

### **Warfarin (Coumadin) Interactions with Food**

Several foods, medicines, and herbal supplements can interact with warfarin (Coumadin) and affect its effectiveness. It is important that you are aware of these interactions so that you can manage your Coumadin therapy.

### **What Does Vitamin K Do in the Body?**

The body needs vitamin K to produce some essential blood clotting factors. Without enough vitamin K, these clotting factors may still be produced but are ineffective in clotting. Therefore, people with too little vitamin K have a bleeding tendency.

### **How Does Coumadin Interact with Vitamin K?**

Coumadin interferes with the action of vitamin K and therefore prolongs the time it takes to form a clot - this is the intended effect of Coumadin therapy. Increasing vitamin K intake while you are on Coumadin will work **against** the action of Coumadin.

### **Why Do I Have to Keep My Vitamin K Level Consistent?**

It is very important that you **keep the amount of vitamin K in your diet the same (consistent)** while on Coumadin. Variations in vitamin K levels may cause the PT/INR (the laboratory test that measures the effect of Coumadin) to change. You do not need to stop eating foods that contain vitamin K. However, you should be aware of foods that are very high in vitamin K and try to keep the amounts the same every day.

### **How Much Vitamin K Do I Need?**

The average person in the United States takes in 60 to 80 micrograms (mcg) of vitamin K per day. This is a very tiny amount (60 to 80 millionths of a gram). Extremely small changes in vitamin K intake can have a major effect on the PT/INR test in some patients on Coumadin. It is not necessary for most people to count vitamin K micrograms that they consume every day while on Coumadin. If, however, you are having difficulty stabilizing your PT/INR, you may benefit from writing down your daily intake of vitamin K to make sure that it is the same every day. Varying the amount of vitamin K in your diet can change the effectiveness of your Coumadin. **Aim for consistency!** Eat a balanced diet with a variety of foods. For instance, if your normal pattern is to have two servings per day of food high in vitamin K, then make sure to continue with this pattern every day. If you do not normally eat these foods, do not suddenly eat a large amount of them.

### **Very Rich Sources of Vitamin K**

The following foods are very high in vitamin K (more than 400 mcg). You should eat the same amount of these foods every day or not at all. If you eat them one day and not the next, your Coumadin may be affected.

- Kale
- Parsley (except as a garnish - a sprig or a tablespoon chopped)
- Swiss chard
- Seaweed
- Mint leaves
- Natto (a Japanese fermented soybean product)

### **Rich Sources of Vitamin K**

The following foods are high in vitamin K. They contain 60-400 mcg of vitamin K per serving (such as 1/2 cup cooked vegetables or 1 cup raw):

- Avocado (1/8th of an avocado)
- Broccoli
- Brussels sprouts
- Cabbage (fresh or boiled)
- Collards
- Endive
- Lentils (1/2 cup)
- Lettuce (head, bib, leaf)
- Liver (3.5 oz.)
- Garbanzo beans (3/4 cup)
- Green onion
- Green pepper
- Soybeans (3/4 cup) - but not tofu
- Spinach
- Turnip greens (and other greens)
- Watercress

### **Moderate Sources of Vitamin K**

The following foods have a moderate amount of vitamin K. They contain 3-59 mcg of vitamin K per serving (such as 1/2 cup cooked vegetables or 1 cup raw):

- Asparagus
- Canola and soybean oil (2 tbsp)
- Celery
- Green apple
- Iceberg lettuce
- Margarine (2 tbsp)
- Mayonnaise (2 tbsp)
- Okra
- Peanut butter (2 tbsp.)
- Summer squash

### **What If I Want to Make a Change in My Diet?**

When you start taking Coumadin, eat your usual amount of vitamin K-containing foods while your doctor finds the

right Coumadin dose for you. While you are taking Coumadin, be sure to **tell your doctor if you change your diet** or eating pattern because this is likely to change your vitamin K intake. Your doctor can monitor your PT/INR test closely when your diet changes and can adjust your Coumadin as needed.

