

## A GUIDE TO DIETARY SUPPLEMENTS

reported. But any preparations containing echinacea may have an adverse effect on people with severe illnesses, including autoimmune diseases, HIV infection, leukemia, multiple sclerosis, or tuberculosis.

### POTENTIAL DRUG INTERACTIONS

No significant interactions have been reported.

### SPECIAL CONSIDERATIONS

- If you decide to try echinacea for preventing or treating a cold or bout of flu, it's unknown which variety of echinacea is most effective or what is the proper dosage. Also, more than most other herbs, the concentration of active ingredients can vary significantly in different preparations depending on the variety of echinacea, the part of the plant used, growing conditions, and how the ingredients were extracted.
- Commercial echinacea preparations are often diluted with inactive ingredients. Be sure to check the label. Many tinctures contain significant amounts of alcohol and may not be appropriate for children or for adults who should avoid alcohol.
- Anyone who is infected with HIV, has an autoimmune disease, or has another serious illness should avoid using echinacea.
- Pregnant or breastfeeding women should not use echinacea; the effects are unknown.
- Any therapeutic effects of echinacea are usually evident within 10 to 14 days. If an illness you are treating has not improved within that time, be sure to see your doctor. And do not, in any case, use echinacea for more than 8 weeks.

## Fish Oil

### WHAT IS IT?

Fish is a healthy food; the American Heart Association (AHA) recommends that people without heart disease eat at least two servings a week and that people with heart disease eat about one serving per day. For people with heart disease who don't wish to eat fish every day, the AHA suggests that people consider taking a daily fish oil supplement after consulting a physician. The principal claim for fish

oil, which is rich in polyunsaturated fatty acids called omega-3 fatty acids, is that it reduces the risk of sudden death and death from other causes in people with heart disease. Fish oil also can reduce elevated triglycerides (lipids, or fats, found in the blood), and is purported to treat high blood pressure and rheumatoid arthritis.

### COMMON FORMS

Available in capsules and in a more highly-concentrated liquid form.

### HOW IT WORKS

Fish oil contains the omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). In the body, EPA and DHA get converted to hormone-like substances called eicosanoids that have anti-inflammatory, antiarrhythmic, and vasodilatory properties. They also lower triglyceride levels in the blood, probably by blocking the synthesis of very-low-density lipoprotein and triglycerides in the liver.

### RESEARCH AND EVIDENCE

Fish oil has a proven effect on the heart. One large Italian study of people with heart disease found that after three and a half years, people who received 850 mg a day of omega-3 fatty acids had a 45 percent reduction in sudden death and a 20 percent reduction in death from all causes.

Some evidence shows that fish oil supplements can reduce blood triglyceride levels. One review article found that 4 g per day of omega-3 fatty acids reduced blood triglycerides by 25 to 30 percent in people with elevated triglyceride levels. Fish oil also appears to have a modest effect on blood pressure in people with hypertension: a meta-analysis of 31 trials found that 5.6 g per day of fish oil reduced blood pressure by 3.4/2.0 mm Hg.

Finally, some evidence exists for the use of fish oil in rheumatoid arthritis. Several small studies have found that taking at least 3 g per day of fish oil can reduce morning stiffness and the number of tender, swollen joints in people with rheumatoid arthritis.

### POSSIBLE SIDE EFFECTS

The most common side effects of fish oil are a fishy aftertaste and gastrointestinal symptoms such as

nausea, bloating, and belching. Higher doses are associated with more pronounced side effects.

### **POTENTIAL DRUG INTERACTIONS**

Although fish oil prolongs bleeding time, there are no documented cases of bleeding problems, even when taken in high doses and combined with anti-coagulant medications such as warfarin (Coumadin). Nevertheless, people taking anticoagulants should avoid high doses of fish oils.

### **SPECIAL CONSIDERATIONS**

- If you wish to start taking fish oil, consult your doctor. Don't stop taking your regular medications for heart disease, high blood pressure, high blood triglycerides, or arthritis without your doctor's okay.
- The American Heart Association (AHA) recommends that people with heart disease get about 1 g per day of EPA plus DHA. Although the AHA recommends oily fish as the best source of these fatty acids, it states that people can meet that goal by using supplements as long as they consult with a physician.
- The AHA recommends that people who need to lower their triglyceride levels get 2 to 4 g a day of EPA plus DHA in supplement form.
- Fish oil capsules generally contain 180 mg of EPA and 120 mg of DHA per 1 g. Fish oil liquid concentrate generally contains 1 to 3 g of EPA plus DHA per teaspoon.
- In addition to standard fish oil from salmon or herring, fish oil is available as cod liver oil and omega-3 fatty acid concentrate.

## Garlic

**Latin name:** *Allium sativum*

### **WHAT IS IT?**

A member of the onion family, garlic has been used for thousands of years as a medicinal plant, and today garlic supplements are extremely popular as well as extensively researched. Promoters of the supplements make countless claims for garlic's benefits: it is marketed for treating everything from headaches to infections to cancer. Probably the

chief claim made for garlic, however, is that it can reduce the risk of heart disease by lowering blood cholesterol levels. Hundreds of garlic studies have investigated these and other claims during the past ten years. Despite the studies and much advertising promoting garlic's curative powers, there is no clear evidence that garlic supplements have any health benefit.

### **COMMON FORMS**

Most commonly available as tablets of compressed powder made from dried garlic bulbs. Also sold as fresh bulbs, freeze-dried powder, fresh extract, and oil.

### **HOW IT WORKS**

Garlic contains more than 23 constituents, but alliin and allicin are often cited as the key active ingredients. Allicin is an unstable sulfurous compound that is formed from alliin by enzymes when the clove is chewed, crushed, or ground; allicin gives garlic its strong odor. Allicin then breaks down into other sulfur-containing compounds. However, alliin and allicin are not present in all garlic supplements, so if they are indeed the active ingredients, more may be available in raw garlic or powdered forms of garlic. The problem is, some other compound might be beneficial—or not. No one knows.

### **RESEARCH AND EVIDENCE**

With regard to the claims for garlic's cholesterol-lowering effect, a few clinical trials have shown a modest benefit. But these studies—like most studies on claims for garlic—have been small, poorly designed (many with no control group), and use different forms of garlic, so their results are questionable.

Two well-designed controlled studies concluded that garlic had no effect on cholesterol levels. Both studies—one published in the *Archives of Internal Medicine*, the other in the *Journal of the American Medical Association*—involved subjects with elevated cholesterol and compared the results of taking garlic supplements against a placebo over 12 weeks. Each study used a different form of garlic—an oil and a powder tablet—but neither form reduced cholesterol levels. By contrast, a review article published in 2001 concluded that garlic does have a small effect on total cholesterol—but that the effect disappeared after 6 months of treatment.