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## Herbal Supplements and Surgery

Many patients take herbal supplements for a wide variety of reasons. Some patients do not admit to their physician that they take these supplements. To optimize patient safety and pain control, your surgeon needs to know what herbal supplements and over-the-counter or prescription drugs each patient takes.

About 12% of the U.S. population used herbal supplements in 1997. It has been reported that up to 70% of patients do not disclose their herbal supplement use to their surgeons. Furthermore, 20% of patients do not correctly identify which supplement they take unless they bring the supplements with them to the doctor's office.

A recent report in the *Journal of the American Medical Association* reported on eight herbs that pose the greatest harm during and after surgery.

These include:

- § Echinacea
- § Ephedra
- § Garlic
- § Ginkgo
- § Ginseng
- § Kava
- § St. John's wort
- § Valerian

The *JAMA* study reports that the increased risk associated with herbal supplements may be increased in the perioperative period due to the use of other medications during this time and to physiologic changes that occur. The effects of the herbal supplements are due to several factors.

These include:

- § the direct effect of the supplement
- § the alteration of the action of other medications given during and after the surgery
- § the altered absorption, distribution, metabolism and elimination of conventional drugs

**Echinacea** should be used with caution in patients with asthma, or allergic rhinitis (hay fever). Because of a lack of information about how it works, this should be discontinued as far in advance of surgery as possible.

**Ephedra** causes a dose-dependent increase in blood pressure and heart rate. The effects of ephedra have been associated with more than 1,070 reported adverse events, including fatal cardiac and central nervous system complications. Patients should stay off ephedra at least 24 hours before surgery.

**Garlic** has the potential for irreversible inhibition of platelet function. Platelets are important components of blood and their normal function is crucial to normal blood clotting. Excessive bleeding may result without normal platelet function. Garlic supplements should be discontinued at least 7 days prior to surgery if postoperative bleeding is a concern or if other platelet inhibitors are given.

(Aspirin and other types of nonsteroidal anti-inflammatory medications will also affect platelet function resulting in increased bleeding during and after surgery. These medications should be stopped 10-14 days before surgery.)

**Ginkgo** should be discontinued at least 36 hours prior to surgery because it can inhibit the platelet-activating factor. This will result in abnormal platelet function and increase the likelihood of bleeding complications.

**Ginseng** may have an effect on coagulation (blood clotting). It also inhibits platelet function by interfering with platelet aggregation. Ginseng should be discontinued 7 days before surgery.

**Kava** should be discontinued at least 24 hours prior to surgery because it can increase the sedative effects of medications used for anesthesia.

**St. John's wort** can increase the metabolism (breakdown) of many other medications administered during the perioperative period. Patients should discontinue the use of St. John's wort at least 5 days before surgery. This is especially true if medications to thin the blood (i.e., oral anticoagulants like coumadin) are to be used after surgery.

**Valerian** may increase the sedative effects of medications used during anesthesia. Because patients may be physically dependent, abrupt discontinuation is not advised due to the risk of withdrawal. It may be better to taper the dose of valerian during several weeks before surgery.

### Summary

You should make your surgeon aware of the herbal supplements you take. Although they may not require a prescription, they may affect you system as much as any other medication. The systemic effects include the following:

Increased bleeding	<ul style="list-style-type: none"> <li>· Garlic</li> <li>· Ginkgo</li> <li>· Ginseng</li> </ul>
Cardiovascular instability	<ul style="list-style-type: none"> <li>· Ephedra</li> </ul>
Herb-drug interactions: Increased sedative effect of anesthetic medications	<ul style="list-style-type: none"> <li>· Kava</li> <li>· Valerian</li> </ul>
Herb-drug interactions: Increased metabolism of medications	<ul style="list-style-type: none"> <li>· St. John's wort</li> </ul>