



## What You Should Know About Herbal and Dietary Supplement Use and Anesthesia

### What are herbs?

Herbs include flowering plants, shrubs, trees, moss, fern, algae, seaweed or fungus. In most cultures, including Western culture, herbs are used not only as a part of the treatment of disease, but also in the enhancement of life, physically, emotionally and spiritually. Plant parts, including flowers, fruits, leaves, twigs, bark, roots or seeds, are all considered usable.

### What are dietary supplements?

By definition, a dietary supplement is a product taken by mouth and intended to supplement the diet. These products may include: vitamins, minerals, herbs or other botanicals, amino acids and substances such as enzymes, organ tissues, glandulars and metabolites.

### Are they medicines?

The term “drug” comes from the ancient word for “root.” Until the 1930s, medical schools taught that plant drugs were the primary medicines available. In general, since that time, patented pharmaceuticals (prescription or over-the-counter medications) have replaced the herbs or “roots,” which were either found too weak or unsafe. Like drugs or foods, medicinal plants (herbs) and dietary products (vitamins, minerals, amino acids) have many actions in the body.

### Are such products safe?

Sometimes, even if you take an herb or supplement for one certain reason, there can be other unintended reactions. *Natural doesn't necessarily mean safe.* Herbal and dietary products have chemical properties just as manufactured drugs do. Like anything that we ingest (eat) or apply (like a salve), there can be side effects. One of the major problems with many of the products on the market today is that the amount and the purity of their active ingredients vary so greatly from product to product. In many cases, you do not always know how much of the natural substance you are really getting in each dose or if other ingredients have been added. Another problem is determining how much of each active ingredient is really safe, particularly over long-term use. There are even case reports of contaminated herbs causing death. Also, studies are being done to see how herbals and supplements react with other medications.

### Does the federal government make sure that herbs and other dietary supplements are safe?

The government regulates herbal medicines in the same way that it regulates food and nutritional supplements, but herbs and other dietary supplements do not undergo the same strict research requirements as prescription drugs or over-the-counter medications (like aspirin). Whole plants cannot be patented (meaning that no one manufacturer has exclusive rights to an herb) and therefore, nonpharmaceutical companies that produce herbal products or dietary supplements are not obligated to do the same safety research that the Food and Drug Administration (FDA) requires for prescriptions or over-the-counter medications. If the FDA has reason to suspect that an herb or dietary supplement is unsafe, then the agency may require it be removed from the market. By law, however, the FDA cannot require testing of all herbal medicines and other dietary supplements before they are put on the shelf.

### In what types of preparations are herbal medicines available?

Herbs are available in many forms, depending on the type of plant and its use. Some plants are best used fresh, but they are highly perishable. Dried, chopped or whole herbs can be steeped as teas (infusions) or simmered over low heat (decoctions). Some fresh and/or dried herbs are preserved in alcohol (tinctures), while others are better suited to vinegar extracts (acettracts), syrups, glycerites (in vegetable glycerine) or miels (in honey). Freeze-dried or herbal powders also come in bulk, tablet, capsule, paste or concentrate (4-6 times regular strength). Other ways to administer herbs may be by suppositories, creams, gels, liniments, oils, compresses, steams, aromatics (oils) or baths.



### Do I need to tell my doctor about all of the herbal products and other supplements that I take?

Yes. It is absolutely essential that you tell your doctor about any treatments that you are using. These include the use of herbal medicines, vitamins, nutritional supplements or any other prescribed or over-the-counter drugs. Many of the popular herbal products on the market can cause harmful side effects or interact with your other medicines.

### Could herbal medicines and other dietary supplements affect my anesthesia if I need surgery?

Anesthesiologists are conducting research to determine exactly how certain herbs and dietary supplements interact with certain anesthetics. They are finding that certain herbal medicines may prolong the effects of anesthesia. Others may increase the risks of bleeding or raise blood pressure. Some effects may be subtle and less critical, but for anesthesiologists, anticipating a possible reaction is better than reacting to an unexpected condition. So it is very important to tell your doctor about *everything* you are taking before surgery.

