



University of Michigan Health System  
UM Anticoagulation Service

Dear warfarin / Coumadin® user:

This educational information is for patients receiving warfarin/Coumadin® therapy through the University of Michigan Anticoagulation Service.

Patients who are followed by health care providers outside of the University of Michigan Health System may benefit from this information. However, these patients should direct any questions about their warfarin/Coumadin® therapy to their personal health care provider if their management is not at the University of Michigan. If you are being managed by the Anticoagulation Service, please call (734) 998-6944 from 8 am to 5 pm with any questions.

Sincerely,

Jim Froehlich, MD  
David B. Dyke, MD  
Medical Directors  
University of Michigan Health System  
Anticoagulation Service

## Communication:



Regular, reliable communication and teamwork between you and the Anticoagulation Service staff are essential to keep your prothrombin time / INR at a proper level.

### **Please note the following information carefully:**

1. It is essential that every patient have a working answering machine or voice mail.
2. For your safety, we **MUST** have an alternate working phone number for someone outside your home who has an answering machine. Should we not be able to reach you about a critical level lab result, we will call them and ask them to call you the same evening with the dose change.
3. **ONE** attempt will be made by phone to contact new patients and patients needing a significant dose change. A dose schedule will then be mailed to you. If we have not contacted you either

by phone or mail by the **seventh** day after your blood test, please call and inform us.

### **Patient Responsibilities:**

You must see a University of Michigan physician at least once per year in order to be followed long-term by our service.

You must notify the anticoagulation service about any of the following:

- **Admission to any hospital**
- **Bleeding**
- **Missed doses**
- **All medication changes, especially antibiotics, steroids, antifungal or seizure medications**
- **warfarin/Coumadin® prescription refills**
- **Travel plans**

**You must contact the Anticoagulation Service if you are scheduled for a procedure or surgery. YOUR doctor or surgeon is responsible for giving you instructions to hold your warfarin/Coumadin® prior to any surgery or procedure. The Anticoagulation Service will give you restart instructions.**

**Please** inform your dentist and other physicians about your warfarin /Coumadin® therapy.

If you have an **urgent** problem related to your warfarin, outside of regular business hours, please call UMHS paging at **(734) 936-6266 and enter pager ID # 7248.**

### **Lab Tests:**



Your blood must be checked frequently to be sure your levels of warfarin/Coumadin® are therapeutic, that is, not too high (too thin) or too low (too thick). If you need to change the date of your blood draw by more than 2 days, please notify the Anticoagulation Service at 734-998-6944, so we can discuss alternative dates.

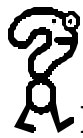
Blood tests are scheduled Monday through Friday only.

In the interest of patient safety, those patients who are unable to meet their scheduled blood draw dates **on a regular basis** will be asked to make alternative arrangements for warfarin monitoring.

### **Dose:**

**You should always remain on the warfarin/Coumadin® dose schedule as written or told to you by one of the**

## Anticoagulation Service Nurses until further notice.



### Frequently Asked Questions



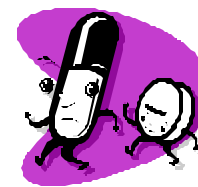
**What is warfarin?** warfarin/Coumadin® is a medication that works as an anticoagulant. “Anti” means against and “coagulant” refers to blood clotting. An anticoagulant helps to prevent blood clots from forming. Although warfarin is sometimes called a “blood thinner”, it works in the liver to decrease the production of natural blood components called clotting factors. It will not dissolve clots that have formed, but it will help prevent new clots from forming.

**Why am I taking warfarin?** Your physician has prescribed warfarin to prevent the formation of harmful blood clots or to treat an existing blood clot. Blood clots form in veins, arteries, or even within the chambers of the heart or heart valves. Blood clots can create blocks in blood vessels and cut off the blood supply to a portion of the body. Rarely, they can break into fragments called emboli, and be swept along by the blood. Emboli from veins can travel through the heart and lodge in the lung, causing a pulmonary embolus. Emboli from the heart or arteries can cause a stroke if they lodge in the brain.

Conditions for which physicians recommend taking warfarin include:

- Atrial Fibrillation
- Stroke
- Following a heart attack
- Treatment or prevention of DVT (deep vein thrombosis) or PE (pulmonary embolism)
- Heart valve disease or a patient with heart valve replacements.

