

THE Beat



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In This Issue:

**Leg Pain After a DVT:
Exploring Causes and
Finding Relief**

**Understanding
Antiphospholipid
Syndrome**

Upcoming Patient Events

Leg Pain After a DVT: Exploring Causes and Finding Relief

Deep vein thrombosis (DVT) is a blood clot that forms in a deep vein, blocking blood flow. Some patients experience pain after a DVT. Typically, the pain goes away once the clot has dissolved. But sometimes, leg pain can stick around for a while after a DVT, which can be frustrating. This ongoing pain is often a symptom of a condition called [post-thrombotic syndrome](#), or PTS.

PTS causes chronic pain in some patients after a DVT. Not everyone will experience PTS – it impacts approximately [20-50% of people](#) who've had a DVT.

Why Pain Occurs After a DVT

A [DVT](#) in the legs can damage the valves in veins or the veins themselves. Veins bring blood back to the heart from the tissues. The veins in your extremities, like the legs, use muscle movements to squeeze and help push the blood back to the heart. In your veins, there are valves that act like doors to prevent blood from flowing backward. When a DVT forms in the veins, it acts as a plug and blocks the normal flow of blood. This blockage allows fluid to collect in the veins.

As the fluid builds up, it raises the pressure inside the veins. The veins then begin to [widen and become weak](#). Because of the widening, the typically closed valves can no longer shut properly. Blood flow back to the heart decreases. The fluid builds up, leading to swollen tissues, inflammation, and pain.

Some [blood clots](#) heal by turning into [scar tissue](#). This scar tissue can also damage the valves in the vein. Scar tissue affects the valves' ability to function correctly, causing more fluid to collect in the legs. Sometimes, the vein's wall can become too narrow from the scar tissue. When the vein narrows, the flow of blood back to the heart is reduced, leading to increased fluid buildup, pressure, and pain.

Damage to the leg veins after a DVT can lead to [chronic venous insufficiency](#), a condition where the veins in the legs aren't able to effectively return blood to the heart.

Risk factors for PTS include:

- Obesity
- Female sex
- Use of estrogen therapy
- Recurrent blood clots in the same leg
- A blood clot that forms in a vein in the upper leg or pelvis

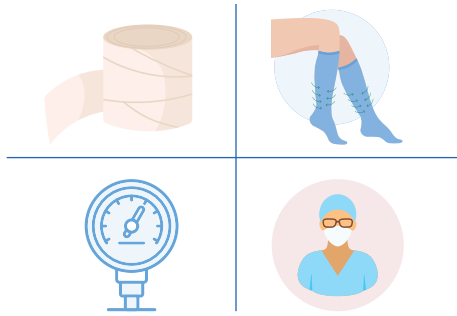
Finding Relief From Leg Pain

There isn't a cure for PTS, but there are things you can do to [manage it and reduce pain](#).

Medical treatments

PTS is first treated with [compression therapy](#). Compression therapy makes the veins narrower, which helps to improve the valves' function. When the valves close properly, blood flow returns to the heart and leg swelling decreases. Compression therapy may include:

Bandaging - Short-stretch bandages help the calf muscles work better when you walk, improving blood flow back to the heart. They keep pressure on veins because they don't stretch as much when you walk. Long-stretch bandages are similar to ACE wraps. They can lose compression strength while walking and must be changed often.



Elastic compression stocking -

Some patients start with elastic [compression stockings](#) to keep swelling to a minimum. Stockings offer different levels of compression; your doctor or medical team can help you figure out what type of compression is best for you. The stockings are also available in knee-high or thigh-high lengths. They help by applying steady pressure, which improves blood flow in the leg.

Adjustable compression wrap devices -

These devices use fasteners like Velcro and allow the patient to adjust the wrap when it feels loose.

Intermittent pneumatic compression (IPC) -

This type of therapy uses a pump to fill and empty air from hollow plastic leggings worn by the patient. IPC helps by gently squeezing the legs to push the blood and fluid out of the tissues. IPC is for patients who can't tolerate compression stockings or when the stockings aren't working.

There aren't any medications approved to treat PTS, but some can help control pain and swelling.

[Surgical procedures](#) may be an option when other treatments don't work and can improve symptoms. When a valve has severe damage, it can be repaired by transplanting a healthy valve from a different vein in the arm. If a vein is too narrow, stents can be inserted to widen the vein, increasing blood flow.

Home Remedies and Lifestyle Changes

If you have symptoms of PTS, there are some ways to manage them [effectively at home](#). If the veins and valves are weak, blood doesn't move back to the heart efficiently, causing more pressure, swelling, and pain. Since your legs are furthest from your heart, fluid can easily collect because of gravity. **Here are some tips to reduce pressure in your legs:**



Stay active.

Walking and other activities can help the calf muscles move blood back to the heart.



Elevate your legs when lying down.

