



THE
**PEOPLE'S
PHARMACY**

Graedon's Guide to

Herbal Remedies

King Features

Ginseng

This is one of the most popular herbal products on the market, but it is also a good example of lack of standardization and regulation.

A preliminary report in the medical journal *Lancet* suggested that ginseng capsules may contain very different amounts of active ingredient. Experts for Consumers Union confirmed this problem. They tested ten ginseng products for the active ingredients, ginsenosides. In the November 1995 issue of *Consumer Reports*, they "found a wide variation, from brand to brand, in the pills' total ginsenoside concentration. Some pills had 10 or 20 times as much as others, and one brand had very little ginsenoside."

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erbs have made a dramatic comeback. Although it once seemed that they were a backwards vestige of a backwoods life style, herbal medicine has surprised the experts. Instead of going the way of Great-Grandma's butter churn and spinning wheel, herbal preparations have come back strong and are now mainstream. Americans spend over a billion dollars each year on natural remedies, which are sold not only in health food stores but also in pharmacy chains and by mail order, and advertised aggressively on the radio. Sales are growing at a phenomenal 15 percent a year with no end in sight.

Conventional medicine is confused by these developments. Herbal treatments can often be traced back thousands of years, and plants are the source of many of today's successful prescription medicines. Nevertheless, few medical schools teach anything about such traditional therapies. And schools of pharmacy, which once took pride in their "pharmacognosy" classes on medicinal plants, now mostly shun the topic. As a result, the health professionals Americans traditionally turn to—physicians and pharmacists—are often not prepared to answer questions or make recommendations about these natural remedies.

Other nations have adopted a radically

different approach. In Germany, France, England and Australia, for example, there is more open-mindedness about the benefits of herbal therapy. Physicians can prescribe herbs without being considered flaky. Perhaps even more important, government regulatory agencies set standards of purity and strength. Reputable manufacturers, such as Blackmore's in Australia, go to great lengths to ensure that their products meet their stated potency and have a specified shelf life.

Unfortunately, the Food and Drug Administration (FDA) has taken a laissez-faire attitude. For years, the agency ignored herbal medicines. Then when it appeared ready to take action, Congress pulled the rug out by passing the Dietary Supplement and Health Education Act of 1994. Under this legislation, the FDA has no legal authority to require that products be proven effective or safe. It does not enforce quality standards, so we cannot be sure that a product actually contains the ingredient on the label, and we have no way of knowing how much is in a dose. The consequences are disturbing. In many ways, herbal products can now be manufactured and marketed much as snake oil was a hundred years ago. No one is protecting the public.

YOU'RE ON YOUR OWN

If your health care professional doesn't know about the safety and effectiveness of herbal preparations, how can you take them wisely? The clerk at the health food store may be quite knowledgeable or totally ignorant. It could be hard to tell. So it is up to you to protect yourself with information. We provide a brief overview of some popular herbs in this brochure, but there are hundreds of products on the market. For more detailed information you might wish to consult the following resources:

- Castleman, Michael. *The Healing Herbs*. Emmaus, PA: Rodale Press, 1991.
- Castleman, Michael. *Nature's Cures*. Emmaus, PA: Rodale Press, 1996.
- Tyler, Varro E. *Herbs of Choice*. Binghamton, NY: Pharmaceutical Products Press, 1994.
- Tyler, Varro E. *The Honest Herbal*. Binghamton, NY: Pharmaceutical Products Press, 1993.
- Duke, James A. *Handbook of Medicinal Herbs*. Boca Raton, FL: CRC Press, 1985.
- *The Lawrence Review of Natural Products*. St. Louis, MO: Facts and Comparisons.

Aloe vera

Aloe vera is a venerable and popular home-grown herbal treatment. It has been used since the time of the Egyptians to soothe skin problems, and internally as a laxative. Many people keep a plant so that a leaf can be broken off and the fresh gel applied to a minor burn.

We believe, however, that the best first aid for a minor to moderate burn is to submerge it immediately in cold water; if aloe gel is used, it should be applied after the cold water. Aloe gel from crushed leaves does contain a chemical

called bradykininase, which is apparently helpful in combatting inflammation, pain, swelling and redness. Studies of its effectiveness are not consistent, however.

