

# Venous Thromboembolism (VTE)

A patient's guide

Thrombosis Service



UNIVERSITY OF UTAH  
HEALTH CARE

We understand the terms used in this booklet may be new to you. A brief glossary is provided for your reference.

**Bridging: Anticoagulation before and after a procedure**

Bridging is when your warfarin is temporarily stopped and your blood is thinned with an injectable anticoagulant medicine (a shot), before and/or after a procedure.

**DVT: Deep Vein Thrombosis**

A blood clot in a vein deep inside your body, usually in your leg.

**ECS: Elastic Compression Stockings**

Special socks that apply gentle pressure to your legs. This pressure keeps blood clots from forming and helps minimize pain and swelling from existing clots.

**Anticoagulants: Blood Thinners**

Medicine used to increase the time it takes for your blood to form clots. This is often referred to as thinning your blood. This medicine can help prevent harmful clots.

Anticoagulants can be given as a pill or as a shot.

- **Warfarin:** An anticoagulant pill, also known as Coumadin®, used to prevent harmful clots.
- **Fast-acting anticoagulants:** Anticoagulant shots that work quickly and do not stay in the body for a long time.

**INR: International Normalized Ratio**

This is a blood test that tells your health care providers how long it takes for your blood to clot. It is used to determine if your warfarin dose is too high or too low and if changes in your warfarin dose are needed. Blood is taken by sticking your finger, or drawing it from your arm.

**PE: Pulmonary Embolus**

A blood clot in your lungs.

**VTE: Venous Thromboembolism**

A blood clot in your veins. This usually refers to DVT and/or PE.

Whether it was you or your loved one who was recently diagnosed with a blood clot, we understand this can be a scary diagnosis and that you may have many questions. Please ask. We are available to answer any questions you have. This booklet is an additional resource created to increase your understanding of blood clots.

Blood clots are also called venous thromboembolism or VTE. In this booklet, we will use the term VTE when referring to blood clots.

### **What is Venous Thromboembolism (VTE)?**

Venous thromboembolism or VTE is the term used when:

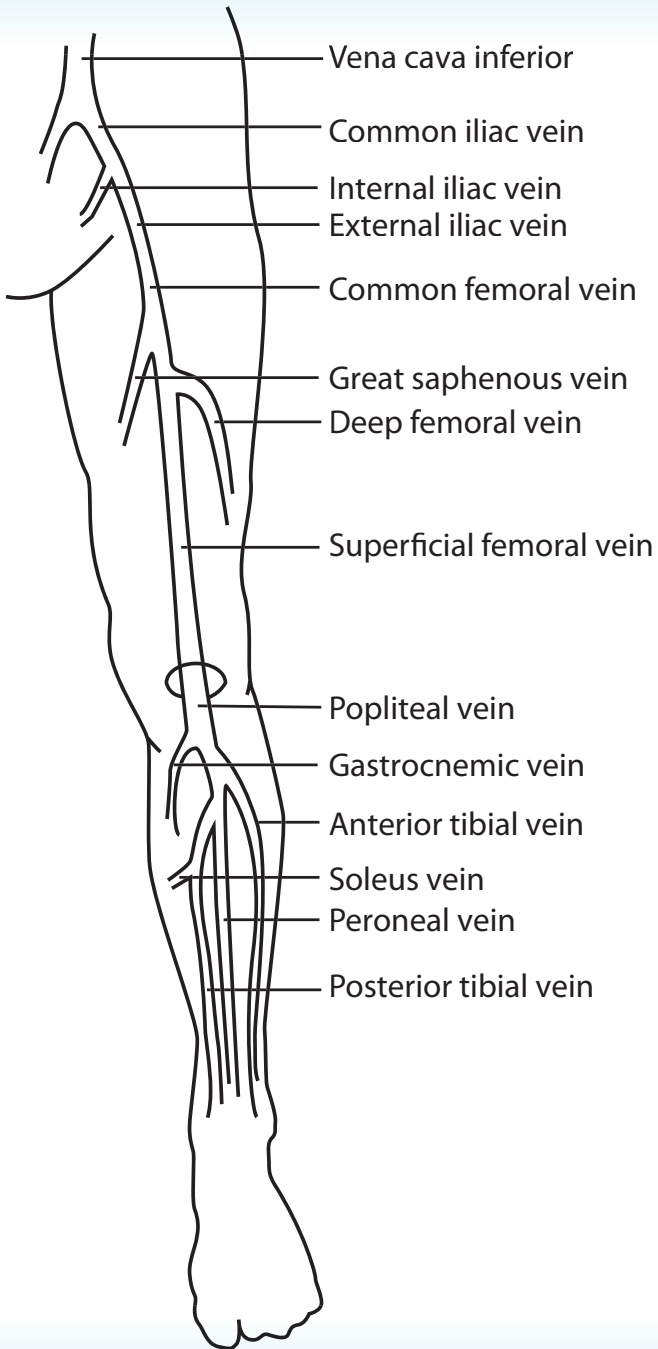
- Blood clots form in the deep veins of the arms or legs. This is called deep vein thrombosis or DVT.
- Blood clots break off from a DVT and travel to the lungs. This is called a pulmonary embolism or PE.