Place a firm pillow under your legs to keep them above the level of your heart – but avoid putting pillows under your knees since that can block one of the main leg arteries.



Don't be in the heat for too long.

Heat can cause veins to increase in size, causing more fluid to collect in your legs, which can worsen symptoms of leg heaviness and swelling.



Use a footrest when you're sitting.

Even a little elevation can help relieve symptoms and decrease pressure.



Maintain a healthy body weight.

Extra weight can increase stress on the circulatory system, raising venous pressure.



Decrease the amount of salt in your diet.

Large amounts of sodium in your tissues can cause more swelling.

Normal Pain vs. Concerning Pain

Everyone feels pain differently. Patients with PTS will have some degree of [moderate-to-severe](#) pain. PTS pain symptoms can include:

- Aches or cramping
- Feelings of leg heaviness
- Paresthesia, or feeling of pins and needles

A clinician should evaluate [leg pain](#) that occurs suddenly, is severe, or won't go away. Contact your clinician if you experience other symptoms with leg pain, such as a fever, or a change in skin color or temperature (like coolness).

Ongoing pain after a DVT can be frustrating and burdensome – but there are ways to help manage the symptoms. Keep in contact with your medical team and have open conversations about how your symptoms are impacting your life.

Understanding Antiphospholipid Syndrome



[Antiphospholipid syndrome \(APS\)](#) is a rare autoimmune disease that causes the body to abnormally form blood clots. There are about [40 to 50 cases per 100,000 people](#), and women are three to four times more likely to have APS than men. Patients with systemic autoimmune conditions, like lupus, may also get APS.

When someone has APS, the immune system makes antibodies that attack proteins in the blood. These proteins bind to phospholipids, which are important for cell membranes to work correctly and provide protection. When the body starts fighting normal proteins, blood clotting starts. Blood clots then form in the vessels. APS can also cause problems for pregnant women, like frequent miscarriages.

APS can be further grouped as [primary or secondary](#). Primary APS occurs on its own, without another autoimmune disorder. Secondary APS occurs with another autoimmune disease, like lupus.

Risk Factors for APS

Researchers don't exactly know why people develop APS, but there are some known [risk factors](#) for the condition, including:

- Having another autoimmune disease, like lupus
- [Family history](#) of the disease
- Female sex
- Bacterial or viral infections, including HIV or Lyme disease to name a few
- Use of some drugs, including antibiotics and anti-seizure medicines

Diagnosing APS

Clinicians check for APS by asking about your health, doing an exam, and running [lab tests](#). The criteria for diagnosing APS include at least one symptom, like a blood clot or complications with pregnancy, and a lab test to confirm that antibodies associated with the condition are in your blood.

The lab findings will have one of these antibodies present:

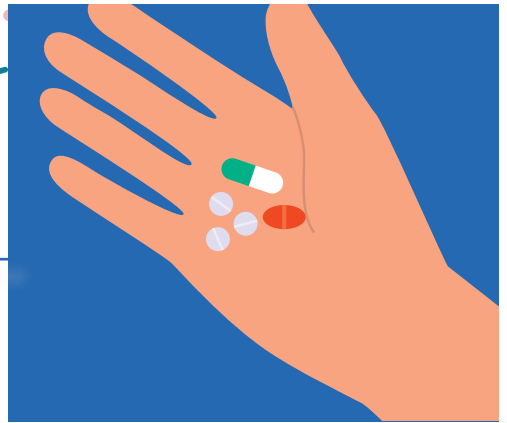
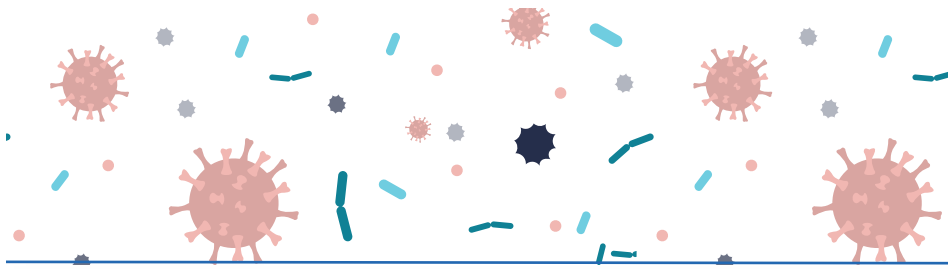
- Lupus anticoagulant (LAC)
- Anticardiolipin antibodies (aCL)
- Beta2-glycoprotein I antibodies

If a lab test shows positive results, you'll take another test 12 weeks later. The test is repeated because medications or infections can cause antibodies to appear, leading to a false-positive result.

In 2023, the American College of Rheumatology and the European Alliance of Associations for Rheumatology released [new criteria for diagnosing APS](#). These changes include a list of more detailed symptoms and improved lab tests, which help clinicians better diagnose APS.

