

## A Patient's Guide to Recovery After Deep Vein Thrombosis or Pulmonary Embolism Beth Waldron and Stephan Moll

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## A Patient's Guide to Recovery After Deep Vein Thrombosis or Pulmonary Embolism

Beth Waldron, MA; Stephan Moll, MD

When a blood clot forms in the deep veins of the body, it is called deep vein thrombosis (DVT). DVT occurs most commonly in the leg; however, it can occur anywhere in the body, such as the veins in the arm, abdomen, pelvis, and around the brain. A complication of DVT in legs and arms is pulmonary embolism (PE). A PE occurs when a blood clot breaks off from a DVT and travels through the blood stream, traversing the right atrium and right ventricle, and lodging in the lung.

### How Long Will I Need Treatment With an Anticoagulant?

The primary treatment for DVT and PE is anticoagulation with blood thinners. These medications increase the time it takes for blood to clot. They prevent new clots from forming and existing clots from growing larger. Anticoagulants do not dissolve a clot. The body naturally dissolves a clot over time, sometimes completely, sometimes only partially.

The duration of time you will need to take an anticoagulant depends on

a number of factors your doctor will review with you, such as the following:

- The location of the clot (whether your clot was in the calf only or further up in the leg in the thigh or pelvis)
- Why the clot formed (what risk factors contributed to your clot)
- An assessment of your risk for developing future clots if your anticoagulant is stopped (what risk factors you have which may cause another clot to develop)
- How well you have tolerated the anticoagulant and what your risk for bleeding is if you stay on an anticoagulant.
- Your personal preference and how anticoagulant treatment has impacted your lifestyle.

In general, if the risk of another clot is low, then short-term treatment for 3 months is often sufficient (Figure). This is long enough for the present clot to heal. However, if the risk for developing another clot is high, then treatment for >3 months may be appropriate. This typically means long-term (also referred to as extended) treatment, which can last several years and, in some cases, life-long.

### Which Anticoagulant Will I Receive?

Several anticoagulant choices are available to treat DVT and PE. They may be given as an oral tablet or as injection under the skin. Choice of anticoagulant depends on a number of individualized factors, and your doctor will decide with you which one of these medicines is best for you.

The oral anticoagulant warfarin was the mainstay of treatment for nearly 50 years. In recent years, new oral anticoagulants have emerged that also offer effective treatment for DVT and PE (Table).

### When Will My Clot and Pain Go Away?

As the body naturally absorbs a clot over the course of several weeks to months, the symptoms which accompanied the blood clot gradually improve and often eventually disappear. Symptoms typically improve within a few days of starting the anticoagulant. Most patients with DVT or PE recover completely within several weeks to months without significant

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From the Hemophilia and Thrombosis Center, University of North Carolina at Chapel Hill (B.W.), and the Department of Medicine, Division of Hematology-Oncology, University of North Carolina School of Medicine (S.M.), Chapel Hill, NC.

Correspondence to Beth Waldron, MA, Campus Box 7305, 302 Mary Ellen Jones Bldg, Chapel Hill, NC 27599-7305. E-mail [bwaldron@med.unc.edu](mailto:bwaldron@med.unc.edu) (*Circulation*. 2014;129:e477-e479.)

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**Table. Comparison of Oral Anticoagulants**

	Warfarin (Coumadin, Jantoven)	Apixaban (Eliquis) Dabigatran (Pradaxa) Rivaroxaban (Xarelto) Edoxaban (Savaysa)
Monitoring	Frequent testing (INR) required to determine blood thinning effect	No monitoring to determine blood thinning effect
Dosage	Variable dosing for each patient, with frequent dosing changes sometimes required. Dosing dependent on coagulation test to keep blood thinning affect within desired therapeutic range	Same dose for each patient.
Food interactions	Vitamin K containing foods (such as salads and green vegetables) influence warfarin's blood thinning effect. Patients on warfarin must carefully monitor what they eat to maintain a consistent vitamin K intake.	No food interactions.
Drug interactions	Many common drugs influence the blood thinning effect of warfarin, such as antibiotics, thus requiring more frequent blood monitoring tests.	Fewer drug interactions.
Time to fully active	Warfarin takes $\geq 5$ days after starting to reach its full blood thinning effect. Therefore, patients who start warfarin need to be treated with an additional blood thinner (typically injections underneath the skin) during those first 5 or more days.	Full blood thinning effect is achieved within 2–3 h. Therefore, there is no need for the initial injections with an additional blood thinner.
Time to being out of system	After being stopped, warfarin takes 5–7 days to clear the body.	Takes 24 to 48 h to clear after being stopped.
Reversal in cases of excessive bleeding	There are proven reversal methods in case of excessive bleeding on warfarin.	There is no antidote or reversal strategy that is guaranteed to work if major bleeding occurs.
Cost	Depends on insurance, but generally lower-cost.	Depends on insurance, but generally more expensive.
Effectiveness in preventing recurrent clots	Same	Same
Safety	Same risk of major bleeding, but higher risk of bleeds into the head	Same risk of major bleeding, but lower risk of bleeds into the head

INR indicates international normalized ratio.

complications or long-term adverse effects.