Blood clots that form in the veins of the legs and lungs are different from clots that form in the arteries of the body. Blood clots in the arteries can cause heart attacks and strokes. Because clots in the veins and arteries are different, the things done to prevent and treat them are also different.

The picture on the following page shows the veins where blood clots usually form.

### **How common is VTE?**

- VTE is common and can be a serious problem.
- About 800,000 people are diagnosed with VTE in the United States each year.
- Approximately 300,000 of those people may die from pulmonary embolism (PE).
- Each year, a person has a 1 in 1,000 chance of getting VTE and a 1 in 20 chance of getting VTE once in their lifetime.



## **What Causes VTE?**

There are many things that can lead to blood clots. Some common risk factors include:

- Being in the hospital for an illness or surgery
- Immobilization of an arm or leg due to injury (not being able to use it)
- Cancer and its treatment
- Taking hormones or birth control pills
- Getting older
- Family history of blood clots
- Being overweight
- Smoking
- Traveling (lack of movement for long periods of time)

Although these risk factors may increase the chance of getting VTE, 25-40 percent of people with VTE do not have any of these risk factors.

## **How does VTE affect my daily routine?**

Most patients with DVT or PE do not need to stay in bed and can return to everyday activities like walking right away. This may not be true in some cases due to the size or location of the clot. Always check with your doctor about what activity level is right for you.

## **How is VTE treated?**

Most patients with VTE are given blood-thinning medicine (also called anticoagulants). These medications do not dissolve the clot, but prevent it from getting bigger by increasing the time it takes for your blood to clot.

After a diagnosis of VTE, fast-acting blood thinners are started right away to prevent the clot from getting larger and to prevent other problems related to the blood clot. These medications are given in the form of a shot into the fatty tissue of the body or into a vein so they can begin working immediately. These medicines include:

- Heparin
- Enoxaparin (Lovenox<sup>®</sup>)
- Dalteparin (Fragmin<sup>®</sup>)
- Fondaparinux (Arixtra<sup>®</sup>)

Your health care provider will decide which of these medicines is best for you and can answer any questions you have.

## **Blood-thinning shots and warfarin**

While you are receiving blood-thinning shots, you will also be started on a blood-thinning pill called warfarin or Coumadin® in most cases. Shots and warfarin are often given together at the start of treatment because it takes several days for warfarin to protect you from blood clots. Fast-acting shots provide additional protection during this time.

The amount of warfarin needed varies from person-to-person, and can change in response to many things. To make sure you are getting the needed benefit from the medicine and to prevent other problems, you need to have frequent blood tests and be followed closely by your health care provider while you are taking warfarin. The blood test is called an INR (international normalized ratio) and provides information about how the warfarin is working. This information will be used by your health care provider to guide adjustments to your dose as needed. Your health care provider may provide you with an educational booklet about warfarin. For your safety while taking warfarin, it is important to read this booklet and ask any questions you may have.