There are thousands of herbal products and dietary supplements currently on the market. Listed on the reverse side are examples of some commonly used herbal and dietary products and their possible problems. Not all available products are listed. Check with your doctor if you have any questions about the prescription or non-prescription medications that you are taking.

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<i>Name of Herb</i>	<i>Common Uses</i>	<i>Possible Side Effects or Drug Interactions</i>
<i>Echinacea</i>	Boosts the immune system and helps fight colds and flu; aids wound healing.	May cause inflammation of the liver if used with certain other medications such as anabolic steroids, methotrexate or others.
<i>Ephedra</i> (also called Ma-Huang)	Used in many over-the-counter diet aids as an appetite suppressant; also for asthma or bronchitis.	May interact with certain antidepressant medications or certain high-blood pressure medicines to cause dangerous elevations in blood pressure or heart rate. Could cause death in certain individuals.
<i>Feverfew</i>	Used to ward off migraine headaches and for arthritis, rheumatic disease and allergies.	May increase bleeding, especially in patients already taking certain anticlotting medications.
<i>GBL, BD and GHB</i>	Bodybuilding, weight loss aid and sleep aid.	These are abbreviations for illegally distributed, unapproved drugs (not supplements) that may cause death, seizures or unconsciousness.
<i>Garlic</i>	For lowering cholesterol, triglyceride levels and blood pressure.	May increase bleeding, especially in patients already taking certain anticlotting medications. May decrease effectiveness of certain AIDS-fighting drugs, e.g., saquinavir.
<i>Ginger</i>	For reducing nausea, vomiting and vertigo.	May increase bleeding, especially in patients already taking certain anticlotting medications.
<i>Ginkgo</i> (also called ginkgo biloba)	For increasing blood circulation and oxygenation and for improving memory and mental alertness.	May increase bleeding, especially in patients already taking certain anticlotting medications.
<i>Ginseng</i>	Increases physical stamina and mental concentration.	May increase bleeding, especially in patients already taking certain anticlotting medications. May see increased heart rate or high blood pressure. May cause bleeding in women after menopause.
<i>Goldenseal</i>	Used as a mild laxative and also reduces inflammation.	May worsen swelling and/or high blood pressure.
<i>Kava-kava</i>	For nervousness, anxiety or restlessness; also a muscle relaxant.	May increase the effects of certain antiseizure medications and/or prolong the effects of certain anesthetics. May cause serious liver injury. May worsen the symptoms of Parkinson's disease. Can enhance the effects of alcohol. May increase the risk of suicide for people with certain types of depressions.
<i>Licorice</i>	For treating stomach ulcers.	Certain licorice compounds may cause high blood pressure, swelling or electrolyte imbalances.
<i>Saw palmetto</i>	For enlarged prostate and urinary inflammations.	May see effects with other hormone therapies.
<i>St. John's wort</i>	For mild to moderate depression or anxiety and sleep disorders.	May decrease effectiveness of all currently marketed HIV protease inhibitors and nonnucleoside reverse transcriptase inhibitors (powerful AIDS-fighting drugs). May possibly prolong effects of anesthesia (not proven). May unknowingly decrease levels of digoxin, a powerful heart medication.
<i>Valerian</i>	Mild sedative or sleep-aid; also a muscle relaxant.	May increase the effects of certain antiseizure medications or prolong the effects of certain anesthetic agents.
<i>Vitamin E</i>	Used to prevent stroke and blood clots in the lungs. Also used to slow the aging process and for protection against environmental pollution.	May increase bleeding, especially in patients already taking certain anticlotting medications. May affect thyroid gland function in otherwise healthy individuals. In doses higher than 400 IU per day, may cause problems with increased blood pressure in people who already have high blood pressure.