of hypnosis while watching TV, reading, or other focussed activities. During states of controlled hypnosis, research has shown physical changes similar to those observed during states of deep relaxation: decrease in nervous system activity, decrease in oxygen consumption, lowering of blood pressure and heart rate and an changes in brain wave activity [Spiegel, 1989].

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Once one enters the deep state of concentration found in hypnosis, the mind becomes more receptive to suggestions. The suggestions often involve imagery that call upon any of the five senses -- sight, sound, taste, smell or touch (see *Guided Imagery*, below). The imagery used is tailored to the individual to help control the mechanisms of pain. For example, for a person with tension-type headache who loves music, hypnotic suggestion may involve associating neck muscle relaxation and pain relief with a certain piece of music. Biofeedback techniques (see below) have been used successfully in conjunction with hypnosis to reinforce the feeling of relaxation.

Who can be helped

People with chronic pain of many types can benefit from hypnotherapy, if not only by inducing relaxation, releasing tension and improving tolerance of pain. It has proven particularly useful in children with headaches (see *Effectiveness*, below).

What to expect

You can learn self-hypnosis, or go to a hypnotherapist. If you decide to learn it yourself, you could benefit greatly from instruction by a reliable hypnotherapist.

The hypnotherapist will often begin by helping you understand what hypnotherapy is about, and feelings you can expect during hypnotic trance. He or she will also ask about your specific problem, and patterns of your head pain. You may undergo some tests to determine how easily you can be hypnotized.

Then the hypnotherapist will guide you through relaxation, images and suggestions. The images, as discussed, are tailored to your personality and

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problems. Alternatively, the hypnotherapist may teach you how to do the same. Some hypnotherapists will make audiotapes for you to use at home.

Treatment schedule

Success with hypnotherapy does not happen overnight. Persistence and a desire to make changes is critical to its success. Children seem to have more success with hypnosis. Karen Olness, MD, in *Mind/Body Medicine* (Consumer Reports Books) asserts that this may be due to children's greater facility with imagination and that, during play, they are more apt to move in and out of different states of awareness. As a result, children often learn pain-control strategies in just a few sessions, where it may take the average adult two months of daily practice to learn pain-control.

Effectiveness

Hypnotherapy has proved effective in reducing the frequency and severity of tension-type and migraine headache, in people of all ages. It has proved particularly helpful for children.

In twelve controlled studies of children and teenagers with migraine, hypnosis proved superior to a variety of methods, including drug therapy, in controlling headache. Some of the studies included biofeedback. Adults with migraine have also benefitted from hypnotherapy.

In another study of adults with tension-type headache, hypnotherapy yielded significant drops in the frequency, duration and intensity of headaches.

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Side effects and warnings

Hypnosis is generally safe, but it is powerful. Instruction should only be received by or learned from a qualified professional (see below).

Finding a reliable hypnotherapist

Because hypnotherapy is a potent tool, you want to seek out a therapist who is not only adequately trained and certified, but who has an understanding of how to use it for your specific problem. For referrals to a reliable hypnotherapist in your area, contact any of the following organizations:

The American Society of Clinical Hypnosis
2200 East Devon Avenue, Suite 291
Des Plaines, Illinois 60018
708-297-3317

International Medical and Dental Hypnotherapy Association
4110 Edgeland, Suite 800
Royal Oak, MI 48073
800-257-5467
In Michigan: 313-549-5594

Questions and answers

Will I lose control during hypnosis?

This is a myth about hypnotherapy. It is true that you may be open to suggestions to do things that you might normally not do -- but this is partly why hypnotherapy works. By suspending conscious critical judgments, hypnotherapy opens access to the inner mind. Rather than lose control, you gain relaxation.

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However, hypnosis is not a passive state. You must *want* to achieve the suggested goal -- and *want* to be hypnotized to begin with. Nor will you be walled off from outside influences; if a threatening situation arises, you will react the same way you would while in a non-hypnotic state.

I'm pretty stubborn. Can I be hypnotized?

You may be stubborn about some things, but if you *want* hypnosis to work for you, and believe that you have a good imagination, your general stubborn qualities will not get in the way. However, the World Health Organization estimates that about 10% of the population is hypnosis-immune. This may be due to fear of and strong resistance to losing control, or difficulty "going with" your imagination and following imagery.

Can I be made to do things I wouldn't normally do?

Yes -- and that's the point of hypnosis -- but you can't be forced to do things you don't *want* to do. By entering a very relaxed, highly attentive state, you can access parts of your brain that normally cannot be reached while operating on a conscious level. If you work with a professional, qualified hypnotherapist, this power will be directed toward improving your health.

Is hypnosis covered by medical insurance?

Hypnosis is recognized by the American Medical Association, but it may not be fully covered by all insurance companies -- even if administered by an MD.

Check with your carrier.

Imagery and visualization

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Imagery is the use of the mind to call upon specific images to help changes attitudes, behavior or physical health. Used as a vehicle for focussed concentration imagery can affect physiologic functions that are not normally altered consciously.

If you read about hypnosis above, you will see similarities. The difference is that hypnosis is a state of mind, whereas imagery is an activity. Indeed, imagery is often used to help bring people into a hypnotic state, and while in that state, to effect a physical change. They are complementary, and may be used either together or individually along with biofeedback. They are also used in meditation.

Visualization is a form of imagery. Whereas imagery can make use of the full range of senses, visualization employs the visual sense.

A common imagery exercise involves imagining in exquisite detail the characteristics of a lemon -- its scent, color, texture. Normally, it's difficult to induce salivation by conscious will. But by vividly imagining the sensations associated with a lemon, most participants start to salivate.

Imagery has two therapeutic uses -- *active* and *receptive*. Active guided imagery is used to directly relieve symptoms. For example, in the case of tension headache, you might imagine your neck muscles, then imagine them melting like honey, which relieves pressure on your blood vessels, which allows the nerve endings to relax, and the pain to disappear.

Receptive guided imagery is more like association: when thinking about your headache, what images come to mind? Does it feel like a vise around your head? What does a vise mean to you? This level of inquiry into your personal associations can be revealing about your emotional feelings about headache. As we know, emotional stress is often a trigger for chronic headaches. Receptive

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imagery can help individuals understand the link between stress and headache -- and find ways to interrupt it.

History

Imagery has been a traditional part of the healing arts of many cultures throughout the world. It has been used in a formal, therapeutic way since the early 1970s. Today, guided imagery is widely used in pain clinics and wellness programs.

How it works

Researchers are not exactly sure how imagery works to help relieve pain. They believe that sensory information is housed in the part of the brain called the *cerebral cortex*. Through the use of a diagnostic imaging method called *positron emission tomography* (PET), scientists can see that imagining a thing, place or situation elicits the same changes in the cerebral cortex as experiencing it. And whatever physiological changes associated with that image may also occur. The more vividly you imagine a situation -- through visual images, odors, physical sensations, sounds -- the more powerful the physical response.

This is a very powerful idea. What it means is that *imagining* a relaxing situation -- a languorous day at the beach, for example -- may bring on the same *physical* reactions as actually experiencing that situation.

Guided imagery helps people with headache in two ways:

Relaxation is the first step of imagery exercises. The healthful effects of relaxation have been well-described, including reduced muscle tension,

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improved blood flow, lower blood pressure and reduced the need for oxygen. Relaxation alone may be a helpful way of preventing stress-induced headaches.

Direct physiologic effects. Guided imagery can also be used to reverse physical effects. If you have cluster headaches that feel like a rock pounding the inside of your skull, for example, you might imagine that the boulder is turning into a sponge -- or that the boulder is disintegrating.

Guided imagery exercise for relaxation

Though it is best to use images that are personally meaningful to you, there are some images that evoke relaxation almost universally, such as the following:

With your eyes closed, imagine that you are lying down on a beach on a sunny afternoon. Feel the sun radiating over your skin. It is warm and comforting, but not too hot. You can hear the waves lapping gently and rhythmically against the shore. You are alone, but completely safe. You can hear people in the near distance, enjoying the beach. Move your feet through the sand. Feel the warm grains of sand massaging them. Smell the fresh sea air. The temperature is perfect and your mind is as free of worry as the clear blue sky.

Who can be helped

As a general relaxation technique, guided imagery can help people with all types of headache.

What to expect

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The guided imagery session typically begins with relaxation exercises to help focus the mind. Hypnosis may be used to induce this state. Then you will concentrate on a specific image that has been individually designed to help you relieve or prevent headache.

Treatment schedule

The sessions last between 20 minutes and an hour. As with hypnosis, guided imagery can be self-taught.

Practice makes perfect. The more often you practice, the more "real" your imagery will become -- and the more effective it will be in relieving your pain, and the more accessible it will be when you are in pain.

Effectiveness

There have been few controlled clinical trials with guided imagery -- in part, because imagery is so individualized. However, anecdotal reports have shown imagery to be effective in reducing pain due to headaches.

Side effects and warnings

Guided imagery is very safe, and there are no specific contraindications. However, you should rule out any potentially life-threatening situations in order to receive necessary treatment before relying on imagery.

Finding a reliable imagery therapist

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It is recommended that you learn imagery from a reliable professional. Seek out a mental health professional or holistic medical practitioners with experience in guided imagery. Or contact one of the following organizations, which can refer you to health professionals with certification or training in guided imagery:

The Academy for Guided Imagery
PO Box 2070
Mill Valley, California 94942
800-726-2070

American Holistic Medical Association and
American Holistic Nurses Association
4101 Lake Boone Trail, Suite 201
Raleigh, North Carolina 27607
919-787-5146

Questions and answers

Can imagery be used by children with headaches?

Children are especially receptive to imagery -- and it is particularly effective when used in conjunction with hypnosis (see Hypnosis, above) or biofeedback (see below).

I don't think I have a very good imagination. Will imagery work for me?

You may be surprised by the power of your imagination, even if you think you don't. Staunch realists may need more practice in developing ease with imagery.

Also consider that imagery should be relaxing -- not work. If it requires too much effort, and you get anxious trying to induce images, imagery may not be right for you.

Is guided imagery covered by medical insurance?

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Like many alternative treatments, guided imagery may be covered if recommended or performed by a healthcare professional.

Meditation

A look at the linguistic origins of the word "meditation" reveals its close link to healing. In Latin, both medicine and meditation share the same root, which means "to cure" and "to measure." Measure, in this context, refers to the platonic concept of measure -- that is, according to Jon Kabat-Zinn, founder and Director of the Stress Reduction Clinic at the University of Massachusetts Medical Center, its inherent quality of wholeness. Bringing the body and mind to its right inward measure means achieving a state of health, balance and wholeness that is in keeping with your essential being (*Healing and the Mind*, by Bill Moyers, Doubleday.)

By "stilling" the mind of its myriad earthly concerns, meditation offers access to the unconscious mind -- to some, it is a vehicle for spiritual unity. Sogyal Rinpoche, in *The Tibetan Book of Living and Dying* (HarperSanFrancisco) defines meditation as "bringing the mind home." But in recent years, studies have revealed significant health benefits of meditation, and nonreligious techniques have been developed to exploit them.