The bitter-tasting latex derived from the aloe plant is known as a powerful laxative when taken internally. It should not be given to children, pregnant women, or nursing mothers. In our opinion, regular use of such bowel irritants may do more harm than good and should be avoided.

Chamomile

Varro Tyler, Ph.D., Sc.D., is one of the country's leading experts on herbs. He was Dean of Purdue University School of Pharmacy for 20 years and the University's Executive Vice-President for Academic Affairs. His books are classics.

Grandmothers in many countries agree with Mrs. Rabbit (in Beatrix Potter's story *Peter Rabbit*) that chamomile tea is good for tummyaches. There are also several scientific studies showing that infusions (tea) or extracts of chamomile have antispasmodic effects on the digestive tract. Dr. Varro Tyler says it is most often used for stomach upset, with a cup of fresh chamomile tea drunk between meals 3 or 4 times a day.

Some components of chamomile also have anti-inflammatory effects in laboratory animals. Germany's Commission E, which evaluates herbal medi-

cines, has declared chamomile effective for gastrointestinal inflammation as well as spasm.

Dr. Tyler points out that chamomile may be easily adulterated, so it can be difficult to tell if the herb sample is pure unless one buys only the whole flower heads. Chamomile is relatively safe, but rare instances of allergy have been reported. People with hayfever may be particularly susceptible. Questions have been raised about whether chamomile taken with drugs might delay their absorption, and this possibility should be considered.

Echinacea

This North American native plant was widely used by the Plains Indians for a variety of ailments including snake bites, insect stings, toothaches, colds and arthritis. During the 1800s the settlers adopted this herb as a home remedy and it made its way into patent medicines before the turn of the century. For decades it was a staple of American medicine chests, but virtually disappeared during the 1950s.

The resurgence of interest in Echinacea is based upon scientific studies and word of mouth. Next to vitamin C, there are few natural remedies as popular as Echinacea for fighting the common cold. Research indicates that it has several immune-stimulating actions, and the German Commission E has approved Echinacea as an auxiliary treatment in upper respiratory tract infections.

No one ingredient appears to be responsible for its impact on the immune

system, but the relevant components don't seem to be water-soluble. This suggests that a tincture or extract might be more useful than a tea. Dr. Tyler cautions that the reputation of the manufacturer is especially important when purchasing a tincture, as there is little hope of the consumer detecting adulteration in such a liquid.

Taking Echinacea on a regular basis is not recommended for most people. One study suggests that daily use over eight weeks or so can actually dampen the immune system rather than boosting it. Dr. Tyler further warns against use by people with serious conditions such as tuberculosis, collagen disease or multiple sclerosis.

Allergic reactions, while rare, are possible. People allergic to sunflowers appear especially vulnerable. If diarrhea or digestive upset occurs, discontinue use and consult a physician.

Feverfew was used by the Greeks for women's reproductive problems, but it was not often used in frontier America. A number of compounds in the leaves, stems and flowers appear to act in concert to keep platelets from sticking together. The herb can also block prostaglandins and prevent cells from releasing serotonin. One study found that 80 mg daily of ground-up leaves led to 24 percent fewer migraines than placebo. This has bolstered the use of feverfew to

prevent migraines.

Side effects included canker sores, rapid heart rate and a "withdrawal syndrome" of increased headaches, insomnia and joint stiffness in people who stop the herb suddenly. The strength of feverfew preparations may vary considerably. People on anticoagulant medicines such as Coumadin or aspirin should exercise caution; there is a theoretical possibility that feverfew could interact to increase bleeding time.

There is an enormous amount of research on the chemistry of garlic, befitting one of the most popular herbs of all. We have been impressed with the evidence that garlic can be positive for heart health. It helps to prevent blood clots, lower cholesterol and triglycerides, and prevent the oxidation of such blood fats. These benefits are measurable at a reasonable dose of one to two cloves of garlic daily.

At higher doses, garlic may even lower blood pressure slightly. It is known to have some antimicrobial properties, and was even used on the battlefield in World War II to disinfect wounds. With effective modern antibiotics, this use of garlic has become outmoded.