### How much warfarin do I take?



The amount of warfarin needed varies greatly among individuals. Your body’s response to warfarin is monitored by a blood test called the Prothrombin Time (PT) or International Normalized Ratio (INR). Your warfarin dose is adjusted based on the results of this blood test.

### What are the PT and INR?

Prothrombin Time (PT) is measured in seconds and is the time it takes for your blood to form a clot in the test tube. International Normalized Ratio (INR) is a more consistent way of reporting the PT and is more widely used to monitor warfarin. Your goal is based on your indication for warfarin—the higher the INR, the thinner the blood. Most people have an INR of 1.0 before they take warfarin. After they start warfarin, their goal range is between 2.0 and 3.0, or may be even higher if you are at greater risk of forming clots. In general, if your INR is

below your target range (less than 2.0), you are at greater risk of forming clots, and if your INR is above your target range (greater than 3.0), you are at greater risk of having bleeding complications.



**When do I get my blood tested?** When you first start taking warfarin, you may need to get your blood tested once or twice each week. As your results become more consistent and your warfarin dose becomes stable, the frequency of blood tests may decrease to just once per month. The Anticoagulation Service will determine the frequency of your INR tests. **It is very important that you get your blood tested on the date and at the time that you are instructed.** If you are unable to keep a scheduled appointment, it is **your responsibility** to call and reschedule. Close monitoring of your INR is necessary to prevent blood clots and bleeding complications associated with your warfarin therapy.

**What are the side effects of warfarin?** Side effects with warfarin therapy are not common. Most side effects relate to the mechanism of warfarin; an increase in bleeding risk. Very minor bleeding may occur even when your INR is in goal range. This may include an increase in small bruises, or slight gum bleeding when brushing your teeth. Rarely, some people experience skin rashes or loss of hair when taking warfarin. If you are experiencing

something abnormal that you feel may be caused by your warfarin, please contact the Anticoagulation Service.

## **What are the signs of bleeding?**

### Minor Bleeding:

- Gum bleeding while brushing teeth
- Occasional nosebleed
- Easy bruising
- Prolonged bleeding after minor cuts
- Prolonged menstrual bleeding

You might notice any of the above symptoms from time to time. If you are unsure whether bleeding is significant and represents a problem, it is best to call the Anticoagulation Service and report it. It may be necessary to have your INR checked to be sure.

### Major Bleeding:

- Red, dark, coffee or cola colored urine
- Red stools or stools that look like tar
- Excessive amounts of bleeding from the gums or nose
- Vomiting of coffee colored or bright red material
- Coughing up red tinged sputum
- Severe unprovoked pain (example: severe headache or abdominal pain)
- The sudden appearance of several bruises for no apparent reason
- Excessive menstrual bleeding
- A cut that will not stop bleeding within 10-15 minutes

- If you have a serious fall or if you hit your head

If you experience any of these signs or symptoms contact the Anticoagulation Service, call your physician, or come to the hospital emergency department immediately.

**What are the symptoms of too little warfarin or a low INR?** The symptoms are associated with blood clotting. Seek medical attention immediately if you notice any of the following signs and symptoms of a blood clot:

- Sudden weakness in any limb
- Numbness or tingling anywhere
- Visual changes or loss of sight in either eye
- Sudden onset of slurred speech or inability to speak
- Dizziness or faintness
- New pain, swelling, redness or heat in any extremity
- New shortness of breath or chest pain

All of the above signs and symptoms can be serious. Remember: seek medical attention **immediately if any of them occur!**

### When do I take my warfarin?



Warfarin is taken just once each day. It is important to take warfarin at approximately the same time each day, usually in the evening. If you have difficulty remembering to take warfarin in the evening, please discuss this with one of the Anticoagulation Service nurse. You may take warfarin with *or* without food. It should not upset your stomach. You may also

take warfarin at the same time as most other medications. We recommend using a mediset or daily pillbox to help you keep track of doses. This can be filled each week with your appropriate dose. If possible, have someone else check the pillbox after you fill it.

**May I take generic warfarin or is the brand name Coumadin® better?** Generic warfarin should be just as effective as the brand name product, called Coumadin®. Occasionally, a person's INR may change when they switch from one product to another. For this reason, we ask that you *continuously* take *either* the generic *or* the brand name product, and not switch back and forth. If you do decide to switch, please notify the Anticoagulation Service as soon as possible. It is also important for you to realize that the generic and brand name products look different. Accidents have occurred where patients were taking both the brand name and the generic (usually prescribed by two different practitioners) by mistake because they looked like two different medications! Make sure you are not taking both, because this would be the same as doubling your warfarin dose!