In the late 1960s, Herbert Benson conducted successful studies with people using meditation to lower high blood pressure. Since that time, a large body of research has accumulated supporting the value of meditation in helping to treat a number of health problems, ranging from anxiety and chronic pain to high cholesterol and substance abuse.

Some researchers assert that meditation's effects are less complicated. By helping to tame the mind, they maintain, meditation helps us cope with the

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stressors we face every day; it gives us control over the way we react to events that used to control us. And by lessening our reactivity to stress, we reduce the physical effects -- such as headache.

History

Meditation is as old as religion. Indeed, meditation is part of almost every spiritual discipline.

In the 1960s, researchers became intrigued by reports from India of meditators who could control functions of the autonomic nervous system such as blood pressure, which normally cannot be consciously altered. This led to research, which has been considerable, into the health effects of meditation.

In some practices, people meditate on a specific phrase or on the breath -- the aim is to clear the mind of distracting thoughts and to achieve mental stillness and clarity. Some techniques are very complex and disciplined, others rely on very simple mental or breathing exercises.

Today, meditation is used by many health clinics, notably the Mind/Body Medical Institute at Harvard Medical School and Dean Ornish's Stress Reduction Clinic at the University of Massachusetts Medical Center. It is advocated by many well-known physicians, including Deepak Chopra and Bernie Siegal. It is now on the curriculum of hundreds of colleges and universities. An estimated 6,000 physicians practice Transcendental Meditation™, a relatively new and popular form of meditation.

How it works

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As mentioned, it appears that meditation induces the "relaxation response" -- decreased heart rate, lower blood pressure and reduced levels of the stress hormone, cortisol, among other positive effects. With regular practice, meditation can produce generalized benefits -- that is, benefits which extend beyond the time of meditation into one's daily life.

Meditation offers a tool for dodging the effects of stressful events. Instead of reacting to the stress, people who meditate often find they can handle it more easily by returning to the still, calm place in the mind created by regular meditation. In this way, meditation can help interrupt the stress-headache cycle.

Recent studies suggest that, by reducing stress, meditation helps balance serotonin metabolism and "retune" an overstimulated nervous system.

Who can be helped

Though meditation should not replace care from a professional (especially if the cause of headache has not been investigated), meditation can help people with all types of headache to control their pain.

What to expect

There are many forms of meditation. It can be practiced while sitting (Transcendental Meditation), standing or lying down (Qigong) or moving (Buddhist Mindfulness Meditation). It can involve focusing the mind on the breath (yoga), a word (any word will do), or a phrase (a prayer). It can be spiritually oriented or nonsecular. In terms of health benefits, the type of

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meditation you choose to practice is less important than the amount of time you devote to it.

In general, the practice of meditation begins with sitting or standing in a comfortable position in a place with as few distractions as possible. Plan to meditate for 15-20 minutes. Some meditation instructors recommend closing your eyes, others advise keeping the eyes open; it's up to you.

Then, you will either silently (or out loud) repeat a single word or phrase. Or simply focus on the breath. Or imagine a specific peaceful image. During this time, many distracting thoughts and images will cross your mind's eye. Do not actively try to block them out. Imagine that these thoughts are floating on a river passing before you; here one second, gone the next. Simply continue to return to your point of focus.

Simple meditation exercise

This simple meditation exercise can be practiced by anyone:

- Find a comfortable position -- lying down or sitting either on the floor or in a straight-backed chair. If sitting, keep your back straight, without being rigid, and let your hands rest in your lap. If your feet don't reach the floor, place a stool or books beneath them so your feet rest on a firm surface.
- Scan your body for tension from head to toe and relax your muscles. Unfurl your eyebrows and unclench your jaw. Release your shoulders, arms and belly. Let your spine lengthen, without becoming rigid, and your chin pulled gently inward. Let your pelvis sink into the chair or ground.
- Be aware of the sensation of your body touching the earth (or firm surface).
- Close your eyes if you feel it's more comfortable.
- Focus your mind on your breath as you inhale naturally. Breathe through your nose if you can. Feel the breath fill your chest and then your belly.

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Keep focused on the breath as you exhale, feeling it leave your belly and your chest. Alternately, you can focus on the sensation of breath entering and leaving your nostrils.

- Keep your eyes directed toward the end of your nose.
- Keep your mind focussed on your breath.
- When thoughts cross your mind, gently note them, let them pass, and return to your breathing. Each time this happens, simply return to the breath.
- Continue for 15 minutes. It's okay to check the clock every so often.
- Sit quietly for a few minutes.

You can use the breath as a focus, or select a word. Any simple, positive word or name will suffice.

Treatment schedule

Daily meditation is generally recommended to achieve the best results in health improvement. Try to practice once or twice a day, 15 or 20 minutes at a time. But it is better to sacrifice time for consistency; if you only have 5 minutes, do it. Just as long as you do it every day.

Effectiveness

Meditation has been proven effective in many people with chronic pain, including headache. One study showed that 72% of meditators with chronic pain experienced a 33% reduction in pain after 8 weeks of meditation and 61% of meditators had a 50% reduction.

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Side effects and warnings

Though meditation is generally safe, there have been rare reports of negative psychological feelings after meditation retreats, and in schizophrenics, reports of acute psychosis.

Finding a reliable meditation instructor

Anyone can learn to meditate, and many people without certification or training teach it. Many continuing education services, YMCAs, religious organizations and universities offer courses in meditation. Check your community bulletin board. Also, see "Yoga" in chapter 7 for resources. The following organizations may also be of help in locating reliable meditation instruction resources:

Maharishi International University
1000 North 4th Street
Fairfield, Iowa 52556
515-472-5031

Information and referrals for Transcendental Meditation instruction

Institute of Noetic Sciences
PO Box 909
Sausalito, CA 94966
415-331-5650

Himalayan Institute of Yoga, Science and Philosophy
RRI Box 400
Honesdale, PA 18431
717-253-5551
800-822-4547

Questions and answers

I am not very spiritual or religious; is meditation for me?

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While meditation is a spiritual practice for many people, you do not need to be spiritually oriented to benefit from the health benefits of meditation. You might want to seek out instruction from alternative health clinics or educational programs, such as those offered by the YMCA.

Will I become less rational if I meditate?

Meditation is not known to erode the rational capabilities of the mind, rather, its relaxing effects may help sharpen mental acuity.

I don't have time to meditate twice a day for 15 minutes. What should I do?

A shorter period of meditation every day is better than missing days. Consistency is the key to the health benefits.

Is meditation instruction covered by health insurance?

It depends on your source for instruction. The likelihood of reimbursement is greater if meditation is part of a health program, for example at a stress reduction or pain clinic, or recommended by your health professional. Check with your insurance carrier.

Autogenic training -- another route to relaxation

Autogenic training, developed by German physician Johannes H. Schultz, means *coming from* (genic) *theself* (auto). It is a simple exercise that combines verbal, visual and sensory imagery to bring forth feelings of relaxation to different parts of the body.

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Autogenic training exercises can be used to divert your attention away from your pain -- for example, focussing on your hands or legs while you have a headache -- or as a regular practice to achieve general relaxation.

To begin, sit or lie down in a comfortable place. Close your eyes and direct your mind to your breathing. Use imagery that helps your breathing become more regulated. Many people use the image of waves rolling gently against a shore. As you imagine this, silently give your breath verbal messages, such as "My breath is free and relaxed..." Repeat this message, as you imagine your breath flowing like rolling waves through your body.

Use this same technique to relax the rest of your body, using whatever imagery you feel will bring you to a state of relaxation. Many people envision heat or heaviness ("My arms are heavy and warm, like melting honey") while others might feel more relaxed with coolness and lightness ("My head is cool and light as a balloon...").

You may want to spend more time on areas of tension, such as your neck and face muscles ("My neck muscles are opening and softening"). End the session with more breathing, and suggestions of calmness ("I am peaceful and calm").

BIOFEEDBACK

It was once thought that involuntary body responses (in medical parlance, *autonomic* responses) -- such as heart rate, blood flow, temperature and brain wave activity -- could not be consciously controlled. We now know that people

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can learn how to willfully control them. Biofeedback vividly reflects this mind-body effect.

Biofeedback is a term used to describe methods that measure specific autonomic responses and feed them back to the participant. When you use a thermometer to take your temperature, you're using a basic form of biofeedback. In its therapeutic use, sensitive instruments are used to measure specific physical processes. Typically, the biofeedback instrument is attached to the skin surface. It then amplifies and converts a physical response, such as muscle tension, into accessible information such as a flash of light or a beep -- in this way mirroring the normally veiled physical response. The participant uses this information to regulate these responses.

The most common types of biofeedback measurements include:

- *Electromyograph (EMG) feedback* measures electrical activity of muscles
- *Thermal (blood flow) feedback* measures blood flow and temperature
- *Electrocardiogram (EKG) feedback* measures heart rate
- *Electrodermal feedback* measures skin parameters, such as perspiration
- *Electroencephalograph (EEG) feedback* measures brainwaves

For headache, EMG and thermal feedback are the most frequently used.

The goal of biofeedback is to learn how to consciously regulate your own mental and physical processes for better health. Biofeedback has been used with great success in adults and children in relieving stress-related headache. Today, many health professionals who treat headache commonly use biofeedback.

History

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Biofeedback dates back to the 1930s when O. Hobart Mowrer used a liquid-sensitive alarm system to help children with bedwetting problems. But it gained national notoriety in the 1960s when EEG feedback was employed to monitor how yogis regulated autonomic functions during meditation. While still considered an alternative therapy, biofeedback is widely used in a number of applications, including pain control, by physicians, behavioral psychologists and pain experts.

How it works

For people with headache, two types of biofeedback are mainly used.

The EMG feedback can be used to regulate muscle tension, which we all understand to be a contributor to migraine, TMJ and tension-type headache.

Thermal biofeedback, used for people with vascular headaches such as migraine, redirects blood flow away from the head and toward the hands. The fingers are particularly sensitive to stress (blood vessel constriction) and relaxation (vasodilation).

However, researchers are still unsure about the mechanisms of biofeedback. Some believe that its effectiveness stems from its ability to reduce stress. But others think that the success of biofeedback goes beyond stress reduction. With biofeedback therapy, headache sufferers have been able to work specifically to increase vascular blood flow and relax tense muscles that trigger headaches.

Who can be helped

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People with all types of headache may be helped by biofeedback -- though it is important to make sure that the headache doesn't pose an immediate health risk before starting biofeedback. Children are particularly receptive to the effects of biofeedback (see *Effectiveness* , below).

What to expect

A reliable biofeedback therapist will first ask that you get a full medical work-up to rule out organic causes of your headache. Therapists may also rule out dietary causes, as well. It's a lot less expensive to stop eating aged cheese than it is to go through biofeedback!