## **How long are blood-thinning medications needed?**

Your health care provider will work with you to decide when it is safe to stop taking blood-thinning medicine. Things that will be considered include:

- The type of clot
- The location of the clot
- Why the clot formed (what risk factors you had)

Below are some general guidelines:

### **Shots**

Blood-thinning shots will be given for at least five days or until your INR blood test result is 2.0 or more (normal is about 1.0). The INR tells us how well your warfarin is protecting you. The shots do not affect the INR but your warfarin must be protecting you adequately before shots can be stopped.

## Warfarin

How long you need to take warfarin depends on why you need this medicine. Most patients take warfarin for at least three months or longer.

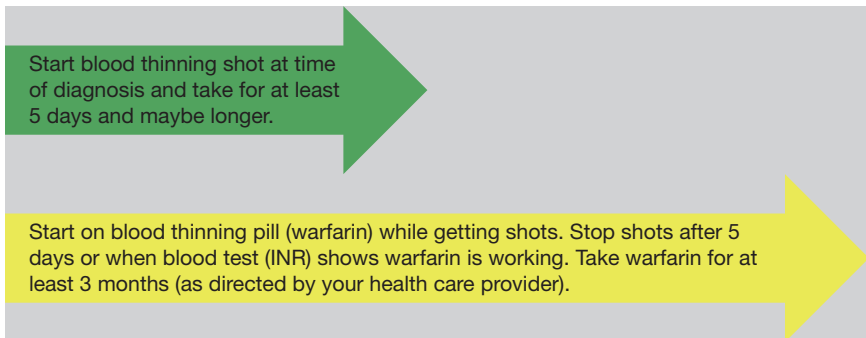
## Cancer or multiple blood clots

If you have had more than one blood clot or have cancer, your provider may recommend that you stay on blood thinners longer than three months if the risk of another blood clot is high. For some patients, blood-thinning shots are continued without starting warfarin.

## First blood clot

If this was your first blood clot and you do not have cancer, the risk factors that led to your clot will determine how long you need blood-thinning medication. Our specialists can help decide what is right for you.

## Usual Treatment of VTE



## Are there risks with taking blood-thinning medication?

There are risks associated with taking blood-thinning medication. Blood thinners can cause serious bleeding or even death. Because of the risks, most doctors recommend blood thinners be stopped after three months if the clot was related to surgery or hospitalization.

For all other patients, the decision can be difficult and should be made by a specialist. Please discuss this decision with your doctor or schedule a visit with one of our Thrombosis Service physicians. They will help you make the best possible decision.

### **Will the clot ever go away?**

Blood-thinning medicines do not dissolve blood clots. After a few weeks or months, the body stabilizes the clot and develops blood flow around it. Sometimes the clot never goes away completely. Having a repeat ultrasound to see if the clot is gone is not usually done. Repeat ultrasounds are typically only recommended when new symptoms occur, or existing symptoms get worse.

### **Is additional treatment needed?**

Some patients may need additional treatment, including:

- Medication called thrombolytics (also called clot busters)
- Treatment to remove clots (called thrombectomy)
- The placement of a filter (a device to keep blood clots in the legs from moving to the lungs).

Your health care provider can tell you if any of these are necessary.

### **Should I be tested for other causes of a blood clot?**

Some people may have a genetic reason for their blood clot. This is called thrombophilia. Up to 40 percent of patients with a blood clot have thrombophilia. Unfortunately for most patients, knowing they have thrombophilia does not help determine if future clots are more likely to occur and in most cases, does not change treatment. Because of this, thrombophilia testing is not always done, nor do we recommend routine testing for thrombophilia. However, if you are interested in learning more about this testing, the following resources are available:

- The National Alliance for Thrombosis and Thrombophilia (NATT)  
[www.stoptheclot.org](http://www.stoptheclot.org)
- Schedule an appointment with one of the Thrombosis Service doctors by calling (801) 581-7818
- Schedule an appointment with a University of Utah Health Care hematologist by calling (801) 585-0100.