### What do I do if I miss a dose?



Try not to miss a dose of your warfarin therapy. If you do miss a dose and you remember the same day, you may take your warfarin later than the scheduled time. If it is already the next day, please call the Anticoagulation Service for further instruction. If it is a weekend or a holiday and you are unable to reach us, simply skip the missed dose

and resume your normal dose the next day; it is best not to double your dose in order to “catch up.” Be sure to mark the missed dose on your calendar and remember to report it to the Anticoagulation Service before your next blood draw.

### Are there drug interactions with warfarin?

Warfarin interacts with *many* other medications. This includes prescription medication, as well as over-the-counter medicine, herbs, and vitamin supplements. **Therefore, it is extremely important that you contact the Anticoagulation Service whenever you start or stop any medication, herbal / liquid supplements or vitamins.** Please check with us even if your University of Michigan physician prescribed the medicine. Your physician does not usually notify the Anticoagulation Service when he/she changes your medications. The Anticoagulation Service may order more frequent INR checks whenever a possible drug interaction occurs with your warfarin therapy.

There are certain medications that you should not take with warfarin unless you have discussed them with your physician or an Anticoagulation nurse. The medications listed below may also decrease the blood’s ability to form clots and therefore increase your risk of bleeding. Important points:

- Never take aspirin without our knowledge, unless recommended by your physician. If your physician has recommended that you take one aspirin daily, your daily dose should not exceed 325mg.
- Other products containing aspirin include Excedrin, Alka-Seltzer, Ascriptin, Bayer, Bufferin, Ecotrin, Empirin, Nyquil, and Pepto Bismol.
- Ibuprophen (Advil, Motrin, Nuprin, Mediprin, Excedrin IB, Haltran, Midol 200,

Pamprin HB), naproxen (Aleve, Naprosyn, Anaprox), ketoprofen (Orudis), cimetidine (Tagamet HB), or famotidine (Pepcid AC) must be approved by your physician or an Anticoagulation nurse.



**What medications can I safely take with warfarin?** If you need a medication for mild pain relief, we recommend using acetaminophen (Tylenol). Limit your use of acetaminophen to no more than 1 gram per day (four of the 325mg tablets or 2 of the 500mg tablets).

**Cold or allergy**—Sinutab, Orenex, Contact, or Allerest

**Laxative**—Milk of Magnesia, Colace

**Vitamins**- take a general multi-vitamin or ask your pharmacist for advice, or you may consult with a nurse in the Anticoagulation Service.

**Is it safe to drink alcohol while taking warfarin?**



Alcoholic beverages, in moderation, are safe while taking warfarin. This means no more than one or two drinks on a special occasion (1

beer = 1 glass of wine = 1 cocktail/shot), and no more than one drink per day chronically. Drinking can put you at risk of injury, as well as elevate your INR significantly and increase your risk of bleeding.

### **Do I need to need to limit my activities while taking warfarin?**



Since warfarin increases your risk of bleeding, we recommend avoiding activities that place you at risk of injury. You should discuss with the Anticoagulation Service Registered Nurses (or your physician), any of your current activities and whether or not you should continue these while taking warfarin. Physical activities that are usually safe, such as walking, jogging, swimming, and gardening, may be continued. It is important to tell the Anticoagulation Service Registered Nurses about any significant changes in **activity level** as this may also affect your INR.

### **Do I need to change my diet?**



The foods that you eat may affect the way this medicine affects your body. Eat a normal, balanced diet while you are taking this medication. Do not go on a reducing diet, make other changes in your eating habits, start taking

vitamins, or begin using other nutrition supplements unless you have first checked with the Anticoagulation Service RN's. Also, notify the Anticoagulation Service if you are unable to eat for several days or if you have continuing stomach upset or diarrhea.

These precautions are important because the effects of the anticoagulant depend on the amount of vitamin K in your body. Therefore, it is best to have the same amount of vitamin K in your body every day. Vitamin K is also present in green, leafy vegetables (such as broccoli, cabbage, lettuce, & spinach). It is especially important that you do not make large changes in the amounts of these foods that you eat every day while you are taking warfarin.

