



**Principal Developer: B. Bartle**

**Secondary Developers: J. Johnson, M-F. Scully, L. Vickars**

### Information For Patients Taking Oral Anticoagulants

You are being treated with an oral anticoagulant medication for one of the following conditions:

- Atrial fibrillation
- Mechanical heart valve
- Deep vein thrombosis and/or pulmonary embolism
- Recent heart attack
- Stroke
- Other

See brief descriptions of these conditions later on in this document.

**This document is designed as general advice for patients taking oral anticoagulants. It does not replace the advice provided by your healthcare provider.** In this document, the term “healthcare provider” refers to the person who normally supervises your warfarin doses and blood testing. This may be a physician, clinic pharmacist or clinic nurse.

### WHAT IS AN ANTICOAGULANT?

An anticoagulant is a drug used to prevent and treat abnormal blood clotting. Anticoagulants are sometimes called “blood thinners”. This name is misleading since anticoagulants do not “thin the blood”. Anticoagulants also do not dissolve clots that are already formed. They work by slowing down the clotting of the blood. This makes your blood less likely to form dangerous blood clots.

### HOW DOES AN ORAL ANTICOAGULANT WORK?

Oral anticoagulants are pills that reduce the amount of blood clotting factors produced in the liver. This results in your blood taking longer to clot and less likely to form harmful clots. These drugs prevent abnormal clots from forming in blood vessels or in your heart. They can also stop existing blood clots from getting any larger. Anticoagulants reduce the chance of the blood clotting but do not prevent clotting completely. After starting an oral anticoagulant, it takes at least 3-4 days before it starts working.

### WHY DO I NEED AN ORAL ANTICOAGULANT?

You have either had a clotting event or you are felt to be at increased risk for a clotting event. An oral anticoagulant is prescribed to help stop abnormal blood clotting and prevent clotting events. Warfarin is a drug that has been used for more than 50 years and by millions of people. If used properly warfarin is one of the most valuable drugs we have. If warfarin is not used carefully, it can be one of the most dangerous drugs.

### WHY ARE BLOOD CLOTS SO DANGEROUS?

Abnormal blood clots can form in your arteries, veins, or in your heart. They are dangerous because they can block the normal flow of blood in an artery or vein. This prevents blood and oxygen from reaching important organs and tissues. Blood clots can also break off from where they are formed and be carried through the blood stream. Blood clots can cause a **heart attack** if they block a blood vessel in the heart. Blood clots can cause a **stroke** if they block a blood vessel in the brain. Blood clots can block blood vessels in other parts of the body, such as in the leg or arm or lungs. Blood clots in the lungs are called **pulmonary emboli**.

### HOW DO I TAKE THE ORAL ANTICOAGULANT?

In North America, almost all patients are started on the oral anticoagulant called warfarin, which is sometimes also called Coumadin®. A small number of patients will take another oral anticoagulant called nicoumalone or Sintrom® if they have had a reaction to warfarin such as a skin rash.

Warfarin is available in different strength tablets. Each strength is a different colour. The tablet has the number of milligrams imprinted on it. It is generally suggested that you are prescribed and take only one strength of tablet at a time. Multiples or fractions of that tablet strength can be used to obtain the proper dose.

Warfarin is taken once a day. It can be taken at any time of the day, although it should be taken around the same time every day. It is also a good idea to take warfarin at the time of the day when you are most likely to remember to take it, for example, with dinner or in the evening before bedtime. If you take other medications, warfarin can be taken once a day together with the other medication. Warfarin can be taken with food or on an empty stomach.

The dose of warfarin may change from day-to-day in a week and from time-to-time over the year. It is very important to **keep a record of all your warfarin doses and the blood test results in one place**, such as a calendar. This helps to avoid mistakes in the dose. It also helps you and your healthcare provider to review the pattern of warfarin doses and the blood test results over time.

Because it is so important to take warfarin as prescribed, it is suggested that the daily doses for a week be put into a 7-day plastic pillbox, sometimes called a “dosette”.