Some therapists will a "stress profile" through biofeedback techniques, which offers a dynamic view of how the body responds under stressful situations. Using either thermal, skin responses or EMG biofeedback, electrodes from the biofeedback instrument will be placed on your skin -- either at your fingertips (for thermal feedback) or muscles (for EMG). The machine will take a few seconds to equal out. Then you will be asked to relax. This helps the therapist understand the relaxation skills you already have. You will then be asked to evoke different emotions -- think of something upsetting, something pleasurable and relaxing, something stressful. To gauge your stress level, you may be asked to do mental arithmetic.

During this time, you will get "fed back" your physical responses to these emotional challenges -- through either visual images or tones (or a combination) that reflect changes in your temperature, skin or muscle tension. The more stressful you are, the faster the image/tones will flash. The therapist or practitioner will then teach you relaxation techniques you can use in conjunction with biofeedback. By seeing or hearing how your body causes these responses,

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you will acquire skills to change the rate of flashes or tones, and alter your response.

The biofeedback images or tones can be computer-manipulated. There are graphic images, for example, that make biofeedback more engaging and fun for children to use.

After you understand how to use biofeedback, you will often be asked to practice on your own at home and to keep a daily log of your progress. Some practitioners will make a live audiotape, and ask that you practice twice a day, often in conjunction with relaxation techniques. The more you practice, the more effective biofeedback will be. Practice not only helps improve skills, it helps create a *generalized* response -- whereby the effects can be applied to different settings and situations.

Biofeedback can also be used as a springboard for examining your emotions and how they contribute to stress. In some practices, counseling is an important complement to biofeedback -- and family therapy may be particularly useful for children.

While biofeedback can be performed alone, having a therapist involved can be very useful in providing motivation and structure. Knowing that you have to report to someone may help improve your likelihood to practice throughout the week.

Treatment schedule

The biofeedback sessions with a therapist may continue until you learn how to use biofeedback on your own, or experience relief of your headache. They last 30 minutes to an hour. In some cases, the therapist will use one type of biofeedback

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-- usually muscle relaxation -- for several weeks and, if there is no response, try a different kind such as thermal training.

Children are extremely receptive to biofeedback, and usually learn within 5-6 sessions. The patterns are less entrenched in children. Also, they don't have as many biases against psychological or behavioral approaches, as adults may have. Because biofeedback is so successful in children, if they fail to respond quickly, therapists usually move to a different approach entirely, such as family therapy.

With adults, the physical patterns are more embedded, and it may take 20 or more sessions before they learn to "retrain" their headache patterns.

Effectiveness

Biofeedback has proved very effective for adults and children in managing a variety of types of headache, including TMJ. In general, about 50% of people with headache will improve by between 50% and 80%.

Children

Reports indicate that biofeedback is successful in treating up to 93% of children with chronic headaches. In one recent study, all children with tension headache between the ages of 12 and 15 who went twice a week for 12 sessions had significantly less headache pain, which continued for at least one year.

Adults

A number of studies have shown that biofeedback helps adults manage their headache pain. In one study, an 8-week program of biofeedback and autogenic

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training in people with a variety of headache types produced reductions in headache that lasted for up to one year.

Side effects and warnings

There are no side effects to biofeedback. However, people with a cardiac pacemaker or heart problems should check with their doctor before getting biofeedback.

Finding a reliable biofeedback practitioner

While you can learn biofeedback on your own (see *Resources*), the effectiveness may be better with the initial guidance of a trained biofeedback practitioner or therapist. There are about 10,000 biofeedback practitioners in the United States, 2,000 of whom have received certification from governing institutions. For referrals, contact:

Biofeedback Certification Institute of America
The American Association for Applied Psychophysiology and Biofeedback
10200 West 44th Avenue #304
Wheat Ridge, Colorado 80033-2840
800-477-8892
In Colorado: 303-420-2902

Questions and answers

Isn't it dangerous to have electricity flowing into the body?

Electricity doesn't actually courses through your body; it only penetrates the top skin level to pick up surface responses. There have been no reports of adverse

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effects with biofeedback -- although people with pace makers or serious cardiac problems should get their doctor's okay before starting biofeedback.

Is biofeedback covered by medical insurance?

Many insurance companies cover expenses for biofeedback -- but not all. Check before starting.

PSYCHOTHERAPY AND BIOFEEDBACK

With chronic illness like headache, distinguishing emotional from physical causes can be like untangling a knot of silk threads. Briefly, here are a few ways they interact:

- *Stress and anxiety are common headache triggers.*
- *Chronic pain can erode emotional stability.* Feeling unable to control pain can give rise to many negative feelings -- helplessness, anxiety, vulnerability and, in some cases, depression are just a few examples.
- *Negative emotional states can lower the threshold to pain.* When we feel good emotionally, we generally can tolerate more physical pain. Feeling bad emotionally makes pain feel more intense.
- *Pain may be a symptom of negative emotions.* Emotions are sometimes translated into physical symptoms. This effect is called *somatization*. Headache, for example, is a common symptom of depression. But this does not mean that the headache is any less real or worthy of attention.

Stress is subjective. What determines whether an event is stressful or not is how we perceive it. It is the goal of many psychotherapeutic methods to increase our

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awareness of how we react to life events, and to find ways of making them work better for us.

The word psychotherapy is a Greek word meaning "healing of the soul." In recent years, psychotherapy has taken on many forms -- but all aim to guide the individual toward better self-understanding, harmony or physical health through examination of the mind's patterns.

There are many types of psychotherapy. While psychoanalysis, counseling and family therapy may be useful in relieving headache, *cognitive restructuring*, *behavioral therapy*, and *support groups* have proved particularly helpful for people suffering from chronic pain.

Cognitive restructuring

In essence, cognitive restructuring is a fancy term for giving yourself "a good talking to." Originated by Aaron Beck, a psychotherapist, in the 1960s, cognitive restructuring operates on the idea that cognition -- or perception -- is a powerful influence on the way we experience events, such as pain. Rather than focus on actions, as behavioral modification does, cognitive restructuring homes in on thoughts and attitudes that *create* behaviors. For example, negative attitudes about headache can be self-fulfilling; if you believe that you will be in pain, you are more apt to be. In addition, these negative attitudes can contribute to stress and muscle tension.

Cognitive restructuring allows us to re-evaluate the events in life as opportunities, rather than set-backs. In this way, cognitive therapy can defuse a stressful event of its power to cause physical or emotional pain. For example, just as we may talk ourselves into pain by having anxiety about it before an

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important event ("I have to make a big presentation tomorrow. I know I'll get a migraine"), we can re-evaluate our feelings and find ways of making it a positive situation ("I have nothing to worry about because I'm well-prepared for the presentation, so there's no reason for me to get a migraine tomorrow.") In essence, cognitive restructuring helps you create a more positive internal dialogue.

To achieve this, you may be asked to keep a headache diary, noting when you experienced pain, your thoughts about it and the actions you took. Looking at this diary will help you find patterns in the way you "talk to yourself" about headaches, or even how stressful events contribute to their onset. Then, you and your therapist (though you can do this alone, too), will devise constructive ways of breaking those patterns, such as relaxation training to cope with stress, or positive new thoughts to replace negative ones.

Giving yourself a good talking to can be very effective. In one study, people who suffered chronic tension headaches who did cognitive restructuring found between 43% and 100% improvement, compared with no improvement among people who did not [Mind-body healing, p 321]. And its success can be enhanced by combining it with behavioral therapy, relaxation techniques or biofeedback.

Behavioral therapy

The main tenet of behavioral therapy is that all behaviors are learned or conditioned through positive reinforcement -- and they can be unlearned and replaced through positive reinforcement.

According to behavioral therapists, habitual, counterproductive ways of coping with chronic pain can become embedded in the brain due to positive

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reinforcement. Following this reasoning, it's easy to see how some people become dependent on pain relieving drugs: the pain relief becomes the positive reinforcement for the behavior of taking drugs.

Behavioral therapy aims to break negative patterns by first identifying your "pain behavior" -- how you consciously and unconsciously manage pain. Second, behavioral therapy helps you pinpoint ways of breaking those patterns with individually-tailored exercises or tasks. Positive reinforcement is given for achieving these tasks, and withheld when they are not performed.

Cognitive therapy and behavioral modification have been used hand-in-hand, with much success for people with tension-related or migraine headaches. In one recent study, a combination of cognitive and behavioral therapies lowered the number and intensity of chronic tension-type headaches by 56% -- results that were superior to the headache drug, amitriptyline. At least eight other studies have shown about 61% reduction in the same parameters, using cognitive therapy either alone, with relaxation techniques or with behavioral therapy.

Social support

The positive power of support groups claimed widespread attention with a study by David Spiegel, a psychiatrist at Stanford University, who found that women with breast cancer attending support groups lived twice as long as those who did not. Though increased longevity is a goal most desire, it is not necessarily a the top-of-mind issue for people with chronic benign headache -- but the other benefits of social support may be.

Support groups can help people cope with pain in several ways. For example, many people feel isolated by their pain. Spending time with people

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who have similar problems can feel like a safe way of socializing. It's also a good way to pick up tips on coping with pain, to share experiences and vent emotions.

The healthful effects of helping

A variation of getting social support is being *supportive*. Compassion and engaging in altruistic efforts has been shown to produce a "helper's high" -- a feel-good effect that can translate into relief from a number of chronic conditions. At least that's what was seen in a large study of volunteers for Big Brother/Big Sister of New York. In his study, executive director Allan Luks found that volunteers reported fewer symptoms of chronic headache, back pain and stomach ache.

Why does helping help? Some observers suggests that taking part in a cause that is bigger than yourself elicits some of the same physical "relaxation" response as meditation and yoga. Other early research seems to indicate that social bonding releases endorphins.

Helping can take many forms, but the most effective, health-wise, are efforts that involve regular, personal contact with people who are not family members.

Finding a reliable therapist, counselor or support group

Ask your doctor or healthcare professional for a referral. Or contact one of the

organizations below for referrals to qualified therapists in your area:

The Center for Cognitive Therapy
The Science Center, Room 754
3600 Market Street
Philadelphia, PA 19104
215-898-4102

For support groups

The American Self-Help Clearinghouse

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St Clares-Riverside Medical Center
25 Pocono Road
Denville, NJ 07834
201-625-7101

American Psychiatric Association
1400 K Street NW
Washington, DC 20005
202-682-6000

American Psychological Association
750 First Street NE
Washington, DC 20002-4242
202-336-5700

National Association of Social Workers
750 First Street NE, Suite 700
Washington, DC 20002
202-408-8600

ENERGY METHODS

Energy therapy, or laying on hands, is as old as healing. Hieroglyphics, ancient Chinese texts and Hippocratic writings all make reference to the therapeutic power that emits from the healer's hands. Some believe that this power is mediated by a higher force; faith healing is an example. Others explain the human energy field as the mechanism of healing.