**What if I get sick?** Acute illness will change your body's response to warfarin. An episode of congestive heart failure, fever (over 101° F), influenza, viral/bacterial infection, nausea, vomiting or diarrhea can cause your INR to go up dramatically. If you experience any of the above, please contact us so we can discuss how best to manage your warfarin therapy. Please remember to call us before you begin taking antibiotics, or soon after you start them.

**Who should know that I'm taking warfarin?** It is very important to tell each physician or health care practitioner you visit, your dentist, and each pharmacy where you have prescriptions filled that you are taking warfarin. It may affect how they will care for you in certain situations. If you are going to be

taking warfarin for a long period of time, **consider wearing an identification bracelet or necklace that will alert emergency health care providers that you are on warfarin.**

### What about pregnancy?



You should **NOT** take warfarin during the first trimester (3 months) of pregnancy. warfarin/Coumadin® can cause birth defects. It is up to your referring physician whether or not you can take warfarin during the later stages of pregnancy. Many physicians avoid using warfarin throughout the pregnancy while others do use warfarin with careful monitoring in the second and third trimesters. Talk to your physician if you are planning on becoming pregnant so that you may be switched to another medication in time to prevent harm to the developing fetus. If you believe you may become pregnant while taking warfarin, contact your physician and the Anticoagulation Service immediately.

**Is it safe to breast-feed while taking warfarin?** warfarin/Coumadin® is 99% protein bound thus very little is secreted into human milk. As a result, the American Academy of Pediatrics

has approved warfarin's use in breast-feeding mothers.

### Home Treatment for Dry Nose or Nosebleed:

1. Make sure that your room or house is well humidified.
2. Drink plenty of fluids (6-8 cups of water), unless you are on a fluid restriction for medical reasons.
3. Use a saline nasal spray 6-10 times a day (2 sprays in each nostril).
4. Nasal Moisturizers:
  - For short term (less than 4-5 days) use a small amount of Vaseline or A & D Ointment just inside of your nose.
  - For longer uses, obtain an over-the-counter water based lotion (Eucerin, Neutrogena, or equivalent) two times a day by placing a small amount in front of the nose.
5. If you have a nosebleed lasting longer than 10 minutes without any decrease in blood flow, please seek medical attention immediately and let the health care

providers know you are on an anticoagulant. Call the Anticoagulation Service **after** you have returned home so that we can schedule your next blood draw and adjust your warfarin/Coumadin® as needed.

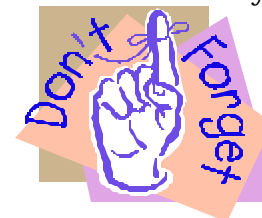


## **Guidelines for management of warfarin in patients undergoing dental procedures**

Patients on oral anticoagulation therapy routinely undergo dental procedures. For many of these procedures alteration of anticoagulation is not necessary since the associated bleeding is trivial or can be readily controlled by local measures. Interruption or modification of warfarin therapy is not indicated for patients undergoing the following dental procedures.

- Fillings
- Crowns
- Bridges
- Root Canal (endodontics)
- Routine cleaning
- Deep cleaning
- Single or double tooth extractions
- Scaling and polishing

Please inform your dentist that you are taking warfarin/Coumadin® and have them call the Anticoagulation Service with any questions.



1. Take your warfarin exactly as directed the same time every day, preferably before bedtime.
2. If you miss a dose of warfarin, never try to catch up by taking additional medication; please call the Anticoagulation Service for instructions.
3. If you are seeing a doctor, dentist, chiropractor, etc, tell him/her that you are taking warfarin/Coumadin.
4. Watch for signs of bleeding or clotting and report them immediately.
5. Limit alcohol to 1-2 drinks per day.
6. Keep your scheduled blood draw date, call the Anticoagulation Service promptly if you need to reschedule.
7. Prescription refills for warfarin/Coumadin may be obtained by contacting the Anticoagulation Service; ***please call for a refill before you run out.***
8. Try to keep your dietary intake of Vitamin K consistent.
9. Please notify the Anticoagulation Service if:
  - You have any changes to your medication.
  - You are admitted to an outside hospital.

- You miss a dose.
- You stop taking warfarin for *any* reason (surgery/procedure).
- If you notice any unusual bleeding/bruising.