### HOW LONG WILL I HAVE TO TAKE WARFARIN?

How long you need to take warfarin depends on why you need an anticoagulant. Many people must take anticoagulant medication for the rest of their lives. Others need to take it for only 3-12 months. New information about the appropriate length of time to be on warfarin is still being researched, especially for patients with deep vein thrombosis or pulmonary embolism. **You should never stop taking this medication without discussing it with your doctor first.**

### WHY DO I NEED BLOOD TESTS?

The dose of warfarin needed by different patients varies a lot and is largely unpredictable for each patient at the start of treatment. For this reason, blood tests are needed to measure the effect of warfarin on the blood's ability to clot. This ensures that you are not getting too much or too little medication. Anticoagulation is a very delicate process. If the dose is too low, you are at risk of developing a stroke, heart attack or vein clot. If you take too much of the drug, you increase your risk of developing serious bleeding. Blood tests must be done for as long as you take warfarin because many factors can affect your response to it.

A blood test result that is within the desired range is **the most important aspect** of warfarin therapy. Some patients require as little as 1 mg of warfarin per day while others require over 20 mg per day to attain the correct blood test result. Patients who require higher doses of warfarin are NOT at greater risk of side effects than patients who require lower doses. Please remember that it is the INR value that is important, not the number of milligrams of warfarin or the number of tablets per day.

### WHAT TYPE OF BLOOD TESTS DO I NEED TO HAVE?

The blood test that is essential for all patients taking an oral anticoagulant is called the “**prothrombin time**”. This is also known as the “**Pro Time**” or “**PT**”. The Pro Time measures the time it takes for your blood to clot. The Pro Time value is stated in a standardized way using a value called **INR** (International Normalized Ratio)

The higher the INR value, the longer it takes the blood to clot. Healthy people who are not taking warfarin have an INR value of approximately 1.0. For most patients on warfarin, the INR should be between 2.0 and 3.0. This is called the **target range**. Patients with some types of mechanical heart valves require an INR target range of 2.5 to 3.5. You should ask your healthcare provider what your target range should be.

An INR below the target range (this means you are under-anticoagulated) may result in a new blood clot or stroke. An INR greater than the target range (this means you are over-anticoagulated) may put you at risk of serious bleeding.

Blood testing labs obtain the sample for a Pro Time from an arm vein. However, some anticoagulant management clinics do a Pro Time on a drop of blood obtained by a finger prick. This is generally less painful and is much faster than the traditional method.

Some patients do their own finger prick and INR testing at home using a portable INR device.

### **HOW OFTEN DO I NEED TO HAVE BLOOD TESTS?**

This also varies from time-to-time and from patient-to-patient. When you first start taking warfarin, you may need to have an INR test every few days. Once your healthcare provider has found the appropriate dose of warfarin, you will probably need an INR test once every week or two for a few weeks. If these test results and the warfarin dose remain somewhat stable and in the target range, then tests may be decreased to every 4-5 weeks. The warfarin dose may need to be increased or decreased periodically depending on the INR results. Similarly, how often the INR test is needed will depend on how stable the INR results are. It is preferable that your blood tests and anticoagulant dose be monitored by one caregiver. This may be a physician, clinic nurse or clinic pharmacist.

### **WILL MY BLOOD TEST RESULTS CHANGE FROM TIME-TO-TIME?**

Yes. The INR value will not be the same every time. This is why the test must continue to be done for as long as you are taking warfarin. In the beginning, the warfarin dose may change as your healthcare provider tries to find the right dose for you. Even after your right dose has been determined, many factors could affect your INR results. Make sure to tell your healthcare provider about any of the following:

- New illnesses
- Starting any new medications or herbal products
- Stopping old medications
- If you forget to take warfarin
- Major changes in your diet or activity level
- More than 2 drinks of alcohol per day

Forgetting to take your warfarin will also affect the INR results. It is important to tell your healthcare provider about missed doses.

### **What should I do if I forget to take a warfarin pill?**

Warfarin has a fairly long effect so taking a dose late will not cause any major problems. If you forget to take your dose at your usual time, take it when you remember at any time on that day. If it is the next day when you remember that you forgot to take yesterday's dose, it is safe to take both the missed dose and the one for that day together. You can take 2 doses for that day only. If you forget to take your warfarin for two or more days in a row, DO NOT take all of the missed doses. Call your healthcare provider right away for instructions.