While the latter theory suggests a physical effect, the power of these healing methods originates in the mind, in the intent, of the healer. In this way, more direct healing methods such as Therapeutic Touch and Reiki intersect with nondirect methods such as prayer -- all of which depend on the willed thoughts and energies of an individual.

Prayer

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Meaning to beseech or implore, prayer is central to virtually every spiritual discipline. Its link with healing is almost implicit: in this religious context prayer is often used to connect with a higher power.

But prayer also can be a vehicle for self-generating health. Though religious sources may prescribe specific prayers, it does not seem to matter *how* one prays. It can be a social or individual effort, spoken out loud or silently, directed to a specific deity or not. Herbert Benson, a founder of the Mind/Body Institute at Harvard University Medical School, found that prayer, like meditation and other mind-focussing techniques, can induce the relaxation response.

However, prayer may also engage another dimension, which is termed "nonlocal" by Larry Dossey, MD, author of *Healing Words: The power of prayer and the practice of medicine* (HarperSanFrancisco). That is, the intent of prayer is often to directed to the healing of another being at a distance.

That prayer can be effective in helping another person has been shown (albeit inconsistently); why it works has not. The concept of a universal energy, or energy fields, that transport the healing intent of one person to the next, has been used to explain the power of prayer and other nonlocal or 'at-a-distance' healing methods. This "naturalistic" explanation is countered by those who endorse a "supernatural" medium for healing -- a proposed mechanism that implies belief in the existence of a supernatural being.

Scientific research into the effects of prayer are few, but growing. A compilation of this research on spiritual healing can be found in a book by David J. Benor, MD called *Healing Research* (Helix Verlag GmBH, 1993). In it, Dr. Benor documents over 131 controlled trials of people who intentionally tried to exert influence on the physical nature of another being. Some of the studies include

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effects on life forms such as bacteria, but there is one study documenting the efficacy of Therapeutic Touch (see below) on tension headache.

Therapeutic Touch

Therapeutic touch is a modern method of healing based on some of the same energy concepts that guide many ancient systems of medicine. As with traditional Oriental and Indian approaches, Therapeutic Touch adheres to the belief that there is an invisible energy (qi, prana) within us all that can be accessed and directed to therapeutic benefit. A nonreligious and common expression of this concept is the soothing effects of touch to the ailing infant. Therapeutic touch is a formal way of harnessing that natural phenomenon.

The term Therapeutic Touch, as it exists today, is something of a misnomer. While originally the practitioner made physical contact with the subject, now the hands generally rest several inches away from the ailing person's body.

History

Therapeutic touch has its roots in the ancient healing method known as the *laying on of hands*. It was not until the mid-1970s that Dolores "Dee" Kreiger, PhD, RN and Dora Kunz, a clairvoyant and healer, formalized this age-old method and called it Therapeutic Touch. Though originally a method linked with religious ritual and beliefs, Therapeutic Touch today is a nonsecular approach, practiced and received by people without religious overtones. Refinements on the technique (described below) and research into its clinical benefits are underway.

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Today, Therapeutic Touch is widely used by clinicians, nurses, therapists, massage therapists and psychologists, as well as laypeople without any kind of formal medical background. It was one of the first courses in healing to appear on the curriculum of an accredited college or university. Therapeutic touch has been taught to more than 42,000 people, and exists on more than 100 college and university curricula.

How it works

That Therapeutic Touch works to relieve muscle tension, reduce swelling and eliminate headaches has been shown in an uncontrolled study and anecdotal reports; the reasons why it works has not. It is postulated that, through the transfer of energy from one person to another, Therapeutic Touch helps restore balance to the immune system, laying the foundation for the body to generate its own healing abilities.

Therapeutic Touch does not aim to relieve symptoms, but to help the entire person. A true holistic modality, Therapeutic Touch engages the whole individual to help bring about a state of health.

Who can be helped

As a completely safe and non-invasive method, there are no limits to the type of headache that can, theoretically, be helped with Therapeutic Touch. However, it is very important that you seek medical attention to rule out life-threatening causes of headache before going to Therapeutic Touch.

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What to expect

There are four phases to a Therapeutic Touch session: centering, assessment, balancing and reassessment.

For your session with a Therapeutic Touch practitioner, wear loose, comfortable clothing. You will lie down on a table, or a mat on the floor, while the practitioner stands or sits near you. In most cases, the practitioner will never touch you; for most of the session, her hands will be suspended several inches away from your body.

Centering

The practitioner will first sit silently beside you for a few moments. During this time, she is directing her energy inward to a state of stillness, awareness of her own and your energy field, receptivity, and empathy.

Assessment

Once centered, the practitioner will suspend her hands 3-5 inches over a part of your body. During this phase, she is trying to pick up sensations that might indicate energy imbalance -- roughness in the energy field, changes in temperature, etc. -- and signs of balanced energy, which may be experienced as a gentle vibration. At the same time, you might feel similar sensations.

Balancing

As with traditional Eastern systems, Therapeutic Touch aims to balance excesses in energy and remove blockages. Toward this end, the practitioner, through directed thought and movement of her hands, will "smooth out" roughness, reduce heat with coolness (or vice versa), etc. During this time you may feel

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sensations of energy movement, such as a release of tension or changes in temperature, or relaxation, or pain relief.

Reassessment

At this point, the practitioner determines whether the energy has been balanced, and whether to move on to another area of the body.

Treatment schedule

Each Therapeutic Touch session lasts about half an hour. The number of sessions you need depends on many factors. The treatment schedule depends on your results, your connection with the practitioner, and your commitment to the approach.

Effectiveness

The effectiveness of Therapeutic Touch in the prevention or treatment of headache is still anecdotal. However, at least two studies have shown Therapeutic Touch to effectively reduce stress; in one study, the results were statistically significant. In another study of people with tension headache, 5 minutes of Therapeutic Touch significantly reduced headache

Side effects

A completely non-invasive method, Therapeutic Touch is free from side effects.

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Warnings

There are no warnings associated with treatment with Therapeutic Touch, however, there may be danger in delaying care for a life-threatening condition. Be sure to rule out organic causes of disease before starting any alternative modality.

Finding a reliable Therapeutic Touch practitioner

Anyone can learn Therapeutic Touch because, according to proponents, anyone with awareness has the basic "tools" needed for healing. There are numerous seminars, books and tapes available. Anyone can practice Therapeutic Touch. If you feel more comfortable with a practitioner associated with a professional organization, contact the Nurse Healers Professional Associates -- a good source for information on books, seminars and referrals to practitioners who have undergone some formal training. Not all members of the organization are nurses.

Nurse Healers Professional Associates
PO Box 444
Allison Park, PA 15101
412-355-8476

Questions and answers

How do I know if Therapeutic Touch is working?

The best sign is relief from your headaches. If used as a preventive measure, it may take some time to recognize an improvement in your pattern of headaches.

How do I know if the practitioner is qualified?

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Since you do not need to be licensed or certified to practice Therapeutic Touch, you have to rely on your instincts and results. Some practitioners have received training; ask about it. By the same token, you could learn Therapeutic Touch, or take some courses with a partner or friend, so that you can practice it on each other.

Is Therapeutic Touch covered by health insurance?

Many practitioners of Therapeutic Touch also perform other types of therapy -- many are nurses, physical therapists, massage therapists. If the type of treatment your practitioner generally offers is covered by health insurance, and Therapeutic Touch is one of the modalities he or she uses, it may be covered. Check with your practitioner.

Reiki

Reiki is a Tibetan healing art which means "universal life energy." While it recognizes the presence of a higher intelligence, Reiki is not a religion. Like Therapeutic Touch, Reiki is used by people of all religious (or nonspiritual) backgrounds and is regarded as an adjunct to other healing practices by a growing number of healthcare professionals. Yet, unlike other methods that draw on universal energy (such as traditional Oriental medicine and Ayurveda), Reiki students are formally initiated into the practice through ceremonies that can have distinct spiritual overtones.

History

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Reiki's sources trace back to ancient Tibetan writings. But it was not until the mid-1800s that Mikau Usui, the head of a Christian seminary in Kyoto Japan, uncovered a series of healing methods in ancient Buddhist texts, called *sutras*. He termed the process Reiki.

Usui passed his learnings on to a Japanese physician, who in turn treated and initiated Madame Hawayo Takata into Reiki. It was through the work of Madame Takata that Reiki became introduced to the West.

How it works

The mechanism for Reiki healing is very similar to that of Therapeutic Touch (see above). However, the initiation into Reiki practice is often much more elaborate.

The initiation, or *attunement* process, involves a series of steps and rituals designed to open the chakras, or energy centers, of the body in order to receive and fine-tune the universal healing energy.

The initiate in Reiki goes through up to Four Degrees or steps of training. In the First Degree, students learn ways of healing themselves and others through physical or near-physical touch. In the Second Degree, attunement is directed toward intensifying the flow of energy and the practitioner's commitment to the concepts of Reiki practice. The Third Degree is available only to students who are seriously committed to Reiki, and are exposed to a more powerful degree of Reiki energy; in some schools, Third Degree graduates are called Master Therapists. The Fourth Degree is that of Master Teacher, available only to select individuals who want to dedicate their lives to the preservation of Reiki.

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Who can be helped

Since Reiki does not purport to treat specific illness, but the individual, anyone may theoretically benefit from Reiki.

What to expect

The experience of Reiki may feel very similar to that described for Therapeutic Touch. The therapist rests his or her hands on or above the body to access specific energy centers, or chakras. In Reiki, the positioning of the hands is very specifically prescribed, and usually held for 5 minutes until the therapist perceives a change in energy flow. As with Therapeutic Touch, you may experience changes in temperature or sensation .

Treatment schedule

The sessions last between 60 and 90 minutes, and can be continued for as many sessions as you think necessary.

Effectiveness

Though there are many anecdotal reports that Reiki helps relieve pain and headache, it has not been subject to much formal study.

Side effects and warnings

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There are no known side effects to Reiki. As with all alternative treatments, make sure your doctor rules out any potentially dangerous causes of your headache before pursuing Reiki.

Finding a reliable Reiki therapist

There are several organizations which give training for Reiki practitioners.

Contact the following organizations for names of individuals who have undergone Reiki training in your area:

The Center for Spiritual Development
Center for Reiki Training
29209 Northwestern Highway, #592
Southfield, MI 48304
800-332-8112
In Michigan: 810-948-8112

Reiki Alliance
PO Box 41
Cataldo, Idaho 83810
202-682-3535

Questions and answers

Do I need to have strong spiritual beliefs to benefit from Reiki?

Reiki is a healing process and, while the practitioner may have strongly held spiritual beliefs, it is not necessary that you uphold them to benefit. Like Therapeutic Touch, Reiki practitioners believe that the universal healing energy is accessible to everyone, regardless of their spiritual belief system, or lack thereof.

Is Reiki covered by medical insurance?

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Like Therapeutic Touch, it depends on who administers Reiki -- it's more likely to be covered if a nurse or physical therapist performs it -- and the limitations of your specific insurance plan.