Some studies suggest that garlic may be able to help lower blood sugar by

increasing the amount of insulin circulating in the bloodstream.

One catch to taking garlic as medicine is that the most effective components, allicin and ajoene, are found primarily in fresh (and therefore smelly) garlic. This can pose a social problem that is not lessened by mouthwashes, since the aroma is actually coming from the bloodstream and the breath rather than the mouth.

Although there are no studies or case reports, the *Lawrence Review of Natural Products* suggests that people who must control blood sugar closely and those who are already taking anticoagulants should be especially careful when taking garlic, since the herb could perhaps interact dangerously with their medicines.

Ginger, like garlic, has a secure place in kitchens around the world regardless of its medicinal potential. This pungent rhizome has been used in Oriental medicine for at least 2,500 years.

Modern chemists have found it contains a number of active compounds, including gingerols, shogaol and zingiberene. These have a number of interesting actions in the laboratory, but most clinical studies recently have focused on ginger's ability to quell motion sickness. The initial placebo-controlled study showed that capsules containing about 900 mg powdered ginger were more effective than either Dramamine or placebo when students were subjected to a tilting, rotating chair. Further studies have been inconclusive, with some supporting and oth-

ers disputing ginger's benefit for motion sickness. Claims that ginger can reduce nausea from other causes are likewise uncertain because of inconsistent findings. Commission E in Germany has concluded that ginger is useful for indigestion and the symptoms of motion sickness at a dose of 2 to 4 grams per day. Experts suggest 1,000 mg (two 500 mg capsules or one 12-ounce glass of ginger ale) half an hour before departure.

Several sources caution against exceeding a sensible dose. Large overdoses are theorized to carry the potential of triggering heart rhythm changes. Even at moderate doses, people taking anticoagulant medicines should be cautious, as ginger has been reported to counteract clotting and might interact.

Feverfew

Garlic

Ginger

Ginkgo

The ginkgo tree is almost a living fossil, a lonely remnant of plants once common before the last ice age. In China it is considered sacred, and Chinese physicians were the first to record medicinal use of ginkgo more than a thousand years ago.

European and American interest in ginkgo is recent (within the past few decades) but intense. Ginkgo biloba extract (GBE) has been touted for a wide range of problems. Most research has been done in Europe, where the extract is prescribed by physicians. Some of the conditions ginkgo is supposed to help should not be treated without medical supervision. Circulatory problems like Raynaud's disease or intermittent claudication fall into this category.

Studies have shown GBE helpful for those whose hearing problems stem from

inadequate blood flow to the ears and for some people with vertigo. Unquestionably the most exciting claim for many people is that ginkgo can improve short-term memory loss often seen with aging. Research on this condition is inconclusive; it is unlikely that GBE will prove to be a miracle drug in this regard.

GBE appears to be safe for most people, although some may suffer digestive disturbances or headaches. Ginkgo plant parts, especially the fruit pulp, can cause a severe reaction similar to poison ivy in susceptible individuals, and the seeds are toxic. Perhaps the biggest worry for those using ginkgo as an herbal medicine is its ability to prolong clotting time. This might lead to serious reactions, particularly for those already taking anticoagulant medicines.

Ginseng

Dr. Varro Tyler claims convincingly that too much has been written about ginseng. We appreciate his conclusions in *Herbs of Choice*: "In summary, ginseng has an ancient reputation as a tonic and aphrodisiac. Some supporting evidence for its effectiveness in such ways has been obtained from small animal studies, but significant data from controlled human trials are lacking."

Ginseng has long been touted as helpful for almost anything and everything. (The scientific genus name, *Panax*, means "cure-all.") Perhaps this is because the root sometimes resembles a stick figure of a person, lending itself to magical interpretation. The most popular claims currently are that ginseng can aid resistance to stress, boost energy and act as an aphrodisiac. Scientific studies have

not established such benefits in humans.