### **What are compression stockings and do I need to wear them?**

Patients who have had a blood clot in their leg are at risk of chronic pain and swelling. This is called Post Thrombotic Syndrome (PTS). Elastic compression stockings (ECS) help reduce the risk of PTS by keeping fluid from pooling or collecting in the ankle and causing edema (swelling).

ECS are made of a special elastic. They are very tight at the ankle and are less tight as the sock moves up the leg. This tightness (compression) helps the leg muscles squeeze the fluid back up the leg in the proper direction, improving blood flow and decreasing leg pain. It is best when patients start wearing the stockings as soon as possible after being diagnosed with a blood clot. They should continue wearing them for at least two years. If a patient does this, ECS will reduce their risk of PTS.

Compression stockings come in different levels of tightness, which are measured in millimeters of mercury (mmHg). A prescription is needed to get stockings that work well enough to prevent PTS. Many pharmacies and most medical supply stores carry compression stockings. Pharmacy or store staff should measure your leg to provide the right size stocking. The stocking should be worn during the day on the leg with the blood clot. It may be taken off at night.

### **Where can I find more information about VTE and blood thinning-medicine?**

- **An anticoagulation specialist:**  
An anticoagulation specialist can work with your health care provider to manage your blood-thinning medicine and is a great source of information.
- **University of Utah Health Care Thrombosis Clinic:**  
You can schedule an appointment with the Thrombosis Clinic and see a doctor who specializes in blood-clot management. To make an appointment call (801) 581-7818. It is helpful to get copies of medical records related to your blood clot from your health care provider (if you were seen by a provider outside the University of Utah Health Care system) and bring them to the clinic.
- **The Internet.** Additional resources can be found online:
  - University of Utah Health Care Thrombosis Service:  
[www.healthcare.utah.edu/thrombosis](http://www.healthcare.utah.edu/thrombosis)
  - North American Thrombosis Forum (NATF):  
[www.natfonline.org](http://www.natfonline.org)
  - ClotCare:  
[www.clotcare.com](http://www.clotcare.com)
  - National Alliance for Thrombosis and Thrombophilia (NATT):  
[www.stoptheclot.org](http://www.stoptheclot.org)

## **About University of Utah Health Care Thrombosis Service**

The Thrombosis Service is a group of health professionals, including doctors, nurses, and pharmacists, who specialize in blood-clotting problems. We work to prevent blood clots whenever possible and to provide the best possible care and education to patients with, or at risk of blood clots. We also care for patients taking blood-thinning medicine and work to ensure it is used safely.

We are committed to staying educated about the latest information on blood-clotting problems, treatment and management so we are able to provide the best care and education to our patients and their loved ones, as well as other health care providers.

We contribute to these advances and participate in research to:

- Better understand what causes blood clots and how they can be prevented and treated.
- Find safer ways to use blood-thinning medication.
- Test new blood-thinning medications.

## **Help us learn more about the care and management of VTE**

We have an active research program that is committed to expanding what is currently known about VTE and how to treat it.

If you are interested in participating in a research study or would like additional information about the research that is being done related to VTE, please call the Thrombosis Service Research Office at (801) 581-2161 or our 24-hour research pager (801) 339-5005.

We are sorry you or your loved one has been diagnosed with a blood clot. We hope this information helped answer your questions. If you have additional questions or would like more information about the Thrombosis Service, please contact us or visit our website at [healthcare.utah.edu/thrombosis](http://healthcare.utah.edu/thrombosis).



Thrombosis Service  
(24-hour pager):  
**1-800-783-3735**

Thrombosis Center:  
**(801) 585-3713**

Redwood  
Health Center  
Anticoagulation Clinic:  
**(801) 213-9150**

Thrombosis  
Research Group  
(24-hour pager):  
**(801) 339-5005**

[www.healthcare.utah.edu/thrombosis](http://www.healthcare.utah.edu/thrombosis)

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