CHAPTER 9: BOTANICAL REMEDIES

The green gifts of Mother Earth are individual,
singular, unique.

Healing Wise, Susun Weed

Herbal therapy

Aromatherapy

Of all the healing methods used by humankind, none have been more consistent or universal than plant remedies. In contrast with the pharmaceutical industry, which extracts and synthesizes the purported *active ingredient* of a plant into drugs -- about 25% derive in some way from plants -- herbalists generally believe that the power of herbs extends beyond their extractable essences. In their whole form, therapeutic plants often have complementary qualities that may help protect against side effects and, according to some schools of thought, help balance and restore harmony in awareness.

In this chapter we will look at three forms of botanical remedies: herbal therapy, aromatherapy and flower essences. At the end of the chapter, you will find guidelines for preparing herbs for these remedies.

IMPORTANT CAUTIONARY INFORMATION

Scientific information presented in this chapter is usually considered preliminary and is not meant as a recommendation to take particular substances.

Not all herbs are safe. By law, therapeutic claims cannot be made for herbal preparations that have not gone through the review process of the Food and Drug Administrations. This means that herbs are not considered medicine, and should not be touted as medicine. You should be wary of any herb resources that make fantastic claims for cures.

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In this section, we provide information from published sources about the potential benefits of plants. Most reports of their success in helping people with headache are anecdotal or traditional -- the herbs have not undergone clinical study. I urge you to exercise caution in taking plant-derived herbs on your own.

HERBAL THERAPY

Though botanists may define herbs as the leafy part of a plant, herbal preparations may employ the leaf, flower, berry, stem, or root -- in short, any part of the plant. Depending on the herb and its use, plants can be taken in a variety of forms -- dried in their whole form, teas, capsules, tinctures, oils or ointments.

The roots of herbal therapy traces back to the earliest days of humankind. It is the foundation of all medical systems; about 80% of the world's population still relies on traditional therapies, and herbal treatments are a mainstay.

Today, India leads the world in the use of plant-based medicinals, according to the American Herb Association. In the Ayurvedic medical tradition, herbs are characterized by their taste, or essence, which are used to bring harmony to constitutional imbalances that contribute to illness. Classic Ayurvedic texts describe more than 500 plants with therapeutic value. Often, the plant preparations take the form of herbs in foods or oils applied to the body in massage.

Herbal therapy is also a central healing modality in traditional Chinese medicine. Like dietary prescriptions, Chinese herbal medicines aim to bring balance to blockages in the circulation of qi, the universal life force. A recent compilation of medicinal plants contain 5,767 entries. Traditional Japanese medicine, called *kampo*, combines Chinese herbal traditions with Japanese folk medicine.

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These are just a few medical systems that rely on herbal therapies. A long tradition of herbal medicine in Native American cultures still thrives among many groups today. Naturopathic medicine, which advocates the healing power of nature to treat the whole individual, makes ample use of herbal medicine.

The modern Western application of herbs has largely taken the form of pharmaceutical preparations. However, a more naturalistic approach to the use of herbs is now experiencing a renaissance. Many organizations have sprung up over recent years to formally study the medicinal qualities of plants. In addition, herbal approaches dovetail with the revival of holistic, environmental and spiritual movements.

History

There is evidence of herbal medicine in the burial site of a Neanderthal man dating back 60,000 years. Throughout history, plants have been extolled not only for their medical value, but for use as foods, dyes and parts of religious ceremonies. Written records of herbal therapies can be found in Sumerian texts over 7,000 years old. Ancient Chinese medical texts dating to 2,500 B.C. document more than 300 herbal remedies. Hippocrates extolled the virtues of plants as a way to preserve the life force. Hundreds of *herbals* (herb books) have been written since the Middle Ages. The tradition of herbal healing continued, virtually uninterrupted, until the 17th century when rationalism began to supplant folkloric medical approaches in favor of chemical medicine.

The pharmaceutical industry, which has disparaged the use of herbal and "unproven" therapies, actually owes a great debt to traditional herbal medicine; an estimated 25% of the drugs in use today were either derived directly from, or synthesized to imitate, natural plants -- and 74% of these were discovered based on traditional uses. Indeed, in its search for more products, many

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pharmaceutical companies are now investing time and money to investigate the chemical properties of plants.

Today, as the limitations of pharmaceuticals become more apparent -- side effects and the inability to effectively manage chronic illness -- there has been a renewed interest in less invasive and more natural approaches, such as herbal therapy. In Germany, for example, an estimated 40-80% of physicians regularly prescribe herbal medicines. In France, herbal medicines are reimbursed 40% by the national health plan.

How it works

There are several views on how herbal medicines work. The scientific tradition see herbal remedies like drugs: they have chemical qualities that exert biologic effects on different parts of the body to treat specific disorders. From this perspective, herbs fit nicely into the allopathic view of medicine, which advocates treating a disease with an opposing agent (eg, treat bacterial infection with an antibacterial).

Naturopathic physicians and many herbalists endow herbal remedies with wider-ranging properties. While the end-effect of herbal remedies may have measurable effects on specific body systems -- the route toward these effects is quite different, and this is what makes the difference in their safety and overall health value. Rather than working directly *against* a specific condition, herbal preparations purportedly work *with* the body to stimulate its own healing abilities, say naturalistic herbalists. As expressions of life themselves, plant remedies may be more gentle on the body than drugs -- more easily absorbed, metabolized and excreted. As unpurified compounds that contain a variety of complementary qualities, herbal therapies may be used to treat more than one

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type of condition. And, as indirect methods of achieving a result, they may take longer to take action.

General guidelines for taking herbs

Herbs are not all harmless

Herbs may be very potent and, in some cases, very harmful. It's important that you follow directions as closely as possible to get the best effect. Start out by seeking the advice of a qualified professional with a background in herbology.

Find good sources for your herbs

Some of the herbs come from your kitchen pantry, such as ginger. Other must be ordered or bought from a store. Make sure that your herbs come from reliable sources (we'll list organizations to help you find them in the *Resources* section).

Avoid herbal capsules or pills, which often have been stored for long periods.

Herbs should optimally be:

- Fresh-dried and locally grown -- helps ensure that they have not been stored for long periods
- Organic (free of pesticides)
- Bought in small amounts at a time to preserve freshness
- Have a pungent aroma and firm texture; avoid herbs that look brown and crumble easily

Proper storage preserves potency

Store herbs in dark-colored, sealed containers away from light and heat.

Dosages for children should be reduced

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The doses we recommend in the following pages are for adults. Dosages for children should be reduced, based roughly on body weight:

Children 10-14 years = 1/2 adult dose

Children 6-10 years = 1/3 adult dose

Children 2-6 years = 1/4 adult dose

Infants = 1/8 adult dose

If you are pregnant, exercise greater care

Before taking any herb, seek the advice of your doctor or person who specializes in women's health.

Essential oils of herbs are often more potent

Some herbs, such as pennyroyal, can be very toxic or even lethal when taken internally in the form of essential oils. Consult the *Aromatherapy* section for guidelines on effective herbal preparations for headache.

Specific herbs for headache

What follows is a compendium of herbal remedies that may be of help for people with headaches. Wherever possible, we will include studies that confirm their effectiveness, however most of the reports are anecdotal and their use in headache remains unproven by modern medical standards.

Ayurvedic herbals for headache

Note: avoid if you have very sensitive skin.

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- General headache remedy: mix 1/2 teaspoon ginger powder with water to form a paste; heat and apply to forehead. May cause a slight burning sensation.
- Sinus headache: apply ginger paste to forehead.
- Headaches at the temples: mix 1/2 teaspoon cumin and 1/2 teaspoon coriander seeds in one cup of hot water. Apply a paste of sandalwood to the temples.
- Headache at the base of the skull: mix one teaspoon of flaxseed with a warm glass of water and drink before bedtime. Also, apply ginger paste behind the ears.

Burdock root

(Articum lappa)

Burdock root is a popular vegetable and a remedy which is harvested in the spring.

Effectiveness

Burdock root has a wide range of qualities which may be of benefit to the headache sufferer. It is a potent blood purifier and immune system booster (useful for people with food allergies). Long-term use of burdock *root* may help stabilize blood sugar in people with hypoglycemia, though short-term use may lower it . In combination with dandelion, burdock *root* or *leaf* may help headaches around the top of the head and forehead and assuage PMS-related headaches, though alone it may also increase estrogen levels.

Dosage

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Infusion of dry burdock *root*: 1 - 2 cups a day

Tea of burdock *leaf* : 1/4 - 4 cups day

Cayenne pepper

(*Capsicum frutescens*)

Capsaicin is the main ingredient in hot peppers.

Effectiveness

Capsaicin has a long history of pain relief. It has been shown to stimulate and block pain fibers by depleting them of substance P, in this way inhibiting platelet aggregation and pain. Capsaicin has been shown effective in the treatment of cluster headaches in a few studies.

In one study, intranasal use of a capsaicin ointment cluster headaches were reduced not only in quantity, but severity when compared with a placebo.

Dosage

Capsaicin can be made at home by mixing cayenne pepper with water to form an ointment and applied near the nostrils, or a commercial ointment containing 0.025% or 0.075% capsaicin can be bought over the counter.

Side effects and warnings

Capsaicin may cause burning or irritation of the skin near the sensitive mucous membranes of the nose. Also, avoid excessive and prolonged use, which may cause intestinal, liver or kidney problems.

Chamomile

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(Anthemis nobilis)

English Chamomile, also known as Roman Chamomile is the type of chamomile used for headache disorders -- not to be confused with German Chamomile.

The *flowers* of this pretty and pleasant-scented herb have traditionally been used therapeutically. The *essential oil* of chamomile can be used as well (see *Aromatherapy* , below).

Effectiveness

Chamomile tea is a known sedative, offering body-wide relaxing effects. It also has been shown to have antihistamine effects, so it may be of help in immunologically-related allergies. In addition, chamomile has relaxing effects on the smooth muscles of the intestine. It has been traditionally been useful in relieving nausea associated with migraine and in the relieving the stress associated with PMS.

Dosage

Chamomile tea: 1/2 ounce flowers steeped in 2 cups of water for up to 20 minutes.

Chamomile oil: see *Aromatherapy* below

Side effects and warnings

There are no known side effects or warnings associated with chamomile tea in moderation (no more than 2 cups a day), however people with hayfever or allergies to plants may have an allergic reaction.

Dandelion

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(Taraxacum officinale)

This scourge of suburban lawn-tenders is one of the most vital of herbs; virtually every part of the dandelion may have healthful benefits. The zesty leaves make a good salad, and are filled with minerals and vitamins that are good for the headache sufferer, including *magnesium* and *B vitamins* .

Effectiveness

Dandelion is a mild laxative and digestive, thus offering help for people with constipation-related headaches. In combination with burdock root, long-term use of dandelion can help relieve headaches and PMS-related disorders.