This herb is reported to have some estrogenic properties which may account for the claims that it can help relieve menopausal symptoms. It can also lower blood sugar, so diabetics should be wary and monitor blood sugar carefully if they choose to take it. A ginseng abuse syndrome has been reported but is extremely controversial and not well documented. Common sense would argue against long-term high-dose usage of any herbal medicine.

Because ginseng is so sought after, supplies are scarce. This may explain why there is so much variability in the content of ginseng products (see introduction).

Licorice

Found In:

- Candy
- Cough drops
- Chinese medicines
- Smokeless tobacco
- Some herbal teas
- Sweetening in certain foods and drinks

It's hard to believe this familiar black candy could have powerful medicinal properties. But licorice (from the herb *Glycyrrhiza glabra*) has been used for centuries. Chinese herbalists have used it for anxiety and cough. Japanese investigators suggest some immune stimulation. Russian researchers note that animal research shows lowered triglyceride and cholesterol levels. Perhaps more intriguing is preliminary work suggesting licorice may reduce stomach acid production, protect against aspirin

injury to the stomach and enhance stomach-wall repair.

Too much licorice can pose serious risks. As little as an ounce of natural licorice candy regularly could lead to severe depletion of potassium, fluid retention, weakness, muscle pain, hormone imbalance, sexual difficulties, hypertension, and heart trouble. These effects would be especially hazardous for a person taking a diuretic or the heart medicine Lanoxin (digoxin).

Ma huang is the Chinese name for an herb called *Ephedra sinica* in scientific nomenclature. It has over 5,000 years of use in China for the treatment of asthma, colds and respiratory conditions.

This and related species contain a number of chemicals. One, purified from *E. sinica* back in 1887 by a Japanese chemist, is ephedrine. Pseudoephedrine, a related compound, is also found in the herb in variable amounts.

Medicinal use of ephedrine and especially pseudoephedrine certainly supports the claims that ma huang is useful for colds or asthma. Pseudoephedrine is found in such popular over-the-counter products as Afrin and Sudafed. Ephedrine used to be a mainstay in the medical treatment of asthma, but this drug

has fallen into disfavor.

Ephedrine is recognized as a stimulant, stronger than caffeine. It may also increase blood pressure and heart rate and can trigger contractions of the uterus. Although ma huang has occasionally been marketed for weight loss or included in weight loss preparations, there is not strong evidence to support this claim.

In large doses, ephedrine can cause headache, nervousness, insomnia, flushing, tingling, dizziness and heart palpitations. Skin reactions have also been reported. Ma huang is not recommended for people with diabetes or high blood pressure, and pregnant women should treat it like any drug and avoid it unless under a doctor's specific supervision.

It has never been clear to us how a particular herb gets a reputation for relieving a specific problem. We assume that trial and error and word of mouth somehow led to a general consensus. This approach is not considered scientific, and probably leads to mistakes, but in the case of saw palmetto it turned out to be amazingly accurate.

From the turn of the century to the 1950s men used this herb to relieve urinary problems associated with enlarged prostate glands. Scientists were skeptical, though, and saw palmetto was eliminated from the National Formulary. Now, well-controlled, double blind scientific trials have shown that this treatment can indeed relieve symptoms

of benign prostatic enlargement at least as well as some expensive prescription medications. Animal research suggests that saw palmetto has a fascinating effect on hormones (blocking conversion of testosterone to its more toxic form, dihydrotestosterone, and acting a little like estrogen). It also appears to have some anti-inflammatory action.

Adverse effects appear uncommon, but too much saw palmetto might cause headaches or diarrhea. Since this herb has hormonal effects, it should not be used by children, women who might become pregnant or people with cancer (unless directed by a physician). Experts usually recommend 160 mg twice daily for benign prostate problems.

When European settlers arrived in America, the natives taught them to use slippery elm for a variety of healing purposes. It became one of the most popular herbs during the 18th and 19th centuries, and was even listed on the National Formulary until 1960. Mashed-

up bark was applied to the skin to treat cold sores, wounds and black eyes, and a tea was given for digestive problems (diarrhea, ulcers and colitis). It is still considered helpful for cough and sore throat, and lozenges containing slippery elm are available.