However, long-term problems can occur, with symptoms ranging from very mild to more severe. Around half of patients with DVT will have some degree of chronic discomfort, and  $\approx 15\%$  will experience moderate to severe chronic swelling and pain known as post-thrombotic syndrome. Post-thrombotic syndrome is partly attributable to damage done when the

clot formed and partly to the chronic obstruction from left-over clot (scar tissue).

Graduated compression stockings may make your leg feel better. Graduated compression stockings are made of special elastic and are very tight at the ankle and are less tight as the stocking moves up the leg. This graduated tightness helps the leg muscles squeeze fluid up the leg, which prevents or decreases leg swelling and

pain. A prescription from your doctor is needed to get stockings with the recommended tightness (30–40 mmHg pressure). Stockings should be individually fitted.

Around 2% to 4% of patients with PE will have chronic damage to the lungs known as pulmonary hypertension (chronic thromboembolic pulmonary hypertension), which is characterized by shortness of breath and decreased exercise ability. Pulmonary hypertension can lead to heart failure if untreated. An evaluation for pulmonary hypertension may be done if you had a large PE or if after several months following a PE you have not gotten back to your pre-clot level of feeling well.

### How Soon Can I Be Physically Active?

Many patients worry that being physically active might cause a DVT to break off and become a PE. The risk of clot breaking off and forming a PE is mostly present in the first few days, up to  $\approx 4$  weeks, while the clot is still fresh, fragile, and not scarred. However, patients who carry out normal daily activities after a clot are no more likely to develop PE than those who don't walk around. Thus, being physically active after a clot is generally fine and is typically encouraged.

After a diagnosis of DVT or PE, use common sense and listen to your body. Physically, do only what is comfortable. You will not speed up recovery by pushing yourself aggressively through symptoms of pain and swelling. But you also will not make things worse by being active. You should discuss with your physician whether physical activity is appropriate for you, how much activity is recommended, and how soon you can begin.

### Is It Normal to Feel Anxious or Depressed After a Clot?

A diagnosis of DVT or PE brings many things to cope with, both physically and mentally. Immediately after a diagnosis, you may be dealing with

What determines length of anticoagulation?	
<ul style="list-style-type: none"> <li>➤ Location of clot</li> <li>➤ Risk factors which may have contributed to clot</li> <li>➤ Risk factors for developing a future clot</li> <li>➤ How well anticoagulation has been tolerated</li> <li>➤ Personal preferences and lifestyle considerations</li> </ul>	
<b>Low risk of future clot and/or High risk for bleeding</b>	<b>High risk for future clot and/or Low risk for bleeding</b>
<b>Treatment length: Short-term, often 3 months</b>	<b>Treatment length: Long-term *</b>

\* Risks/benefits of continued anticoagulation periodically reviewed

**Figure.** Length of anticoagulation.

physical pain, trying to understand why the clot happened, and adjusting to the lifestyle impact of taking an anticoagulant. It is normal to feel shock, anxiety, and fear after the diagnosis of a blood clot.

Temporary feelings of anxiety or depressed mood can occur in the first few weeks, but the fear of a future clot recurrence can produce ongoing anxiety. Ask your doctor about support groups that may be available. Tell your doctor if your feelings do not improve or are accompanied by a withdrawal from activities or increased negative thoughts and tearfulness, because these may indicate a more severe depression requiring treatment.

### What Kind of Doctor Do I Need?

Not everybody with DVT or PE needs the same type of doctor. If you take warfarin, the ideal combination may be to have (1) a health care professional (most likely a pharmacist or a nurse) in a formal anticoagulation clinic (to manage your blood thinning medication) and (2) a physician with special expertise in blood clots (thrombosis). If you take 1 of the newer oral anticoagulants, you may not need to be followed in an anticoagulation clinic. Discuss with your doctor where you should be referred for anticoagulation management.

Multiple types of physicians may have a special expertise and interest in

DVT, PE, anticoagulation, and clotting disorders, including hematologists, cardiologists, pulmonologists, vascular surgeons, vascular medicine specialists, and general internists. Many primary care physicians also follow patients with DVT or PE. Specialized Thrombosis Clinics may also go by the name of Heart and Vascular Clinic or something similar. Patients and their primary care physicians should decide together what specialty care is needed.

### Where to Get More Information

Resources for patients diagnosed with DVT or PE can be found online at the following:

[www.ClotConnect.org](http://www.ClotConnect.org) a resource provided by the University of North Carolina at Chapel Hill

[www.NATFonline.org](http://www.NATFonline.org) a resource provided by the North American Thrombosis Forum

[www.StopTheClot.org](http://www.StopTheClot.org) a resource provided by the National Blood Clot Alliance

### Disclosures

Dr Moll has been a consultant for Daiichi-Sankyo, Janssen, and Boehringer Ingelheim. B. Waldron reports no conflicts.

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