Dosage

Dandelion leaf infusion: 1/2 to 2 cups a day

Feverfew

(Tinacetum parthenium)

The benefits feverfew as a headache remedy date to the early 17th century. A close cousin of Roman chamomile, it is referred to in Europe as *grande camomile* and *matricaria parthenium*.

Effectiveness

Feverfew has gained much attention for its studies showing it as a well tolerated way of preventing and treating migraine headache -- though there are suggestions that it may be of help for people with cluster headaches and menstrual-related headaches as well.

Its purported effectiveness is attributed to a group of compounds called sesquiterpene lactones, which inhibit platelet clumping, serotonin and

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prostaglandins (which cause inflammation), and improve blood vessel tone. It has been studied in the laboratory, in animals and in humans.

The first known report of its use, from *Prevention* magazine, was of a 68-year-old woman who had suffered migraines for 52 years. After chewing three feverfew leaves every day for ten months, her migraines disappeared. There have been several studies of feverfew in people with migraine. In one, a survey of 270 migraine sufferers who chewed feverfew leaves, 70% found relief in the number and severity of their attacks.

In another, a well-controlled clinical study, 59 people with migraine took either dried feverfew leaves in capsules, or a placebo. The results were reported in the medical journal, *The Lancet*. After four months, they switched regimens. Feverfew reduced the number of migraine attacks by 32%, and the severity of attacks by 26% in people who had migraine with aura. Among those who suffered migraine without aura, the number of attacks was reduced by 23% and the severity by 13%. The main side effect was mouth ulceration, but there were more reports of this effect among people taking the placebo.

Dosage

Based on the above studies, some researchers recommend taking 125 mg of a dried feverfew leaf preparation that contains at least 0.2% parthenolide. But there is some debate over this. In investigating feverfew, the head of the Natural Products Bureau of Drug Research in Canada found that dried feverfew leaves lose up to 20% of their potency if left at room temperature for a year, and 50% after 2 years. However, there has been reports that the flowerheads contain up to four times as much parthenolide as the leaves.

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Since the effectiveness of feverfew flowers has not been studied, and may contain pollens that cause allergies, it's recommended that people use the leaves. Chewing two fresh or freeze-dried leaves will give you about 170 mg of feverfew; alternately, you can take 125 mg of prepared, dried feverfew that contains at least 0.2% parthenolide. Make sure that the preparation or the fresh leaf is *authenticated* feverfew, that is, *tarnacetum parcenium* .

Side effects and warnings

Though relatively safe, feverfew may cause mouth sores or stomach upset, which caused 7-8% of people in studies to stop taking it. The mouth sores are *not* caused by contact direct with fresh or dried leaf -- they've been seen in people taking encapsulated forms as well. Some researchers do not recommend feverfew for pregnant or lactating mothers, or for children under two. Consult your physician, herbalist or naturopathic physician if you want to take feverfew for more than 4 months in a row.

Ginger

(Zingiber officinale)

Traditional use

Ginger has been used medicinally in China for thousands of years, and is a common ingredient in many foods in China, Japan and India for its taste and digestion-enhancing qualities. It is also an Ayurvedic medicinal to treat pain and related conditions.

Effectiveness

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Ginger has anti-inflammatory qualities; it not only reduces inflammation of blood vessels, and the pain-sensitizing chemical prostaglandin, but helps reduce platelet clumping. It also may help improve circulation.

There is anecdotal and folkloric information about the effectiveness of ginger in relieving headache. In one recent report, a 42-year-old woman with migraine took ginger at the beginning of an aura and found relief within 30 minutes. The dose she took was 500-600 mg powdered ginger in water. She then started adding fresh ginger to her meals and found marked reductions in her pattern of migraine.

Dosage

As a tea:

- One ounce fresh ginger root (rhizome) to two cups water.

As a paste: use fresh ginger cut up finely or powdered ginger with water to form a paste. Apply directly to the head.

Side effects and warnings

Ginger should be avoided in pregnant women.

Ginkgo

(Ginkgo biloba)

Ginkgo is mentioned in the traditional Chinese herb texts, and has been extracted into drugs in Germany and France.

Actions

Headache Alternative

In a recent report in the *Lancet*, ginkgo was shown to help increase blood flow and inhibit platelet clumping. In Germany, it is licensed for use in headaches and anxiety.

Dosage

Taken as an extract, most studies have shown it to be safe at 120-160 mg a day, in three divided doses. It takes up to 6 weeks before people start experiencing relief.

Golden Seal

(*Hydrastis canadensis*)

Golden Seal has been traditionally used by many Native Americans for skin diseases. Recently, it has been found to lower blood pressure, and reduce bacteria. It is also of value in relieving headaches related to sinusitis.

Effectiveness

Golden seal contains chemical compounds, known as alkaloids, that have an astringent effect, drying out mucous membranes and reducing inflammation.

Dosage

It's best to drink golden seal as an infusion, of 1/4 part golden seal root with one part echinacea, eyebright and peppermint. Drink no more than one cup for no longer than one week.

Side effects and warnings

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Golden seal stimulates the uterus and must be avoided in pregnant women. Due to its blood pressure-lowering effects, it should also be avoided if you have low blood pressure.

Guarana

(Paullinia cupana)

The seeds from guarana are powdered and used to make a beverage that is popular in Brazil for relieving chronic headaches and migraines.

Effectiveness

Guarana has been shown to inhibit platelet clumping in studies. Its traditional use for headache is probably attributed to the high caffeine content. As we know, caffeine can be a double-edged sword for the headache sufferer; it can relieve headache in moderate doses (it's part of several headache drugs), or trigger them for some sensitive individuals.

Dosage

Guarana tea: 1 teaspoon guarana seeds to one cup water

Side effects and warnings

Guarana is high in caffeine, and should not be taken by individuals who are sensitive to caffeine. Nor should it be given to young children, or taken by pregnant or lactating mothers. It should not be taken for prolonged periods since daily caffeine consumption can trigger headaches.

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Nettle

(Urtica dioica)

Stinging nettle has traditionally been used for everything from asthma to hair care. Its value as a general tonic for women is widely known today, though its benefits extend to men as well.

Effectiveness

Nettle has been shown to reduce inflammation. As an infusion, nettle leaves and stalks can help normalize adrenal function. Over time and at low doses, it may also help relieve allergies, chronic headaches and nerve inflammation. Its nutritive effects on the endocrine and hormonal systems may help relieve headaches associated with menstruation.

Dosage

One to two cups of infusion daily, or up to 1/2 gallon of tea daily.

Side effects and warnings

None.

Valerian

(Valeriana officinalis)

The root of valerian has been used traditionally for a variety of medicinal reasons, including the treatment of epilepsy, fevers and to provide general relaxation.

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Effectiveness

Valerian is a gentle, non-narcotic natural tranquilizer when taken in moderate doses (see below), having relaxing effects on the central nervous system. These anti-anxiety effects may make it useful in preventing tension-related headaches and migraines.

Dosage

Valerian root tea: one teaspoon valerian root in one cup water once a day, when feeling nervous or anxious.

Side effects and warnings

Do not take more than the recommended dose, and do not take for prolonged periods, as valerian may actually *cause* its opposite effect -- headaches and muscle spasm -- at high doses. If you experience strange sensations, discontinue.

White Willow Bark

(*Salix alba*)

The Pomo, Natchez, Alabama, Creek and Penobscot Indians have known of willow bark's pain relieving qualities long before it became that medicine-chest standby, aspirin.

Effectiveness

Willow bark contains salicin, an aspirin-like compound that inhibits prostaglandin (the pain-sensitizing chemical in the body) and works on the immune system to reduce fever. However, because it does not act in the stomach, willow bark does not cause the stomach upset common with its

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synthesized counterpart. In fact, it is known to be good for heartburn and stomach disorders.

Dosage

Willow bark tea, one cup per day.

Side effects and warnings

At recommended doses, willow bark is quite safe.

Other herbs that may be of help in headache

Garlic and onion help improve circulation and reduce platelet aggregation and may be helpful for migraine (taken raw or in enteric-coated capsules to reduce odor), but it should be avoided in people taking anticoagulant.

Rescue Remedy is a widely-available Bach Flower Remedy that contains the flowers Star of Bethlehem, Rock Rose, Impatiens, Cherry Plum and Clematis. It is available in concentrated form, which are added, drop by drop, to water, or used externally in compresses or creams. For a headache in progress, add four drops to one cup water and sip slowly until finished. After that, take one sip every 15, 30 or 60 minutes. For prevention, try four drops in water, four times a day.

How to prepare herbs

We have referred to several methods of preparing herb. What follows are directions for preparing herbal medicines.

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Teas

Pour hot water over herbs. For best results, let the water cool for a minute before pouring into the cup. Let sit for 5-20 minutes, depending on the strength you want.

Infusion

More potent than teas. Since infusions must steep for awhile in a closed container, and are often stored between doses. Use a close-fitting pot or a canning jar.

Leaves: one ounce dried leaves to one quart boiling water. Infuse up to four hours at room temperature.

Bark and roots: one ounce dried root or dried bark (cut up in 6" pieces) with two cups water. Infuse at room temperature for up to eight hours.

Flowers: one ounce dried flowers and one quart water. Infuse for up to two hours at room temperature.

Combination infusions

Brew each component separately and then combine, unless the combination is all leaves or all roots.

To dry your own herbs

One way to ensure the quality of herbs is to grow and dry them yourself. To retain their medicinal value, harvest flowering herbs when they are in bud, before they have opened. If cutting leaves, do so early in the day on a dry day --

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they should not be wet or damp. Be careful not to crush or bruise the plant. Gently shake off any insects. Discard any discolored weeds.

Hang herbs in small bunches or in a paper bag in a dark, open room. Allow the seeds to dry on the plant for 3 to 7 days; they should still smell and look like the fresh plant. The leaves will be brittle, but not crumbly, to the touch. Flowers should rustle slightly.

Harvest roots in the fall, at the end of the growing season. To prepare roots, wipe off dirt but do not wash. Either string up or dry flat, turning often. Roots may take longer to dry than herbs, about five to seven days. They should be dry enough to snap in half, or chip.

Finding a reliable herbal therapist

There is no standard licensing for herbalists. The following organizations may refer you to organizations that offer instruction in herbal therapy, or to professionally trained individuals in alternative disciplines -- traditional Oriental medicine, Ayurveda, naturopathy -- who may have background in herbal therapy. We refer you to the *Resource* section for educational books and tapes on herbal therapies.

The Council of Acupuncture and Oriental Medicine
8403 Colesville Road, Suite 307
Silver Spring, MD 20910
301-608-9175

American Association of Naturopathic Physicians
2366 Eastlake Avenue, Suite 322
Seattle, WA 98102
206-323-7610

American School of Ayurvedic Sciences

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10025 NE 4th Street
Bellevue, WA 98004
206-453-8022

Ayurvedic Institute
11311 Menaul NE, Suite A
Albuquerque, NM 97112
505-291-9698

The College of Maharishi
Ayur-Veda Health Center
PO Box 282
Fairfield, IA 2556
515-472-5866

Aromatherapy

The name of this close cousin of herbal medicine implies that it works by virtue of its scent -- but aromatherapy's medicinal effects can be attributed to other properties.