### **Can I take other drugs while I'm on warfarin?**

Many medications interact with warfarin and increase or decrease its effect. This can be dangerous; however, most drugs can be safely taken with warfarin as long as additional INR blood tests are taken within a week of starting the new medication. It is important to tell your healthcare provider about all prescription and non-prescription medications as well as herbal and natural health products you take BEFORE starting warfarin.

Once you are taking warfarin, it is also important that you check with your physician, pharmacist or clinic before starting any NEW medication or stopping an older medication. It is generally advised to have an INR test 4-5 days after starting a new medication that might interact with warfarin.

Some of the most common medications that can increase the effect of warfarin include:

- Some antibiotics
- High doses of acetaminophen (Tylenol®)
- Amiodarone (Cordarone®)
- High doses of anti-inflammatory agents
- Aspirin

Remember to check with your physician or pharmacist because there are many other drugs that can interact with warfarin.

You should not take aspirin (or medications that contain aspirin) unless your doctor tells you that there is a specific reason to take both aspirin and warfarin.

### **What if I have a headache or a “cold”?**

It is best to check with your physician, pharmacist or clinic BEFORE starting any new medication, including over-the-counter medications. It is, however, generally safe to take 1 or 2 tablets of acetaminophen (Tylenol®) or ibuprofen (Advil®, Motrin®). If you require longer treatment or larger doses of these medications, you should call your physician, pharmacist or clinic. At the present time, very little is known about the effects of herbal medications on oral anticoagulation therapy. Herbal medications should be treated like any new medication. An additional INR test should generally be obtained 4-5 days after starting the herbal medication. It is better to consult your healthcare provider before starting one of these products.

### **What should I do if I cut myself or get injured?**

Generally, small cuts or scrapes will stop bleeding after applying direct pressure to the cut. Call your doctor immediately if you have a serious fall or hit your head. You may need to be examined by your doctor or at an Emergency Department.

### **What ABOUT Warfarin and pregnancy?**

Warfarin should not be taken if you are pregnant because oral anticoagulation medication can cause birth defects and harm the unborn baby. It is best to avoid becoming pregnant while taking warfarin. If there is a chance that you might become pregnant while taking warfarin, you should discuss reliable birth control methods with your doctor.

If you suspect that you could be pregnant while taking warfarin, stop it the same day and contact your doctor. If anticoagulant therapy is required during pregnancy, your doctor can change you to an injectable heparin anticoagulant.

Although warfarin does pass into breast milk, the amount is too small to affect the baby. Therefore, it is generally safe to breastfeed while taking warfarin.

### **Can I travel while taking warfarin?**

Oral anticoagulation therapy should generally not affect any travel plans. You should, however, tell your healthcare provider before you go away if the trip will be longer than the time until your next INR test. Depending on how long you will be away, you may need an INR test before you leave or while you're away. The need for these tests is best discussed with your healthcare provider at home rather than at your destination since you will be charged a fee for this service. Be sure to take enough tablets with you for the entire trip.

### **Can I participate in sports or physical activities?**

Patients taking warfarin can participate in most sports. It is a good idea to discuss this with your healthcare provider before starting any new sports or activity. This is especially important if there is a risk of falling or being injured during the activity. Proper protective equipment is recommended for all sports. If you play squash or racquetball, you should wear eye protection. For cycling, hockey, in-line skating and downhill skiing, wearing a helmet is strongly recommended.

### **What should I watch for while taking warfarin?**

The main complication of taking an anticoagulant medication is bleeding. It is common for patients taking warfarin to have more bruising than usual. It may also take slightly longer to stop bleeding from cuts or during a nosebleed – this is normal. Abnormal bleeding can occur anywhere in the body. Here is a list of some signals that bleeding may be present. If you experience any of the following, notify your doctor right away. Depending on the specific symptom, you may need to see your healthcare provider, or go to the Emergency Department.

