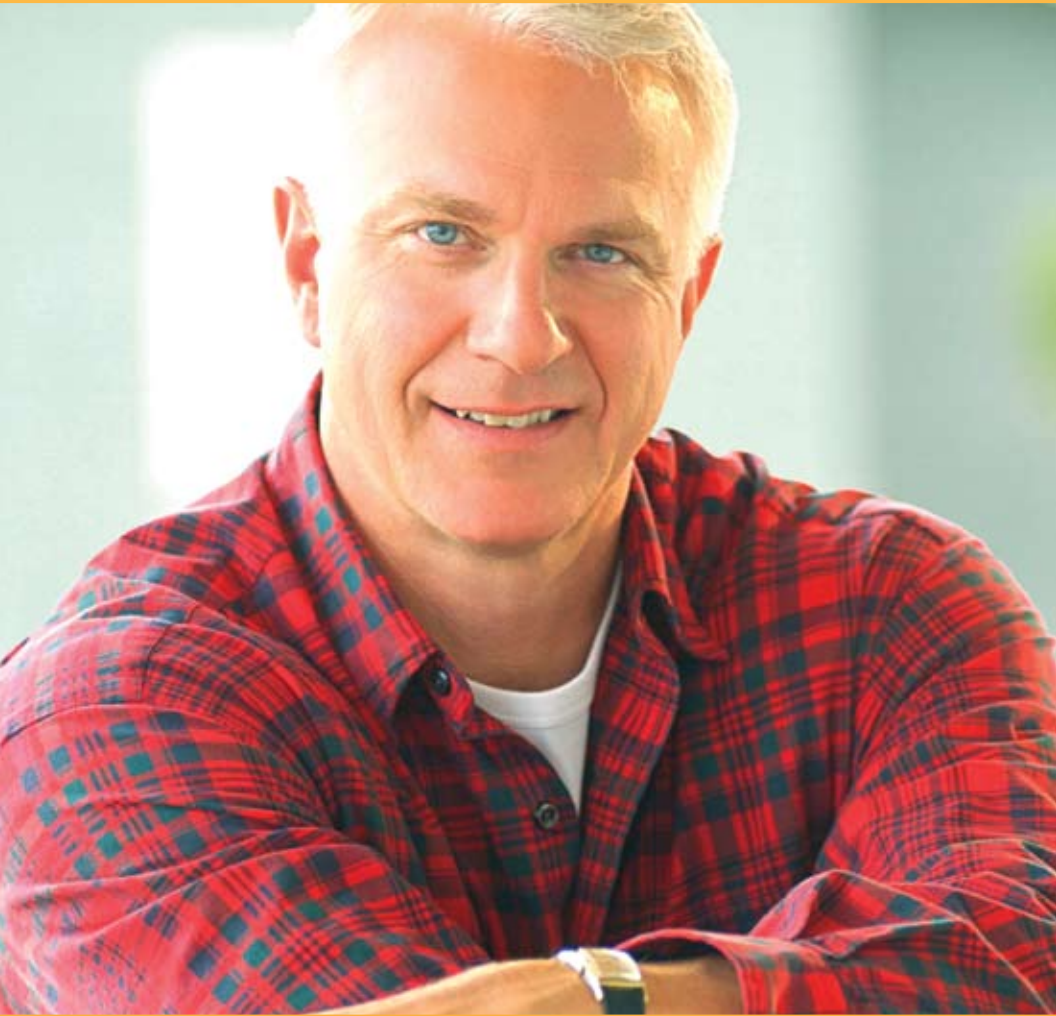




University of Michigan  
Cardiovascular Center

## ANTICOAGULATION SERVICE PATIENT EDUCATION BOOKLET



THE MICHIGAN DIFFERENCE®



**To Our New Patients,**

Welcome to the University of Michigan Anticoagulation Service. The purpose of this program is to assist you and your physician in the management of your anticoagulation therapy.

This book will help answer some of the questions you may have regarding the medication warfarin/Coumadin®. Please read through it carefully and refer to it often. If you have any questions, please contact the Anticoagulation Service at 734 998-6944 and one of our staff members will be happy to help you.

Sincerely,



Jim Froehlich, M.D.  
Medical Director  
U-M Anticoagulation Service



David B. Dyke, M.D.  
Medical Director  
U-M Anticoagulation Service



Janice Norville, M.S.N., M.S.B.A., R.N.  
Nurse Manager  
U-M Anticoagulation Service

## CONTACT INFORMATION

U-M Anticoagulation Service University of Michigan Health System

24 Frank Lloyd Wright Drive

P.O. Box 433

Ann Arbor, MI 48106

734-998-6944

734-998-6945 fax

Monday – Friday 8 a.m. to 5 p.m.