Defined as the art and science of using essential plant oils in medical treatments, the effects of aromatherapy derive from the potency and small size of the molecules, which make them readily absorbed through the skin and bronchial passages into the bloodstream to produce body-wide effects. Some of the effects may occur via stimulation of the olfactory (smell sense) nerve. This nerve, though not large, is widely connected to the rest of the brain.

In defiance of its name, the essential oils of aromatherapy are not just inhaled, but can be used as massage, in aromatic baths, as hot or cold compresses, or as simple skin applications. In keeping with its name, these volatile oils are often inhaled, as well.

The seriousness of aromatherapy as a clinical approach has been somewhat undermined in the United States. Aromatherapy has become a

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marketing catch-word, giving a new age cache to cosmetic and personal care products. And, since the Food and Drug Administration does not acknowledge these forms of herbs as having therapeutic qualities, manufacturers are not allowed to make medicinal claims. However, this is changing. The FDA has recently given clearance for me to proceed with a controlled trial of an aromatherapy preparation for migraine. This remedy was developed by Edward Butler who, after many years of experimentation, discovered that a 7-herb extract stopped debilitating headaches.

In Europe, particularly France and England, aromatherapy is a respected clinical approach to the treatment of a number of disorders, including chronic headache.

Getting to the essence of aromatherapy

The most potent forms of aromatherapy from plants that have been steam-distilled to their essential oils. It can take hundreds of pounds of fresh plant to make just a few ounces of essential oil.

In their distilled form, essential oils are too potent for use directly on the skin and could cause sensitivity reactions. For this reason, aromatherapy essences must be diluted in a carrying medium before use. Most trained aromatherapists recommend oils that have no competing aromas, enhance the essence's characteristics, and are smooth (not thick) to the touch. Good oils for diluting plant essences are sweet almond or peach kernel oil. These We will provide instructions under each entry.

Selecting and storing aromatherapy preparations

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- Select only essences that are labeled "pure, distilled"
- Select only essences packaged in dark brown glass bottles
- Essences may be stored in a dark glass container, in a shelf out of sunlight and in a cool area (and out of reach of children). One-third ounce will last for up to 3 years
- Except for massage oils, do not buy essences that are pre-diluted in oil, as the oil may go rancid if stored for long periods
-

Cautions about aromatherapy

- Never take internally
- Never give to children, except when distributed through an air diffuser
- Store out of reach of children

The ways of aromatherapy

Aromatherapy can take several forms:

- Cold or warm compresses
- Diffused into the room through a vaporizer
- Applied directly to the skin and massaged
- Inhaled through a clean cloth
- Soaked in a bath

History

Aromatherapy can be traced to ancient times. Most likely, as with the effects of herbs, early humans discovered by trial and error, that certain plants provided

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different therapeutic benefits. Religious offerings and ceremonies were (and still are) often accompanied by burning strongly-scented plants. Over 3,000 years ago, Egyptian mummies were found embalmed with aromatics. The process of distilling plants to their essential oils -- the basis for modern aromatherapy -- is claimed by Arabic physician Avicenna. Today, France and England and, in following with Ayurvedic tradition, India, employ essential plant extracts with great seriousness for a wide variety of disorders.

Aromatherapy profiles

Here are the profiles of some aromatherapy essences used commonly in people with headache. We will provide some specific recommendations for their use in the section below.

Lavender

(Lavendula officinalis)

Lavender has been popular medicinally and cosmetically since ancient times. Profuse in Mediterranean countries, lavender leaves are especially potent when picked after dry, hot summers. Lavenders grown in high altitudes contain higher amounts of the aromatic chemicals.

The aromatic oils of lavender flowers are well known for their ability to relieve muscle spasm, and have been used successfully when applied on the skin or inhaled. Due to its calming effects, lavender is a mainstay for people with headache. It can be helpful for people with tension-type headache, at the very

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beginnings of a migraine (if scents are tolerated) and cluster headaches. See recipes below.

Chamomile (Roman or English)

(Anthemis nobilis)

English Chamomile, also known as Roman Chamomile is the type of chamomile used for headache disorders -- not to be confused with German Chamomile.

The *flowers* of this pretty and pleasant-scented herb have traditionally been used therapeutically.

Like lavender, chamomile is known for its gentle sedative effects, offering body-wide relaxation. In addition, chamomile has relaxing effects on the smooth muscles of the intestine. It has been traditionally useful in relieving nausea associated with migraine and in the relieving the stress associated with PMS.

Caution: Never take essential oils internally

Rosemary

(Rosemarianus officinalis)

Rosemary has been known to ward off evil spirits, to improve memory and prevent the plague. Its therapeutic uses are traditionally related to its antibacterial effects, but in recent years other qualities have been discovered.

Rosemary has been shown to improve circulation and strengthen blood vessels. Its proven ability to improve digestion has made it useful in treating hangover headaches.

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Peppermint

(*Mentha piperita*)

Peppermint has been traditionally used as a digestive aid and to relieve stomach cramps, which have been proven in research studies. The mentholating effects of this potent aromatic have made it useful as a massage oil or cream to increase blood flow to specific areas of the skin. A combination of peppermint and eucalyptus was shown in a placebo-compared study to relax temporal muscles (implicated in tension-type and TMJ-related headache), improve blood flow to the head, elevate mood, and reduce head pain by 40%.

Alone, peppermint may be helpful for people with headaches related to nausea (except migraine) and hangovers.

Caution: Avoid prolonged inhalation of peppermint, and never expose peppermint to babies or infants.

Geranium

Known traditionally for its relaxing effects, geranium has been shown to have hormone-balancing effects, and may be helpful for PMS-related headaches.

Rose

(*Rosa damascena, centifolia* and *gallica*)

The most common varieties of rose for aromatherapy oil, above, are mild laxatives, but they are often recommended for tension-related problems in women, such as PMS headaches.

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Eucalyptus

(Eucalyptus globulus)

Though traditionally used for treating breathing-related illness, eucalyptus has been shown to have pain-relieving effects with peppermint. It is sometimes recommended by aromatherapists for sinus headaches. But it has also been shown, along with peppermint, to reverse some mechanisms of tension-type and migraine headache (see Peppermint, above).

Tiger balm

(Camphor, menthol clove oil and other medicinal herbs)

This ancient Chinese herbal ointment, commonly known as Tiger Balm, is composed of camphor and menthol clove oil, among other ingredients. In a recent study in an Australian medical journal, Tiger Balm applied in small amounts to the temples, within minutes provided strong and effective relief for 75% of 22 people with tension-type headache. The pain-relieving effects lasted for more than 3 hours.

Aromatherapy recipes

Here are some recipes for specific types of headaches:

Tension-type headache

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Plant essences: Lavender or Roman chamomile; you can use one or the other depending on personal preference

Inhalant: Sprinkle tissue with one drop lavender and inhale deeply

Massage: Dilute one drop lavender or chamomile with one teaspoon almond oil and massage over forehead, neck and shoulder

Warm bath: Dilute five to six drops lavender or chamomile in a warm bath; if you have sensitive skin, first dilute in oil (one teaspoon almond oil for every drop of oil)

Migraine

Plant essence : Lavender

Massage: Dilute one drop lavender in one teaspoon almond oil. Massage neck and shoulder area.

Note: treat at the very beginning of a migraine, as odors may provoke nausea or increase severity

PMS-related headache

Plant essences: Rose and geranium

Massage : One week before menstruation, get a whole-body massage with geranium or rose oil

Bath: Alternately take a bath, using 5-6 teaspoons of rose or geranium in the tub.

Cluster headache

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Plant essence: lavender and chamomile

Massage : One drop of both lavender and chamomile in one teaspoon oil; massage the temples and lower neck.

Sinus headache

Plant essence : eucalyptus

Inhale: in a pot of hot water, add one to two drops eucalyptus and inhale deeply

Finding a reliable aromatherapist

As with herbalists, aromatherapists are currently unlicensed in the United States -- anyone can claim expertise in aromatherapy. The best thing you can do is to become somewhat familiar with the principles of aromatherapy yourself, then interview "therapists." The following sources can provide information on aromatherapy:

International Federation of Aromatherapists
Room 8, Department of Continuing Education
Royal Masonic Hospital
Ravenscourt Park, London W6 OTN

The Pacific Institute of Aromatherapy
PO Box 6842
San Rafael, CA 94903
415-479-9121

CHAPTER 10: HOMEOPATHY

Like -- but oh how different!

"Yes, It as the Mountain Echo" William Wordsworth

Background

The origins of homeopathy can be traced to the 18th century German physician, Samuel Hahnemann, who became intrigued by the effectiveness of chinchona bark in curing malaria -- and noticed a confounding effect: taking chinchona created many of the same symptoms of malaria. From this experience, Hahnemann developed his theory of *like cures like*, also known as the *law of similars* which asserts that the ability of a substance to cure a disease emerges from its power to cause symptoms in a healthy person that are similar to those of the disease itself.

Hahnemann's tireless investigations with different substances resulted in a long list of medicines and case studies, which are compiled in a series of reference books called *materia medica* -- the homeopath's guidebook to remedies and the psychological/physical symptoms that they produce. The symptoms are cross-referenced under *repertories*, which list all of the medications that are known to cause those symptoms.

Homeopathic principles

Like cures like

According to homeopathic theory, the symptoms of a disease are an outward expression of the body's natural self-healing mechanisms; they are signs that the body is responding to the stress of disease. Using drugs to suppress the

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symptoms (as is done in conventional Western medicine) only mask the real problem, and suppress the body's own healing powers. In contrast, using agents with effects that are similar (*homios*) to the suffering or symptoms of disease (*pathos*), homeopathic remedies act as catalysts for the body's natural abilities, or *vital force*. The principle that *like cures like*, labeled the *Law of Similars*, is a distinguishing tenet of homeopathic philosophy.

No part of the body is an island

That the mind and body are closely intertwined is another fundamental homeopathic belief. Remedies are matched not only to the individual's physical symptoms, but to his/her personality or state of mind as well. An illness in one part of the body (or suffering in the mind) does not exist alone; it will almost always create a problem in other parts of the body.

If symptoms are the body's way of sounding the alarm for disease, as homeopaths assert, then *all* symptoms must be addressed. In the homeopathic interview, a person will be encouraged to reveal in exquisite detail all major and minor symptoms. From this elaborate questioning, or *profiling*, emerges a blueprint for the remedy that is right for that person. The remedy that makes the match is called the *similum*.

Layers of symptoms:

Hering's Laws of Cure

In many cases, the major symptoms may mask deeper, older symptoms and problems, according to homeopaths. The initial remedy may help relieve one set of symptoms, only to uncover another layer.

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However, homeopaths also believe that, while a person may express a number of symptoms, they all stem from a single constitutional susceptibility that is unique to the individual.