Herbalists have used St. John's wort since the Middle Ages for wound healing and nervous disorders. Today, it is prescribed in Europe for anxiety, insomnia and depression. This herb has powerful enzyme blocking effects similar to prescription MAO inhibitor drugs (Nardil, Parnate). Theoretically this means the

herb could interact dangerously with foods high in tyramine (see our Guide to Drug and Food Interactions) and with many prescription drugs. Researchers are now studying its antiviral activity. St. John's wort taken internally can make animals and presumably people susceptible to sun damage.

Ma huang

Saw palmetto

Slippery elm

St. John's wort

Valerian

This herb has a fascinating history dating to the legend of the Pied Piper. According to Dr. Varro Tyler, the unpleasant aroma of valerian is supposed to appeal to rats. (No wonder, since it apparently smells like old socks or sharp cheese.) He cites sources claiming that the Pied Piper used valerian to lure rats from Hamelin. Our friend Michael Castleman offers a slightly different version: he suggests the fellow was an herbalist who used the hypnotic herb valerian together with his flute music to lead the children away.

Many studies have validated valerian's traditional role in relieving insomnia. Germany's Commission E has approved it for this purpose and as a minor tranquilizer. Morning drowsiness and other side effects have not been reported, but common sense would suggest caution in its use. Concern has been raised that someone taking alcohol or other sedatives might experience an additive effect. Driving or any activity that requires alertness should not be undertaken unless you are certain this herb does not cause impairment.

Yohimbe

High-Tyramine Foods

Aged cheese (Brick, Cheddar, Parmesan, etc)
Brewer's yeast
Broad beans
Chianti wine
Liver (chicken or beef)
Miso
Overripe bananas, avocados
Pepperoni, salami, etc.
Smoked or salted fish
Vermouth
Yeast extract or tablets

This herb, from the bark of a West African tree, was used by traditional healers to treat sexual problems in men. Yohimbine, a drug derived from this herb, has been tested and shown to be helpful in combating impotence. Canadian scientists reported that it overcame erection difficulties in almost 50 percent of the men tested. Benefits were observed whether the cause of the problem was psychological or physical.

This drug has the potential for serious side effects. These include increased pulse, palpitations, headache, anxiety, nausea and tremor. As a result, neither yohimbe nor yohimbine should be used for self-treatment. A physician must supervise such therapy.

Yohimbe has a reputation as an aphrodisiac that has apparently not been confirmed in scientific studies. It can lower blood pressure, but potential adverse reactions such as dizziness, weakness and stomach ache discourage its use for this purpose. The FDA considers yohimbe unsafe, and the state of Georgia prohibits its over-the-counter sale.

Yohimbine is reported to inhibit the enzyme MAO, and might interact with foods and certain other drugs in a dangerous manner. The authoritative *Handbook of Medicinal Herbs* warns that yohimbe should be shunned by those with diabetes, liver disease, kidney disorders, heart conditions and low blood pressure.

American Botanical Council

One source of information on herbs is The American Botanical Council. These folks offer a variety of publications, including their journal "*HerbalGram*" and a number of books. You can contact them at:

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Austin, TX 78720-1660

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(800) 373-7105

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Herbbooks@aol.com

USING HERBS WISELY

The most important ingredient in any herbal remedy is a strong dose of common sense. This is essential at every step of the way, starting with the decision to treat oneself. Serious conditions deserve medical attention, so a clear diagnosis from a health professional is a good place to start. If the disorder may be treated with herbs, by all means do so. But be sure to check back with the expert if the symptoms don't go away in a reasonable amount of time.

Remember that herbs can have side effects. Just growing in the ground doesn't make a plant safe, as we are reminded every so often when a family inadvertently consumes poisonous mushrooms. The difficulty of identifying exactly what is in the herbal preparations on the market makes consumers vulnerable to fraud and unexpected hazards.

A person on regular medication should check carefully to see whether the herb may interact with their prescription or over-the-counter drugs. Certainly, if any negative symptoms arise, the herb should be discontinued and a health professional consulted.

Certain herbs are considered potentially dangerous. The Food and Drug Administration is especially concerned about comfrey and chaparral, which can be toxic to the liver; and lobelia, which may affect the nervous system.