Emergency Contact after 5 p.m. \_\_\_\_\_

My Doctor \_\_\_\_\_

Phone \_\_\_\_\_

INR Range \_\_\_\_\_

## TABLE OF CONTENTS

Communication.....	2
Patient Responsibilities .....	2
Lab Tests.....	3
Dose .....	5
What to Watch for .....	5
Nosebleeds .....	6
Frequently Asked Questions.....	7
Dental Procedures.....	14
Reminders.....	15

## COMMUNICATION

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

Please note the following information carefully:

- It is essential that every patient have a working phone and answering machine or voice mail.
- 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.
- **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 who is responsible for prescribing your warfarin at least once per year in order to be followed long-term by our service. This may be your primary care physician or specialist.

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, and will determine when this can be restarted. The Anticoagulation Service will give you restart instructions.

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

If you have an emergency related to your warfarin, outside of regular business hours, please call 911 or go directly to the nearest emergency room.

## 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 two days, please notify the Anticoagulation Service at 734-998-6944, so we can discuss alternative dates.

Blood tests are scheduled Monday through Friday only. If you have your blood draw on the weekend, you will not be called until the following week.

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 remain on the warfarin/Coumadin® dose schedule as written or told to you by one of the Anticoagulation Service Nurses until further notice.

## WHAT TO WATCH FOR

You might notice any of the symptoms below 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.

### **Minor Bleeding:**

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

If you experience any of the following signs or symptoms, contact the Anticoagulation Service, call your physician or go to the hospital emergency room immediately.

### **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

## What are the symptoms of too little warfarin or a low INR?

All of the below signs and symptoms can be serious. Seek medical attention immediately if you notice any of the following signs and symptoms of a blood clot:

- Sudden weakness in any limb
- New onset of numbness or tingling
- Visual changes or loss of sight in either eye
- Sudden onset of slurred speech or inability to speak
- Dizziness or faintness
- Pain, swelling, redness or heat in arms or legs
- Shortness of breath or chest pain

**All of the above signs and symptoms can be serious.**

**Remember: Seek medical attention immediately if any of these occur!**

## HOME TREATMENT OF DRY NOSE OR NOSEBLEED

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.

- Make sure that your room or house is well humidified.
- Drink plenty of fluids (6-8 cups of water), unless you are on a fluid restriction for medical reasons.
- Use a saline nasal spray 6-10 times a day (2 sprays in each nostril)
- 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.

## FREQUENTLY ASKED QUESTIONS

### What is warfarin?

Warfarin is a medication that works as an anticoagulant. 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. Warfarin is also known as Coumadin® or Jantoven.

### 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 may break into fragments and be swept along by the blood, traveling through the heart and lodge in the lungs, causing a pulmonary embolus. Fragments 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 Deep Vein Thrombosis (DVT) or Pulmonary Embolism (PE)
- Heart valve disease or a patient with heart valve replacements
- Orthopedic procedures
- Hypercoagulability

## What is the INR?

Your body's response to warfarin is monitored by a blood test called International Normalized Ratio (INR). Your warfarin dose is adjusted based on the results of this blood test.

Your INR 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. Your physician will determine your target rate for your INR. If your INR is above your target range, you are at greater risk of 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 a week. As your results become more consistent and your warfarin dose becomes more consistent and stable, the frequency of blood tests may be decreased to just once a 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. New medications may need more frequent lab tests.

## What are the side effects of warfarin?

Side effects with warfarin therapy are not common. The greatest side effect is an increased risk of bleeding. Very minor bleeding may occur even when your INR is in goal range. 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.

### **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 a 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 your other medications, except Carafate. We recommend using a pillbox to help you keep track of doses. This can be filled each week with your appropriate doses. 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 double 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. You may take that dose if there is 12 hours or more until your next dose. If it is already time for your next dose, it is too late to take the missed dose. Be sure to mark the missed dose on your calendar and remember to report it to the Anticoagulation Service at 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 medications, herbal/liquid supplements or vitamins.** Please check with us even if your University of Michigan physician prescribes 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 325 mg.
- Other products containing aspirin include Excedrin<sup>®</sup>, Alka-Seltzer<sup>®</sup>, Ascriptin<sup>®</sup>, Bayer<sup>®</sup>, Bufferin<sup>®</sup>, Ecotrin<sup>®</sup>, Empirin, Nyquil<sup>®</sup>, and Pepto Bismol<sup>®</sup>.
- Ibuprophen (Advil<sup>®</sup>, Motrin<sup>®</sup>, Nuprin<sup>®</sup>, Mediprin<sup>®</sup>, Excedrin IB<sup>®</sup>, Haltran<sup>®</sup>, Midol 200<sup>®</sup>, Pamprin HB<sup>®</sup>), naproxen (Aleve<sup>®</sup>, Naprosyn<sup>®</sup>, Anaprox<sup>®</sup>), ketoprophen (Orudis<sup>®</sup>), cimetidine (Tagamet HB<sup>®</sup>), or famotidine (Pepcid AC<sup>®</sup>) 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<sup>®</sup>). Limit your use of acetaminophen to no more than 1 gram per day (four of the 325mg tablets or 2 of the 500mg tablets.)

