



Important information to know when you are taking: Coumadin[®] and Vitamin K

The food you eat can affect how your medicine works. It is important to learn about possible drug-nutrient interactions for any medicines you take. This handout was developed to provide you with information about the interaction between Coumadin[®] and vitamin K.

Why was Coumadin[®] prescribed for you?

Warfarin (Coumadin[®]) is a medicine prescribed for people at increased risk of forming blood clots. Sometimes medical conditions can make blood clot too easily and quickly. This could cause serious health problems because clots can block the flow of blood to the heart or brain. Warfarin (Coumadin[®]) can prevent harmful blood clots from forming.

How does Coumadin[®] work?

Blood clots are formed through a series of chemical reactions in your body. Vitamin K is essential for those reactions. Coumadin[®] works by decreasing the activity of vitamin K; lengthening the time it takes for a clot to form.

International Normalized Ratio (INR) and Prothrombin Time (PT) are laboratory test values obtained from measurements of the time it takes for a clot to form. Individuals at risk for developing blood clots take Coumadin[®] to prolong the usual time it takes for a clot to form, resulting in a prolonged INR/PT. Doctors usually measure the INR / PT every month in patients taking Coumadin[®] to make sure it stays in the desired range.

What can help keep INR / PT in the desired range?

To help Coumadin[®] work effectively, it is important to keep your vitamin K intake as consistent as possible. Sudden increases in vitamin K intake may decrease the effect of Coumadin[®]. On the other hand, greatly lowering your vitamin K intake could increase the effect of Coumadin[®].

To keep INR / PT stable and within the recommended range, it is important to:

- take the correct dose of Coumadin[®] at the same time every day
- have your INR / PT checked regularly
- keep your vitamin K intake consistent from day to day

To help make it easier to keep your intake of vitamin K consistent:

- limit intake of foods considered “high” in vitamin K to no more than 1 serving each day
- limit intake of foods “moderately high” in vitamin K to no more than 3 servings each day
- report any significant changes in your diet or your weight to your doctor

In other words,

- **Watch how often you eat foods high in vitamin K.**
- **Watch how much you eat of foods high in vitamin K.**

Do you want to know more about vitamin K?

Green leafy vegetables are among the best food sources of vitamin K. The average intake of vitamin K for most adults in the U.S. is 70 to 80 micrograms (mcg) per day. The Daily Value for vitamin K, an estimate of daily need, is 80 micrograms. The Percent Daily Values (%DV), listed on the tables below, help consumers determine if a food contains a little or a lot of a specific nutrient.

As indicated below, it is important to limit intake of foods that provide more than 60% of the Daily Value for vitamin K to help keep INR / PT in the desired range.

Foods high in Vitamin K (more than or equal to 200% DV)

Eat no more than 1 serving per day

Food	Serving size	% Daily Value
Kale, fresh, boiled	1/2 cup	660
Spinach, fresh, boiled	1/2 cup	560
Turnip greens, frozen, boiled	1/2 cup	530
Collards, fresh, boiled	1/2 cup	520
Swiss chard, fresh, boiled	1/2 cup	360
Parsley, raw	1/4 cup	300
Mustard greens, fresh, boiled	1/2 cup	260

Foods moderately high in Vitamin K (60 to 199% DV)

Eat no more than 3 servings per day

Food	Serving size	% Daily Value
Brussels sprouts, frozen, boiled	1/2 cup	190
Spinach, raw	1 cup	180
Turnip greens, raw, chopped	1 cup	170
Green leaf lettuce, shredded	1 cup	125
Broccoli, raw, chopped	1 cup	110
Endive lettuce, raw	1 cup	70
Romaine lettuce, raw	1 cup	70

Iceberg lettuce, red cabbage, asparagus, and soybean oil are often reported as being high in vitamin K. They contain much smaller amounts than foods listed in the tables above. These, and other foods and beverages not listed in the tables above (including coffee and tea), may be consumed as desired. Food Values are from the U.S. Department of Agriculture, Agricultural Research Service. 2003. USDA National Nutrient Database for Standard Reference, Release 16. Nutrient Data Laboratory Home Page, <http://www.nal.usda.gov/fnic/foodcomp>

What else should you know about Coumadin®?

- *Alcoholic Beverages*

Alcohol intake greater than 3 drinks daily can increase the effect of Coumadin®. However, some medical doctors advise those taking Coumadin® to avoid all alcoholic beverages. Check with your doctor about this issue.

One drink = 5 ounces wine
12 ounces beer
1 1/2 ounces liquor

- *Dietary supplements and herbal medications*

Many dietary supplements can alter the INR/ PT. Dietary supplements known to affect the INR/PT include: arnica, bilberry, butchers broom, cat's claw, dong quai, feverfew, forskolin, garlic, ginger, ginkgo, horse chestnut, inositol hexaphosphate, licorice, melilot (sweet clover) pau d'arco, red clover, St. John's wort, sweet woodruff, turmeric, willow bark, and wheat grass.

Much is unknown about dietary supplements. The safest policy is for individuals on Coumadin® to avoid all dietary supplements unless their physicians approve. This includes any vitamin/mineral supplements that list vitamin K on the label. If they are taken regularly on a daily basis, they pose less of a problem than if taken off and on.

- *Vitamin E supplements*

Evidence suggests that vitamin E has blood-thinning effects. Vitamin E intakes above 1,000 International Units (IU) per day may increase the risk of excess bleeding. Research suggests that doses up to 800 IU may be safe for individuals on Coumadin®, but the evidence is not conclusive. It is best for those taking Coumadin® to ask their physicians about taking Vitamin E supplements.

- *Antibiotics*

Some antibiotics can either lower vitamin K levels in the body or interfere with the activity of Coumadin®. Check with your physician or pharmacist about whether you will need to adjust your vitamin K intake or Coumadin® dose when you take antibiotics.

What are three important things to remember about Coumadin® and vitamin K?

1. Coumadin® is a very important drug for you. Follow the prescription exactly, and keep your follow-up appointments for blood tests such as the INR/PT.
2. Coumadin® interacts with vitamin K in your body, so you need to keep vitamin K intake constant from day to day. It is also important to avoid herbal products and dietary supplements that may affect vitamin K and Coumadin® unless approved by a qualified health care provider.
3. Post the phone numbers of your doctor, pharmacist, and registered dietitian for ready reference when you have a question or concern about Coumadin®, vitamin K, and your INR / PT.



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This information is prepared specifically for patients participating in clinical research at the Warren Grant Magnuson Clinical Center at the National Institutes of Health and is not necessarily applicable to individuals who are patients elsewhere. If you have questions about the information presented here, talk to a member of your healthcare team.

Questions about the Clinical Center? OCCC@nih.gov

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