- Severe or prolonged headaches
- Sudden dizziness, weakness, trouble breathing, or chest pain
- Bruising or tender swellings for no reason
- Vomiting or throwing up of blood
- New swelling or severe pain in the abdomen
- Bowel movements that contain blood or are black
- Urine that contains blood
- Severe, prolonged back pain especially if this is new
- Persistent nose bleeds that do not respond to squeezing of the nose for at least 10 minutes
- Coughing up blood

- Lots of bleeding when you brush your teeth, especially if this is new
- Prolonged bleeding from small cuts
- Very heavy menstrual bleeding (at least twice normal). Most women who take warfarin do not experience any increase in their menstrual periods. If they

**Bleeding (or the suspicion of bleeding) is generally a same-day emergency. You should inform the doctor immediately or go to the Emergency Department.**

Older patients are more sensitive to the anticoagulant effects of warfarin and thus are more likely to experience bleeding complications.

Apart from a risk of bleeding, warfarin has very few side effects. If you think that this medication may be causing side effects, talk to your doctor or pharmacist.

### HOW DO LIFESTYLE AND DIET AFFECT WARFARIN THERAPY?

#### Physical Activities

Patients taking oral anticoagulants should continue their usual physical activities and are free to start new physical activities. However, you should probably avoid contact sports or other activities in which injuries are common.

#### Diet

It is important for people to eat a healthy diet. Some foods contain **vitamin K**, which tends to work against warfarin. In high amounts, vitamin K can reverse the anticoagulant effects of warfarin. Foods that contain vitamin K include the dark green vegetables such as spinach, broccoli, brussel sprouts, asparagus, salad greens, and cabbage. These foods are among the healthiest and should **not** be avoided. However, one should try to have a reasonably similar amount of these foods every week. If you plan to make a major change in your diet, discuss this with your healthcare provide first. Also, tell your healthcare provider if you are unable to eat for several days.

#### Alcohol

Warfarin and alcohol are broken down in the liver by the same mechanism. Alcohol can affect the INR value and interact with the effects of warfarin. Patients on warfarin can safely have one or two alcoholic drinks (beer, glass of wine, shot of spirits) a day. Amounts of alcohol greater than this can cause the INR to go too high and increase the risk of bleeding. **DO NOT** binge drink.

### WHAT YOU SHOULD KNOW ABOUT YOUR CONDITION THAT REQUIRES ORAL ANTICOAGULANTS

Warfarin is prescribed for a number of different medical conditions that put people at risk of developing abnormal blood clots. If you are not sure why you are taking warfarin, ask your doctor or caregiver during your next appointment.

#### ATRIAL FIBRILLATION

Atrial fibrillation or AF is a very common heart condition. AF produces irregular, and often fast, heartbeats. It is one of the most common causes of stroke. AF causes the blood to stand still in the heart which may lead to blood clots forming in the heart. These clots may break free. If they travel to the brain, they can block the arteries that supply the brain, causing a stroke.

AF is most often caused by high blood pressure. Angina, previous heart attacks, overactive thyroid conditions and lung disease may also be involved. Many patients have AF without any obvious heart disease. The most common symptoms are sudden pounding, fluttering or racing of the heart. You may also experience pain, tightness, or pressure in the chest, shortness of breath, dizziness and fatigue. Some people do not experience any symptoms at all.

Treatment often includes medication to control the heart rate and anticoagulants, like warfarin, to reduce the risk of stroke.

#### ARTIFICIAL HEART VALVES

If a valve in the heart becomes diseased, replacement of the abnormal valve with an artificial heart valve may be needed. Because these artificial valves contain material that is foreign to your body, clotting can occur on the surface of the valves.

Two things can happen when clotting occurs on the artificial heart valve. First, the clot can remain on the artificial valve and restrict the flow of blood through the valve. More commonly, a clot can become dislodged from its place on the valve and cause a stroke or other serious consequences. Anticoagulant therapy with warfarin, or warfarin plus a small amount of Aspirin®, is very effective in preventing clotting of the valves and strokes.

### **DEEP VEIN THROMBOSIS AND PULMONARY EMBOLISM**

Deep vein thrombosis (DVT) is the term used to describe blood clots that form in the deep veins of the legs. Less commonly, clots can form in other deep veins of the body. These clots can remain in the deep veins, or they can break off and travel to the lung. This latter condition is called pulmonary embolism (PE).