Scan the QR code to access important website links





Common Symptoms of APS



Blood clots

Patients with APS tend to get blood clots often, even while taking blood thinners. Two types of blood clots that often occur in patients with APS include DVT (deep vein thrombosis, a blood clot in a deep vein) and PE ([pulmonary embolism](#), a blood clot in the lungs). DVT can cause pain and swelling in the affected part of the body, while PEs often cause shortness of breath, chest pain, and fatigue.



Pregnancy complications

APS can cause frequent miscarriages in the second or third trimester of [pregnancy](#). Other pregnancy-related problems might include slower fetal growth, fetal distress, problems with the placenta, and preeclampsia.



Neurological

A blood clot in the brain can lead to a stroke or transient ischemic attack (TIA). A TIA can cause symptoms similar to a [stroke](#) that lasts for a short time. Sometimes, patients may also have seizures or muscle movements that they can't control. A clot blocking the retinal artery or vein in your eye can affect vision.

Treatment Options

The goal of APS treatment is to prevent more blood clots from forming and stop current blood clots from getting larger. Treating APS involves using [blood thinners](#), also called anticoagulants. The type of blood thinner used, and length of treatment, will depend on each patient's situation.

Treatment options may include:

- Warfarin to prevent clots
- Aspirin or clopidogrel (Plavix®) to make the blood less sticky and prevent clots
- Pregnant women might need heparin, low-dose aspirin, corticosteroids, or a type of medicine called intravenous (IV) immunoglobulin to help control the immune system and prevent miscarriages
- Patients with antibodies in their blood but no symptoms may need aspirin

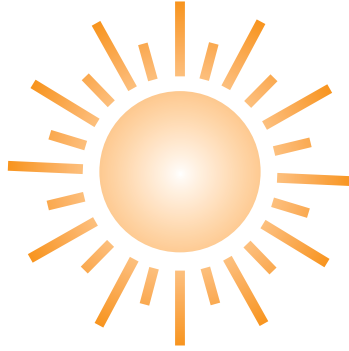
Direct oral anticoagulants (DOACs), which include blood thinners like apixaban (Eliquis®) and rivaroxaban (Xarelto®), are less effective than warfarin in preventing recurrent blood clots in patients with APS – that's why warfarin is typically used instead.

Some patients who are at risk of APS but don't have a diagnosis may need to change their diet, drink more water, and increase exercise. Quitting smoking is also strongly recommended since smoking harms blood vessels (and many other parts of the body).

APS symptoms can be different for each person. Some patients might not have symptoms and only have antibodies in their blood. If multiple organs are affected, some patients may have more severe symptoms.

The bottom line: APS is a rare autoimmune disease that makes blood more likely to clot. While there's no cure, treatment—usually with blood thinners—can help prevent further complications.

Upcoming Patient Events



Summer Support Group

We know that summer is a busy time! In August, we will be combining our Blood Clot Support Group and Blood Clot Education Group into one "hybrid" meeting each month. *We'll return to our usual schedule in the Fall - See below for dates!*

August 15, 2024

The summer group will run from 7:00-8:00 PM EST and will have a clinician available to answer general questions.

Blood Clot Education Group

Our virtual *Blood Clot Education Group* is a space to discuss all things related to thrombosis, or blood clotting. Join us to...

- Find accurate and trustworthy information about blood clots
- Learn about current research and treatments from experts
- Share your questions and experiences with others

September 12, 2024

October 22, 2024

November 12, 2024

In all online groups, a clinician will be available to answer general questions about blood clots. However, please note that they cannot provide personalized medical advice to any patients.

Blood Clot Support Group

Hosted by Joelle Hochman, RRT, Chair of Patient Engagement & Education

After experiencing a blood clot, it's normal to have a lot of questions. Many people are left feeling confused about why this happened to them and are anxious about it happening again.

We're pleased to offer a virtual support group experience where patients can share their stories, connect with others who've had blood clots, and receive emotional support.

September 19, 2024

October 17, 2024

November 21, 2024

Long-PE and CTEPH Support Group (Quarterly)

NATF is excited to offer a new support group for people who have had a pulmonary embolism (PE), or blood clot in the lungs. Having a PE puts you at risk of developing a condition called chronic thromboembolic pulmonary hypertension, or CTEPH. If you're still experiencing symptoms like shortness of breath 6+ months after your PE, or if you have a CTEPH diagnosis, this group will provide a safe space to connect with others, receive support, and have questions answered by a clinician.

November 7, 2024

Do you like what you see in *The Beat* and find this information helpful?



Please consider making a donation to NATF to further support blood clot education.

All groups start at 7:00 PM EST

Please help us spread the word about these support groups! More information can be found on our [website](https://thrombosis.org/events/patients/).

To register for these programs, please visit Patient Events on our website at <https://thrombosis.org/events/patients/>

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