

## Considerations

for

Anesthesiologists:



**What You**

**Should Know**

**About Your**

**Patients'**

**Use of Herbal**

**Medicines and**

**Other Dietary**

**Supplements**

## Background

In 1997, adults in the United States spent an estimated \$3.5 billion on herbal medicines, plus billions more on commercial diet products, vitamins and mineral supplements. One in five individuals who takes prescription medications also takes herbal preparations, high-dose megavitamins, or both. Eisenberg et al. estimate that **15 million** people who take herbal medicine may be at risk for potential adverse interactions between their prescription medications and these products.

Especially troubling for physicians is that as many as *70 percent of patients taking alternative medications do not disclose this to their doctors*. It is imperative that health care providers as well as patients become aware of the interactions of these products and that herbal-use habits become a part of the patient's documented history and treatment plan. For example, the anesthesiologist might consider whether or not to proceed with a regional anesthetic in the face of increased bleeding potential due to a patient's use of a specific herbal medicine. Some herbal effects may be subtle and less critical, but expecting a reaction is always preferred to reacting to an unexpected condition.

Johnston noted that by the year 2000, 91 million users, or approximately one-half of U.S. adults, had used an herbal product in the last year and that about one-quarter of U.S. adults used herbs on a regular basis. Government sources estimate that more than one-half of the adult population uses dietary supplements. New extrapolations may indicate that as many as 22 million users of these products may be at risk for adverse interactions from herb/supplement, prescription medication and over-the-counter product usage.

This brochure does not include information regarding herbal dosages or specific practice guidelines. Nor does this brochure discuss herbs used in other healing traditions, such as Chinese or Mexican-American herbs. Few, if any, double-blinded, placebo-controlled series of studies support any specific recommendations with regard to anesthetic management. This brochure does, however, offer information about the current trends in herbal use, governmental oversight of the industry and some of the more common herbal medicines and dietary supplements and their common uses, potential side effects and drug interactions.

### Government Regulations

Currently, there is an inconsistency in safety guidelines for manufacturing, labeling, promotion of health claims, and potency and purity of compounding. Herbal medications and dietary supplements cannot gain patent rights and, as such, they are not termed "drugs." The Food and Drug Administration (FDA) can "suggest" but cannot require the herbal industry to provide scientific data to its consumers.

The Dietary Supplement Health and Education Act of 1994 places the burden of product safety assurance on the manufacturer. The FDA still assumes the responsibility for proving that a product is unsafe, not the manufacturer, and only if the FDA has reason to suspect that an herb is unsafe can it require that a product be removed from the market. By law, however, the FDA cannot require the testing of all herbal products and dietary supplements before they are available to consumers.

Because of continued concerns regarding safety and health claims practices, on April 29, 1998, the FDA put forth the "Regulations on Statements Made for Dietary Supplements Concerning the Effect of the Product on the Structure or Function of the Body." Specifically, these regulations state that "under the proposal, dietary supplements that expressly or implicitly claim to diagnose, treat, prevent, or cure a disease continue to be regarded as drugs and have to meet the safety and effectiveness standards for drugs under the Food, Drug, and Cosmetic Act." Disease is defined as "any deviation from, impairment of, or interruption of the normal structure or function of any part, organ, or system...of the body that is manifested by a characteristic set of one or more signs or symptoms..."

Implicit in this new definition would be acceptance of the claim, "promotes vascular health" but rejection of the assertion, "decreases blood pressure." Many herbal and dietary product manufacturers, therefore, add information to their product advertisements or labeling that indicates that their product "is not intended to diagnose, treat, cure or prevent any disease," and thus is not subject to FDA drug regulations. At this point in time, herbal and dietary supplements will continue to be examined by the FDA under similar guidelines as the food industry.

### ASA's Role in Patient Safety

The American Society of Anesthesiologists (ASA) takes no formal position on the therapeutic properties of herbal medications and has no formal statement of policy or standard of care that is specific to phytopharmaceuticals. It is important, however, for the public and the medical community to be aware that these products could pose a serious health risk if they are taken prior to surgery. People often believe that a product that is labeled "all natural" must therefore be safe. This is an inaccurate and dangerous assumption that can put patients at unnecessary risk.

### Use of herbs and other dietary supplements is not necessarily a contraindication for anesthesia.

Pending more definitive studies and in the best interest of patient safety, ASA is taking a leading role in educating the physician as well as the patient about the importance of a thorough history of a patient's medication use. Patients should tell their physicians—and physicians should ask—about all herbal, dietary or other over-the-counter preparations as well as prescription medicine that the patient is taking.

### Suggested Reading

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This brochure has been developed by ASA for its members, but has not been reviewed or approved as a practice parameter or policy statement of the ASA House of Delegates. Variance from suggestions contained in this document may be acceptable based on the judgment of the responsible anesthesiologist. The suggestions here are designed to encourage quality patient care and safety in the workplace, but cannot guarantee a specific outcome. They are subject to revision from time to time as warranted by evolution of technology and practice.

Please see the chart on the reverse side for information on some of the hundreds of currently available herbal products. This chart outlines these phytopharmaceuticals by product name, scientific name, common name(s), common uses and potential side effects and drug interactions.

