

## Anticoagulation at McKinley Health Center

McKinley Health Center has developed a program for the use of blood thinners, known as anticoagulation. These frequently asked questions (“FAQ”) are designed to help patients understand more about this program.

### **What is anticoagulation?**

Anticoagulation is the use of blood thinning medication to prevent the formation of a clot or to assist in the treatment of blood clots that may have already formed.

### **Why is anticoagulation performed?**

Normally blood is a freely flowing liquid. It is often normal for blood to clot to prevent bleeding, such as when an injury occurs. Occasionally clot formation occurs in an abnormal manner, and actually becomes a problem of its own.

For example, the veins in the legs are particularly prone to clot formation. This may occur when there is temporary restriction of blood flow, such as after long plane flights or confinement to bed for long periods of time.

When a clot forms in a vein, it can get bigger, which is known as the process of propagation. Sometimes the clot gets big enough that it can actually allow for fragments to break off and flow along with the rest of venous blood to important organs, such as the lung. When clots reach the lung, it restricts blood flow to the lung and impairs critical oxygenation. Additionally, clot formation in the leg can cause a chronic condition known as postphlebotic syndrome.

Blood thinners are used to prevent propagation or enlargement of clot, and allow the body to slowly go about the clean up process of removing unwanted clot in the venous system.

### **How is it done?**

There are many medications which can prevent the formation of a clot or speed the resolution and shrinkage of clots once they are formed. Only two of the available agents are used at McKinley, one is a pill called warfarin and the other is a self injected liquid called enoxaparin.

Very often patients are started on the injectable version for a short period of time, generally about five days. The pill version of blood thinner may be started at the same time that the enoxaparin is started (or shortly afterwards), and it generally is continued for a longer period of time.

### **When is it done?**

As soon as a serious clot is found in a venous system your provider will quickly start the injectable blood thinner and may also add the oral pill for blood thinning. Oftentimes there are four to five days of overlap where both agents are used, and then ultimately the patient is kept on the oral version for weeks or months. The actual duration of treatment with blood thinners is an individualized decision between you and your provider, since it needs to factor in a number of elements, such as heredity, inciting agents, risk of blood thinning and many other factors.

### **Who does it?**

All of the powerful blood thinners are prescription medicines and require careful monitoring from your provider. Very often patients will rely on the services of their primary care provider, whether it is the primary care individual at McKinley Health Center or a private primary care provider. It is very important to maintain a strong communication link with whoever is ordering the blood thinner, since adjustments are needed on a frequent basis and patients need to be able to communicate any new observation, such as side effects, in a timely manner.

In general, blood thinning is a joint activity between a very engaged patient and a very engaged physician, both working with a common goal; that is to prevent clot formation and to reduce any unwanted clots.

### **What are the most common blood thinners?**

The most common blood thinner used in a hospital setting is heparin, or some version of heparin. When used correctly, heparin works very rapidly and very effectively. Several newer versions of heparin have become more popular, and these are known as the low molecular weight heparins.

The low molecular weight heparins have become popular because they can be used in outpatient management and generally require just once or twice a day administration by a subcutaneous injection. Very often, patients are instructed in how to give this medication by self administration.

In addition to the heparin blood thinners, there are many new intravenous (in a vein) versions of blood thinners which have been recently licensed by the FDA, but these are not available at McKinley Health Center.

In addition to the injectable blood thinners, a pill known as warfarin is often used as a blood thinner. This medication is slow to take effect and therefore it is generally used after heparin has already been started. The warfarin medications are easy to take but need very careful monitoring, since the effect of the blood thinner can vary considerably.

### **What are the side effects or dangers of anticoagulation?**

All of the blood thinners, whether they are pill, intravenous or injectable, have the potential to cause unwanted bleeding. That is why it is important to follow instructions carefully, so that proper intervals are maintained between one dose and the next and that the proper size of the dose of the medication is given at each point.

Sometimes bleeding is obvious, such as from the gums during brushing teeth, and sometimes it's a little less easier to observe, such as bleeding into the gastrointestinal system. In this case patients may notice that they vomit blood or coffee ground appearing material, or that their stool takes on a black and tarry appearance.

On rare occasions, bleeding can be internal and symptoms would depend on the specific site of internal bleeding. For example, bleeding into the brain can be a very serious possible side effect from excessive amounts of blood thinners, and this may cause symptoms of a stroke or severe headache.

On rare occasions, people have allergic reactions to the blood thinners or experience unwanted interactions with other medications.

### **What are medication interactions to consider when on a blood thinner?**

There are many medications which can interact with blood thinners. For example, simple aspirin or medications like ibuprofen have unwanted effects on platelet aggregation or clumping, and this can make use of a traditional blood thinner much more dangerous.

Additionally, some medications have the opposite effect on blood thinners. For example, chronic use of certain medications can actually reduce the effectiveness of blood thinners and make the oral medications ineffective in preventing or reducing unwanted clots.

It is very important that your provider know all of the medications you are using, even over the counter agents and herbal preparations.

### **What about diet?**

It's always important to maintain a steady balanced diet. Nevertheless, certain foods, especially green leafy vegetables (like spinach) contain high amounts of vitamin K. Vitamin K can reduce the effectiveness of warfarin. For people who have a steady intake of vitamin K this poses little or no problem, since the patient and their provider have worked out a well balanced and tailored dose of the blood thinner to accommodate their intake of vitamin K.

Anticoagulation becomes riskier when the patient has an unpredictable intake of vitamin K.

### **How is anticoagulation monitored?**

Your provider will generally follow the level of blood that you have on a regular basis, to be sure that you are not experiencing hidden blood loss. This blood level is typically known as a complete blood count and is available at McKinley Health Center.

The complete blood count will also tell the provider about the adequacy of the number of platelets, which are essential for a balanced blood clot/blood thinner regimen.

When patients undergo anticoagulation with warfarin, they will need to have regular measurement of a blood test known as a PT/INR, which measures the anticoagulant strength of the warfarin.

McKinley Health Center can provide the necessary blood work for monitoring the effectiveness of warfarin, whether these tests were ordered by a provider at McKinley or by an outside provider.

Because the findings of the PT/INR reflect how well the warfarin is working, it is very important that the patient maintain a strong communication link with the ordering provider so that they can make quick adjustments of the warfarin dose, should that be indicated by the results found in the PT/INR.

If you are a registered University of Illinois student and you have questions or concerns, or need to make an appointment, please call: **Dial-A-Nurse at 333-2700**

If you are concerned about any difference in your treatment plan and the information in this handout, you are advised to contact your health care provider.

Visit the McKinley Health Center Web site at: <http://www.mckinley.uiuc.edu>