- Some decongestants may not be safe with warfarin. They may interact with your other medications. Please contact your physician with questions.
- Laxative – Milk of Magnesia<sup>®</sup> or Colace<sup>®</sup>
- Vitamins – take a general multivitamin. Ask your pharmacist for advice or consult the Anticoagulation Service.

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

Alcoholic beverages, in moderation, are safe while taking warfarin. You may have one - two alcoholic beverages per day. Excessive drinking can put you at risk of injury, as well as significantly elevate your INR and increase your risk of bleeding.

### **Do I 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 about any significant changes in activity level as this may also affect your INR.

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

The foods you eat may change the way this medicine affects your body. Eat a normal, balanced diet while 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. Also, notify the 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 and spinach.) 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, liver disease, 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, contact us to discuss how best to manage your warfarin therapy. Call us before you start taking antibiotics or soon after.

### Who should know that I'm taking warfarin?

Tell your physician, health care provider, dentist, and your pharmacist that you are taking warfarin. It may affect how they care for you in certain situations. If you will be taking warfarin for a long time, consider wearing identification that alerts emergency 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 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 have become pregnant while taking warfarin, **contact your physician and the Anticoagulation Service immediately.**

### Is it safe to breastfeed while taking warfarin?

The American Academy of Pediatrics has approved warfarin's use in breastfeeding mothers.

## DENTAL PROCEDURES

Patients on oral anticoagulation therapy often have to undergo routine dental procedures. For many procedures, warfarin/Coumadin® is unnecessary since the blood loss is trivial or easily controlled. Stopping or changing warfarin therapy is not needed 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 tell your dentist that you are taking warfarin/Coumadin® and ask them to call the Anticoagulation Service with any questions.

## REMINDERS

- Take your warfarin exactly as directed the same time every day, before bedtime.
- If you miss a dose of warfarin, never catch up by taking more; call the Anticoagulation Service for instructions.
- If you are taking warfarin/Coumadin®, tell all health care providers.
- Watch for signs of bleeding or clotting and report them immediately.
- Limit alcohol to 1-2 drinks per day.
- Keep your scheduled blood draw date. Call the Anticoagulation Service promptly if you need to reschedule.
- Obtain prescription refills for warfarin/Coumadin® by contacting the Anticoagulation Service and call before you run out.
- Try to keep your dietary intake of Vitamin K consistent.
- Notify the Anticoagulation Service if:
  - You have any changes in your medication, vitamins or supplements
  - 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
  - You are pregnant
  - Keep this booklet where you can refer to it for future questions
  - Copy is available at: [www.umcvc.org](http://www.umcvc.org)
- Be involved in your care. Tell us what is working, what isn't and where you need help. You may also contact the nurse manager, Janice Norville, at 734-936-9340 with any program concerns.



For More Information  
U-M Anticoagulation Service  
**734-998-6944**

**[www.umcvc.org](http://www.umcvc.org)**  
1500 E. Medical Center Drive  
Ann Arbor, MI 48109

**Executive Officers of the University of Michigan Health System:** Robert P. Kelch, Executive Vice President for Medical Affairs; James O. Woollicroft, Dean, U-M Medical School; Douglas Strong, Chief Executive Officer, U-M Hospitals and Health Centers; Kathleen Potempa, Dean, School of Nursing.

**The Regents of the University of Michigan:** Julia Donovan Darlow, Laurence B. Deitch, Olivia P. Maynard, Rebecca McGowan, Andrea Fischer Newman, Andrew C. Richner, S. Martin Taylor, Katherine E. White, Mary Sue Coleman (ex officio).

The University of Michigan, as an equal opportunity/affirmative action employer, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action, including Title IX of the Education Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973. The University of Michigan is committed to a policy of nondiscrimination and equal opportunity for all persons regardless of race, sex, color, religion, creed, national origin or ancestry, age, marital status, sexual orientation, gender identity, gender expression, disability, or Vietnam-era veteran status in employment, educational programs and activities, and admissions. Inquiries or complaints may be addressed to the Senior Director for Institutional Equity and Title IX/Section 504 Coordinator, Office of Institutional Equity, 2072 Administrative Services Building, Ann Arbor, Michigan 48109-1432, 734-763-0235, TTY 734-647-1388. For other University of Michigan information call 734-764-1817.

© 2008, The Regents of the University of Michigan.

10/2008-1K