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<i>Brand Name</i>	<i>Scientific Name</i>	<i>Common Names</i>	<i>Common Uses</i>	<i>Possible Side Effects and Drug Interactions</i>
<b>Echinacea</b>	Echinacea purpurea	Purple Cone Flower	Common colds Wounds and burns Urinary tract infections Coughs and bronchitis	1 May cause hepatotoxicity, especially when used with other hepatotoxic drugs, i.e., anabolic steroids or methotrexate. 2 May also see decreased effectiveness of corticosteroids.
<b>Ephedra</b>	Ephedra sinica	Ma-Huang Ephedrine Chinese Joint Fir	Over-the-counter diet aids Bacteriostatic Antitussive	Potential Drug Interactions 1 Heart glycosides or halothane: arrhythmias. 2 Guanethedine: enhanced sympathomimetic effects. 3 Monoamine oxidase inhibitor (MAOI): enhanced sympathomimetic effects. 4 Oxytocin: hypertension.
<b>Feverfew</b>	Tanacetum parthenium	Feverfew Featherfew Midsummer Daisy	Migraine prophylactic Antipyretic	1 Can inhibit platelet activity and increase bleeding. Avoid use in patients on warfarin or other anticoagulants; may enhance bleeding. 2 Rebound headache with sudden cessation. 3 5-15% of users develop aphthous ulcers or gastrointestinal tract irritation.
<b>GBL, BD and GHB</b>	Gamma-butyrolactone; Butyrolactone gamma; 1,4 butanediol; Gamma hydroxybutyrate	GBL, BD, GHB (abbreviations for illegally distributed, unapproved drugs [not approved by FDA])	Bodybuilding Weight loss aid Sleep aid	1 Death. 2 Seizures. 3 Unconsciousness. 4 Bradycardia. 5 Slowed respirations that may require intubation.
<b>Garlic</b>	Allium sativum	Clove Garlic Ajo	Lipid lowering Blood pressure lowering Has antiplatelet, antioxidant and antithrombolytic qualities	1 May potentiate warfarin; will see increased INR(PT). 2 May decrease effectiveness of certain HIV protease inhibitor drugs, e.g., saquinavir.
<b>Ginger</b>	Zingiber officinale	Black Ginger African Ginger	Antinauseant Antispasmodic	1 Potent inhibitor of thromboxane synthetase; may increase bleeding time. 2 Use caution when taking warfarin; may cause excessive bleeding.
<b>Ginkgo</b>	Ginkgo biloba	Maidenhair Tree Fossil Tree	Circulatory stimulant	May enhance bleeding in patients on anticoagulant or antithrombotic therapy, i.e., aspirin, NSAIDs, warfarin or heparin.
<b>Ginseng</b>	Panax ginseng	American Ginseng Chinese Ginseng Korean Ginseng	Adaptogenic Energy level enhancer in athletes Antioxidant	1 Ginseng Abuse Syndrome (>15g per day): sleepiness, hypertonia, edema. 2 Avoid use with other stimulants; may see tachycardia or hypertension. 3 Mastalgia. 4 Post-menopausal bleeding. 5 May cause mania in patients on phenelzine. 6 May have antiplatelet properties; may increase bleeding, particularly in patients on anticoagulant and antithrombotic agents.
<b>Goldenseal</b>	Hydrastis canadensis	Orange Root Yellow Root Ground Raspberry Turmeric Root Eye Root	Diuretic Anti-inflammatory Laxative Hemostatic	1 Functions as an oxytocic. 2 Overdose may cause paralysis (amount not known). 3 Functions as an aquaretic, not a diuretic (no sodium excreted, just free water). 4 May worsen edema and/or hypertension.
<b>Kava-kava</b>	Piper methysticum	Ava Kawa Ava Pepper	Anxiolytic	1 May cause serious hepatotoxicity. 2 Potentiates barbiturates and benzodiazepines. 3 Can potentiate ethanol effects. 4 Increased suicide risk in patients with endogenous depression.
<b>Licorice</b>	Glycyrrhiza glabra	Licorice Root Sweet Root	Gastric and duodenal ulcers Gastritis Cough/bronchitis	1 Glycyrrhizic acid in licorice may cause high blood pressure, hypokalemia and edema. 2 Contraindicated in many chronic liver conditions, renal insufficiency, hypertension, hypokalemia.
<b>Saw palmetto</b>	Serenoa repens	Sabal Cabbage Palm	Benign prostatic hypertrophy Antiandrogenic Antiexudative	May also see additive effects with other hormone therapies, i.e., birth control pills or estrogen replacement therapy.
<b>St. John's wort</b>	Hypericum perforatum	Hardhay Amber Goatweed	Treatment for depression and anxiety	1 May decrease effectiveness of all currently marketed HIV protease inhibitors and non-nucleoside reverse transcriptase inhibitors. 2 May decrease blood levels of digoxin via the induction of hepatic cytochromes P450 3A4. 3 May prolong effects of anesthesia (anecdotal reports only).
<b>Valerian</b>	Valeriana officinalis	All-heal Setwall Vandal Root	Mild sedative Mild anxiolytic	1 Will likely potentiate barbiturate effect. 2 May decrease symptoms of benzodiazepine withdrawal (benzodiazepine-like effects but different receptors).
<b>Vitamin E</b>	Vitamin E	Vitamin E	To slow aging process Prevention of stroke and pulmonary emboli Prevention against atherosclerosis Promotion of wound healing Effective against fibrocystic breast syndrome	1 May increase bleeding, particularly in conjunction with other anticoagulant and antithrombotic drugs. 2 May affect thyroid function in otherwise healthy patients. 3 May enhance hypertension in hypertensive patients in doses $\geq 400$ IU per day.