DVT can be caused by one or more of the following factors: surgery, injury to the legs or other parts of the body, cancer, acute medical illness, pregnancy, estrogen (birth control pills or hormone replacement therapy), and a number of abnormalities of the blood. Symptoms of DVT include leg pain and/or swelling. Pulmonary embolism may produce shortness of breath, sharp chest pain, coughing up blood or fainting.

Anticoagulants are nearly always used in the treatment of DVT and PE. Treatment is usually started with an anticoagulant such as heparin or a low molecular weight heparin for the first 5-7 days. This may be overlapped with and followed by warfarin. This stops the abnormal clotting process and prevents recurrence of the clotting event. In some patients, anticoagulant treatment is given for 3 to 6 months. In others, the clotting risk persists and anticoagulants may be continued indefinitely.

### **HEART ATTACK (MYOCARDIAL INFARCTION)**

Myocardial infarction (MI) is more commonly known as a "heart attack". It is usually caused when a clot forms in and blocks a coronary artery that supplies the heart muscle with blood and oxygen. Most of these clots form where arteries have become narrow due to fatty deposits in the artery walls.

The most recognized symptom of MI is chest pain which spreads down the left arm or into the jaw or neck. Most patients who suffer from a heart attack recover, but they remain at risk for further heart attacks. Repeat blood clots can occur in the same or different coronary arteries. Clots can also form inside the damaged heart and can break off and cause a stroke.

The risk of repeat clotting in a coronary artery may last for months or years after the first episode. The risk of stroke is usually reduced after about 3 months. Anticoagulants, like warfarin, are sometimes used to prevent repeat blood clots after an MI.

### **WHAT ARE THE DOs AND DON'Ts OF TAKING WARFARIN?**

#### **HERE IS A LIST OF THINGS YOU SHOULD REMEMBER**

##### **DOs**

- **DO take your warfarin exactly as your healthcare provider tells you.**
- **DO get your blood tested when you are supposed to.**
- **DO use a calendar to record all of your warfarin doses and each INR result.**
- **DO tell your healthcare provider about all other medications you are taking. Also, talk to your healthcare provider BEFORE you change, start, or stop any medicines, supplements or herbal products.**
- **DO keep your eating habit and activities somewhat similar every day. Sudden changes can affect your INR.**
- **DO eat foods that contain vitamin K such as green vegetables.**
- **DO tell your healthcare provider when you get sick or injured, or have bleeding that is more severe than you expect.**
- **DO keep warfarin (and all other medications) out of the reach of children.**
- **DO tell your doctor if you are pregnant or are planning to get pregnant.**
- **DO tell all doctors, dentists and pharmacists that you are taking warfarin.**
- **DO refill your prescription BEFORE running out of warfarin.**
- **DO remember to take your warfarin (and other medications) when you travel.**
- **DO consider wearing a Medic Alert bracelet or carrying a wallet card that states that you are taking an oral anticoagulant.**

### **DON'ts**

- **DO NOT** take warfarin if you are pregnant or plan to get pregnant without contacting your doctor.
- **DO NOT** change the dose of warfarin on your own.
- **DO NOT** stop warfarin on your own even if you feel well.
- **DO NOT** start or stop any other medicines without checking with your healthcare provider first.
- **DO NOT** make big changes in your diet, lifestyle, or activities without first telling your healthcare provider.
- **DO NOT** participate in contact sports that may result in bleeding or bruising injuries.
- **DO NOT** drink too much alcohol. 1 or 2 drinks per day is generally OK unless you have been told not to drink alcohol. **NEVER BINGE DRINK.**

### **YOU SHOULD REPORT:**

- Any fall or injury to the head or back
- Fever and chills that last more than 2 days
- Vomiting or diarrhea that last more than 2 days
- Vomiting blood, passing blood from the rectum, blood in the urine. Also nosebleeds that do not stop after 10 minutes of continuous, firm pressure, spontaneous large or multiple bruises.
- Any major change to your health

**IF YOU WOULD LIKE TO RECEIVE PRACTICAL INFORMATION ABOUT WARFARIN (COUMADIN®) IN A LANGUAGE OTHER THAN ENGLISH OR FRENCH, ASK YOUR DOCTOR OR PHARMACIST OR CONTACT THE MEDICAL INFORMATION SERVICES OF THE COMPANY THAT MAKES YOUR BRAND OF WARFARIN.**

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