The pattern of symptom progression after taking a prescribed remedy was described by German Homeopath Constantine Hering, and is called *Hering's Laws of Cure* :

1. Healing begins at the deepest levels (mind and organs) and progresses to the external parts (skin). With the correct simulum, one often feels better mentally before feeling better physically.
2. Remedies peel away at layers of symptoms. For example, a person's headache may disappear, making way for others to emerge.
3. Healing progresses from the upper part of the body to lower. A headache may wane, only for problems in the gastrointestinal tract to come forth.
4. Symptoms get worse before they get better. If symptoms reflect the body's fight against disease, then the proof of a good simulum would be, at first, a better fight with stronger symptoms. When other signs show progress -- such as generally improved mental condition, relief of other recent symptoms, or healing higher in the body -- the temporary worsening of symptoms is considered a good sign.

Potentized doses:

Dilute and dilute again

One of the most controversial aspects of homeopathy is its use of remedies that are substances diluted to the point where they virtually no longer exist -- in homeopathic parlance, they are *potentized* . Deriving from natural sources -- plant, mineral or animal-- homeopathic remedies are potentized by diluting them

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between 3 to 100,000 times and shaking them. The medicine is first diluted in 99 parts of water or alcohol. One part of the dilution is then diluted again in 99 parts of water or alcohol. The process is repeated until the remedy reaches the desired potency. Originally, Hahnemann devised this method in an effort to quell the toxic effects of potent substances. But a certain logic emerged from this process. Since homeopathic remedies aim to jump start the body's own healing powers, Hahnemann believed that only small doses were needed.

In addition, Hahnemann advocated highly diluted doses for only short periods of time. Indeed, homeopathic remedies are generally not administered for long periods of time; if the body's natural powers do not take over soon, the simulum was wrong.

Chronic conditions need more care

Given the highly individualized nature of remedies, the success of homeopathic treatment rests heavily on the artful skill of a knowledgeable and perceptive homeopath. This is particularly the need among people with chronic problems, such as chronic headaches. Chronic conditions suggest a constitutional vulnerability or susceptibility which, after years of embedding itself, can create a complex web of symptoms.

Widely practiced

Since its invention more than 200 years ago, homeopathy has become a popular method for treating illness. About 2.5 million Americans have received care from a homeopathic doctor, and an estimated 3,000 physicians and other health care practitioners administer homeopathy. The FDA considers homeopathic

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remedies as drugs. It regulates their manufacture, claims for effectiveness, and use. Homeopathy is more widely practiced in Europe, Latin America and Asia. In France, 32% of family physicians use homeopathy; in India there are more than 100,000 homeopathic physicians.

How it works

There is much dispute over the general effectiveness of homeopathic remedies.

With no measurable evidence that the remedies are anything more than water or alcohol, homeopathy in general rankles many of today's clinicians -- who view them as nothing more than placebos.

However, while medical science cannot explain why it works, there is mounting evidence that homeopathy does work. For example, a review of homeopathic studies in the *British Medical Journal*, a highly-regarded medical journal by conventional Western standards, showed that 15 out of 22 of the well-designed studies of homeopathic remedies had positive results. These findings were strong enough for the authors to call for more rigorous clinical research into homeopathy.

Two studies have shown the efficacy of homeopathy in the treatment of chronic headache. In one survey of 43 people with chronic headache and migraine, homeopathic treatment helped reduce pain in 65% during the first month and 56% said that relief continued for the duration of the study, which lasted 18 months.

Another study had a double-blind design, which means that neither the homeopath nor the patients knew whether migraine sufferers were taking a remedy or placebo. After four months, 93% of the migraine sufferers who took homeopathic remedy reported "sufficient" to "very good improvement." This

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compared very favorably with the 30% of people taking placebo. (The 30% placebo effect is very common in drug trials, as well.)

Common remedies for headache

It goes against all of the tenets of homeopathy to advise one or another remedy for general use. Homeopathic treatments are highly individualized. However, for the prevention and treatment of tension-type and migraine headache, several remedies are widely used. Here are some that are recommended by homeopathic practitioners such as Dana Ullman, Director of the Homeopathic Educational Services and author of *The Consumer's Guide to Homeopathy* (Tarcher/Putnam). The recommended dose for all remedies is 6, 12 or 30 potency. Take every hour during severe pain and discontinue as soon as you feel some relief.

Aconite

Indicated for:

Early stages of migraine

Characteristic of headache:

- Sudden onset
- Triggered by cold or sudden tension

Individual characteristics while ill:

- Restless or even panicky

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- Stomach pain

Belladonna

Indicated for:

Tension-type headaches

Right-sided migraines

Quality of headache:

- Appear and leave very suddenly
- Throbbing or pulsating
- Focussed in the forehead
- Confusion
- Visual disturbances and hallucinations

Individual characteristics while ill:

- Sensitive to touch, light, sound or motion (though pressure may provide some relief)
- Prefer sitting still
- Tension type headaches that come on very quickly
- Throb

Bryonia

Indicated for:

Tension-type headaches

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Headache characteristics

- Steady ache (not throbbing)
- Located in the forehead, down back of head or over left eye
- Made worse by touch and motion
- Worse in hot rooms
- May be accompanied by nausea and constipation

Individual characteristics while ill:

- Intolerant of motion
- Irrascible
- Prefers to be alone and in cool areas

Gelsemium

Indicated for:

- Tension-type headache

Headache characteristics:

- Located in back of head, or band around the head
- Triggered by anxiety or nervousness

Individual characteristics while ill:

- Weak and heavy
- Drooping eyelids
- Seeks out warmth to relieve possible chills

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Iris

Indicated for:

Migraine

Headache characteristics:

- Aura
- Right side of forehead
- Recurrent on a predictable basis

Individual characteristics while ill:

- May feel nauseated
- Headache not relieved by vomiting

Kali bichromium

Indicated for:

Sinus-related headaches

Pain characteristics:

- *• Accompanied by thick, stringy mucous
- Pain or pressure above the root of nose
- Pain in forehead or over one eye
- Made worse by bending, motion and cold weather

Individual characteristics while ill:

- Listless and indifferent

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Nux vomica

Indicated for:

Hangover headache

Tension-type headache

Headache characteristics:

- Accompanied by stomach upset
- Triggered by cold
- Worse in the morning

Individual characteristics while ill:

- Hard-driving, goal-oriented
- Irritable from over-work

Natrum muriaticum

Indicated for:

Migraine

Hormone-related

Headache characteristics

- Acute pounding
- Triggered by emotional upset
- Worse in the late morning, early afternoon

Individual characteristics while ill:

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- Emotionally sensitive
- Difficulty expressing feelings
- Rattled by sudden noises
- Craves salt

Pulsatilla

Indicated for:

Sinus headache

PMS-related symptoms

Pain characteristics:

- See sinus symptoms for kali , above
- Worse at night
- Accompanied by nausea or indigestion

Individual characteristics while ill:

- Weepy
- Moody
- Depressed

Sanguinaria

Indicated for:

Right-sided migraines

Hormone-related migraines

Cluster

Headache Alternative

Headache characteristics:

- Sharp, intense
- May begin in back of head, progress to right side or eye
- Accompanied by nausea, vomiting
- Made worse by motion
- Predictable pattern

Individual characteristics while ill:

- Tense and nervous

Sepia

Indicated for:

Left-sided migraine with nausea

Headache characteristics:

- Left-sided
- Accompanied by nausea
- Aggravated by heat or sweets
- Triggered or aggravated by menstruation

Individual characteristics while ill:

- Lack-luster, sluggish
- Withdrawn and apathetic, even with loved ones

Side effects and warnings

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While conventional medicine may have many beefs with the homeopathic community, safety is not one of them. There is little dispute that, at such infinitesimal doses, homeopathic remedies are very safe. *However, it is vital that you rule out any possibly dangerous or life-threatening causes of headache before trying homeopathy, or any alternative treatment.*

Though considered a therapeutic effect, symptoms may worsen at the beginning of a homeopathic treatment before they get better. Since symptoms reflect the body's fight against disease, homeopaths see this phenomenon as a good sign that the body is engaging more actively in the battle against the underlying problem.

What to expect

If you go to a homeopath, you can first expect to answer an extensive list of questions which help give the practitioner a profile of all symptoms (down to the most minute detail) and your emotional make-up. This can take upwards of an hour. Then, possibly with the aid of a computer program, your homeopath will recommend a remedy in an effort to uncover the simulum -- the right remedy for you as an individual.

Finding your simulum may be a trial-and-error process, during which time you will keep in contact with your homeopath about any changes in your symptoms. If your symptoms worsen, for example, you may be asked to ride it out for a day or two to see whether it is a function of your body gearing up for a fight against the disease that causes the symptoms (a good sign), or whether the remedy has no effect and your condition is simply worsening.

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You may also find that other symptoms arise as the old ones fade, which may be physical, mental or emotional. This trend is expected by homeopaths -- and may require fine-tuning of your remedy.

In addition, your symptoms may shift in location, another expected phenomenon that shows the remedy is working.

However, once you and your homeopath find the simulum, you will not need to stay on it for very long -- just long enough for the remedy to set your own healing abilities in motion.

Depending on the background of your homeopath, he or she may also make lifestyle recommendations, or suggest other treatments to help you cope with your problem.

Finding a reliable homeopath

The licensing requirements for homeopathic practice varies from state to state. Homeopathic practitioners can be found among MDs, DOs, dentists, naturopaths, chiropractors and nurse practitioners, as well as others. Three states have licensing boards: Arizona, Connecticut and Nevada. There are many schools to train doctors and laypeople. The following organizations may help in locating a homeopathic practitioner or physician near you:

National Center for Homeopathy
810 North Fairfax, Suite 306
Alexandria, VA 22314
703-548-7790

International Foundation for Homeopathy
2366 Eastlake Avenue, East Suite 301
Seattle, WA 98102
206-324-8230

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Questions and answers

Does homeopathy work as fast as drugs?

It depends on your illness. You may have very fast relief with homeopathy. However, since homeopathy theoretically works by triggering the body's own healing powers, homeopathic treatments may take some time to create an effect. And even then, other symptoms may become apparent.

How do homeopaths explain why remedies work at such high dilutions?

In general, only small amounts of the actual agent are needed because the goal is not to wipe out symptoms, but to stimulate the body's innate ability to heal itself. Some homeopaths explain the effects in terms of "new physics", suggesting that the medications exert an electromagnetic energy. They also theorize that the dilution and shaking process changes the structure of the water and alcohol molecules that contain the active ingredient -- so, although there is no evidence of the substance, the carriers are altered in such a way that they exert some therapeutic benefit.

Can children take homeopathic remedies?

Yes, but it is best to have treatment guided by a homeopath.

Is homeopathy covered by medical insurance?

If you buy the remedies on your own based on self-diagnosis, probably not. On the other end of the spectrum, homeopathic consultations by a physician, nurse, osteopathic physician, dentist or other healthcare professional are quite likely to be covered. Check with your insurance carrier.