Doing any of the following may also influence the amount of vitamin K in your body:

- Increasing your vegetable intake as part of a diet to lose weight
- Eating more fresh vegetables in spring and summer because of the larger selection available
- Being sick and unable to eat solid foods for a few days
- Returning to your normal diet after being hospitalized and on a limited diet due to surgery or illness
- Changing your diet due to traveling to a place where the foods are unfamiliar
- Deciding to change your diet to eat more lentils, beans, dried peas, and vegetables

#### **Important Dietary Tips**

**DO NOT EAT GRAPEFRUIT OR DRINK GRAPEFRUIT JUICE.** Grapefruit and grapefruit juice decrease the body's ability to metabolize Coumadin.

**Alcohol** can change your response to Coumadin. Discuss alcohol use with your healthcare provider.

**Avocados** are high in vitamin K, although the amount varies from avocado to avocado. Vitamin K content in guacamole can vary by as much as 40 times. Because avocados can unpredictably affect the PT/INR, it may be best to avoid them.

· Although **dried basil, thyme and oregano** contain high levels of vitamin K, a teaspoon of these herbs in their fresh form contain only a small amount and can be used.

· **Store-bought margarine** contains unknown amounts of various vegetable oils. As a result, the amount of vitamin K in these foods is unpredictable. Use small amounts of butter instead of margarine.

· **Store-bought mayonnaise** also contains unknown amounts of various vegetable oils and therefore has an unpredictable vitamin K content. Mayonnaise should be homemade with oils that are lower in vitamin K. If store-bought products are used, they should be the "light" variety with only small portions consumed (such as no more than several teaspoons).

· For the same reasons as with margarine and mayonnaise, be cautious of **store-bought salad dressings**. Homemade dressings are preferred.

· Watch out for foods normally low in vitamin K but **packed in oil** such as tuna fish, especially when the type of oil is unknown. It is best to use canned items packed in water.

· **Exposing oils to sunlight** or fluorescent light destroys about 85% of vitamin K. Expose high vitamin K oils to light for at least 48 hours by placing them in a transparent container in the sunlight. Do not open the container to the air because oxygen will cause the oil to oxidize.

· The vitamin K content of food is **not altered by cooking** or gamma irradiation.

· Remember that some **daily multi-vitamins** contain vitamin K. Check all vitamins you take carefully. Inform your doctor if your daily vitamin contains vitamin K, and the amount that it contains.

**Vitamins A, E and possibly C** may also affect how your Coumadin works. However, the amounts usually present in a daily multi-vitamin are not a problem. Discuss taking vitamin supplements beyond a multi-vitamin with your healthcare provider.

#### **Which Herbal Products Can Interact with Coumadin?**

Use caution with herbal supplements as they may interfere with Coumadin. The following herbs have been reported to affect Coumadin activity or to affect blood clotting in other ways:

- Alfalfa
- Angelica
- Aniseed
- Arnica
- Asafoetida
- Chamomile
- Echinacea
- Fenugreek
- Feverfew
- Garlic
- Ginger
- Ginkgo biloba
- Ginseng
- Horse chestnut
- Melilot
- Prickly ash
- Quassia
- Red clover
- Saint John's wort
- Saw palmetto
- Sweet woodruff
- Tonka beans

#### **Points to Keep in Mind**

1. When you start Coumadin, tell your healthcare provider about your eating patterns and any nutritional or herbal supplements, including herbal teas, that you take, even if your supplement(s) are not on the above list.

2. If your healthcare provider says that you may continue taking the supplement(s), remember the importance of **consistency** in both your eating pattern and in taking your supplement(s).

3. After you have started Coumadin, let your healthcare provider know **before** you change your nutritional

supplements or eating pattern. This will allow your healthcare provider to closely monitor your PT/INR and adjust your Coumadin as needed.