



## Supplement Sampler

### Supplements and Surgery

A 2000 study indicated that 70% of patients going in for preoperative evaluations did not disclose that they were taking dietary supplements unless they were specifically asked ([J Clin Anesth 2000;12:468-71](#)). Most people do not list supplements when asked to list their medications, because they think of the two as different.

In terms of what is reported, it would seem that supplements cause far fewer surgical and post-operative problems than medications. Nevertheless, it is important to consider the use of supplements in any pre-operative evaluation.

Here are some suggestions to consider for anyone who is going to have elective surgery.

#### **1. Stop dietary supplements two weeks before surgery.**

The American Surgical Association recommends that people stop all supplements 2 to 3 weeks before surgery, and *Miller's Anesthesiology* (6<sup>th</sup> edition, 2005) recommends that people discontinue them at least one week before. Two weeks in advance is a reasonable compromise. Some argue it is fine to continue taking vitamins and minerals up through the day of surgery provided that:

- A. They are not in combination products with other substances.
- B. They are at standardized doses (doses in the Recommended Dietary Intake range).

Some more specific suggestions as far as when to stop before surgery have been given for a few commonly used supplements ([JAMA 2001;286:208-16](#)):

- Garlic – stop 7 days before surgery
- Ginkgo – 36 hours
- Ginseng (American, Siberian, Panax) – 7 days
- Kava kava – 24 hours
- St. John's wort – 5 days

#### **2. It is best not to be taking supplements that cause drowsiness or stimulation prior to having anesthesia.**

Examples of common sedating supplements include:\*

- German chamomile
- Hops
- Kava (additive effects with benzodiazepines)
- L-tryptophan
- Lavender (animal models)
- Lemon balm



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- Passionflower (additive effects with central nervous system depressants in some studies)
- Valerian (clinical research)
- Melatonin

Some common *stimulating* supplements include ephedra (taken off the market because of arrhythmia side effects). Bitter orange, which contains synephrine, is now more commonly used and has been linked in case reports to numerous problems.

3. **In general, waiting a week or two after surgery before starting medications again is also reasonable. Wait until someone is eating a normal diet and their bowels are moving again.**
4. **Also, wait until a person is not at high risk for bleeding and lowered blood pressures after surgery before re-introducing supplements that can contribute to such problems.**

Examples of supplements that might increase bleeding:

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| <ul style="list-style-type: none"><li>• Andrographis (<i>in vitro</i> data)</li><li>• Boldo</li><li>• Chondroitin</li><li>• Danshen</li><li>• Dong quai</li><li>• Fenugreek</li><li>• Garlic</li><li>• Ginger</li><li>• Ginkgo</li></ul> | <ul style="list-style-type: none"><li>• Glucosamine</li><li>• Horse chestnut</li><li>• Policosanol (clinical research)</li><li>• Resveratrol (<i>in vitro</i> data)</li><li>• Saw palmetto (anecdotal evidence only)</li><li>• Vitamin E (high dose)</li></ul> |
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Supplements containing caffeine (black tea, green tea, guarana) have antiplatelet effects in *in vitro* studies. Most of the above supplements are noted to have had interactions with warfarin (coumadin), so blood clotting lab values must be closely followed with their use.

Examples of supplements that may lower blood pressure (effect is typically small) include:

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| <ul style="list-style-type: none"><li>• Andrographis (preliminary evidency)</li><li>• Coenzyme Q10</li><li>• Epimedium (a.k.a. horny goat weed)</li></ul> | <ul style="list-style-type: none"><li>• L-Arginine</li><li>• Theanine</li></ul> |
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5. **Some supplements can affect blood sugars, and people with diabetes must take care, since a body stress such as surgery can also alter glucose levels.**

Watch sugars closely. They have been found, in clinical research, to be affected by:

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| <ul style="list-style-type: none"><li>• Alpha-lipoic acid</li><li>• American ginseng</li><li>• Banaba</li><li>• Bitter melon</li><li>• Chromium</li><li>• Fenugreek</li></ul> | <ul style="list-style-type: none"><li>• Glucomannan</li><li>• Gymnema</li><li>• Panax (Chinese, Korean) ginseng</li><li>• Prickly pear cactus</li></ul> |
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- 6. Some supplements can also affect how the liver metabolizes different drugs. An important example is St. John's wort.** St. John's wort alters cytochrome p 450 activity and can lead to changes in levels of medications such as birth control pills and cyclosporine.
- 7. After surgery, if someone has started new medications, they should talk with a healthcare provider before re-starting supplements.**

Supplements, when used with respect, can be an important part of a person's overall approach to wellness.

\*The above lists of supplements are derived in part from the Natural Medicines Comprehensive Database, accessed January 21, 2009, at [www.naturaldatabase.com](http://www.naturaldatabase.com). Another useful reference is Brinker, F. *Herb Contraindications and Drug Interactions*.

*Brought to you by Adam Rindfleisch, M.Phil, M.D., and your colleagues in the University of Wisconsin-Madison Department of Family Medicine Integrative Medicine Program.*

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