# Could your leg pain be related to chronic venous disease?

Chronic, or long-term, venous disease is commonly associated with signs and symptoms such as:

Leg Pain


Skin Discoloration


Leg Swelling



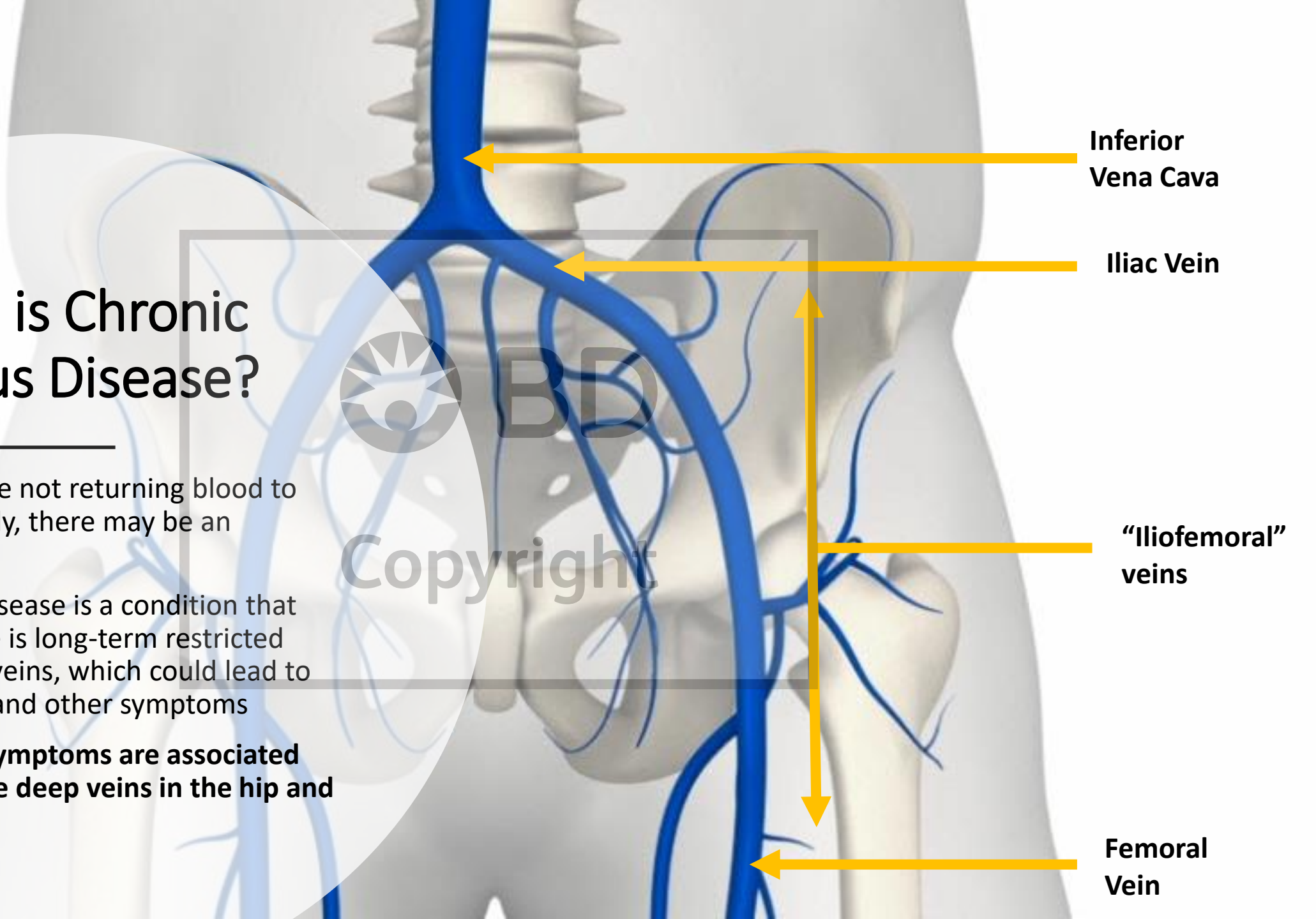
**But what exactly is venous disease? Let's start with some anatomy.**

# What do veins do?

- Arteries pump blood out from the heart to vital organs. Veins then carry the “used” blood back to the heart
- Because blood in the veins is traveling upwards against gravity towards the heart, there is a much slower blood flow rate compared to arteries
- Some veins also have valves to prevent blood from flowing back down
- Deep veins are the largest in the body. They are located deep within the muscle tissue and are responsible for at least 90% of the blood flow back to the heart. **This is where chronic venous disease can occur**

# What is Chronic Venous Disease?

- When the veins are not returning blood to the heart efficiently, there may be an underlying issue
- Chronic Venous Disease is a condition that occurs when there is long-term restricted blood flow in the veins, which could lead to leg pain, swelling and other symptoms
- **More severe leg symptoms are associated with disease in the deep veins in the hip and groin area**



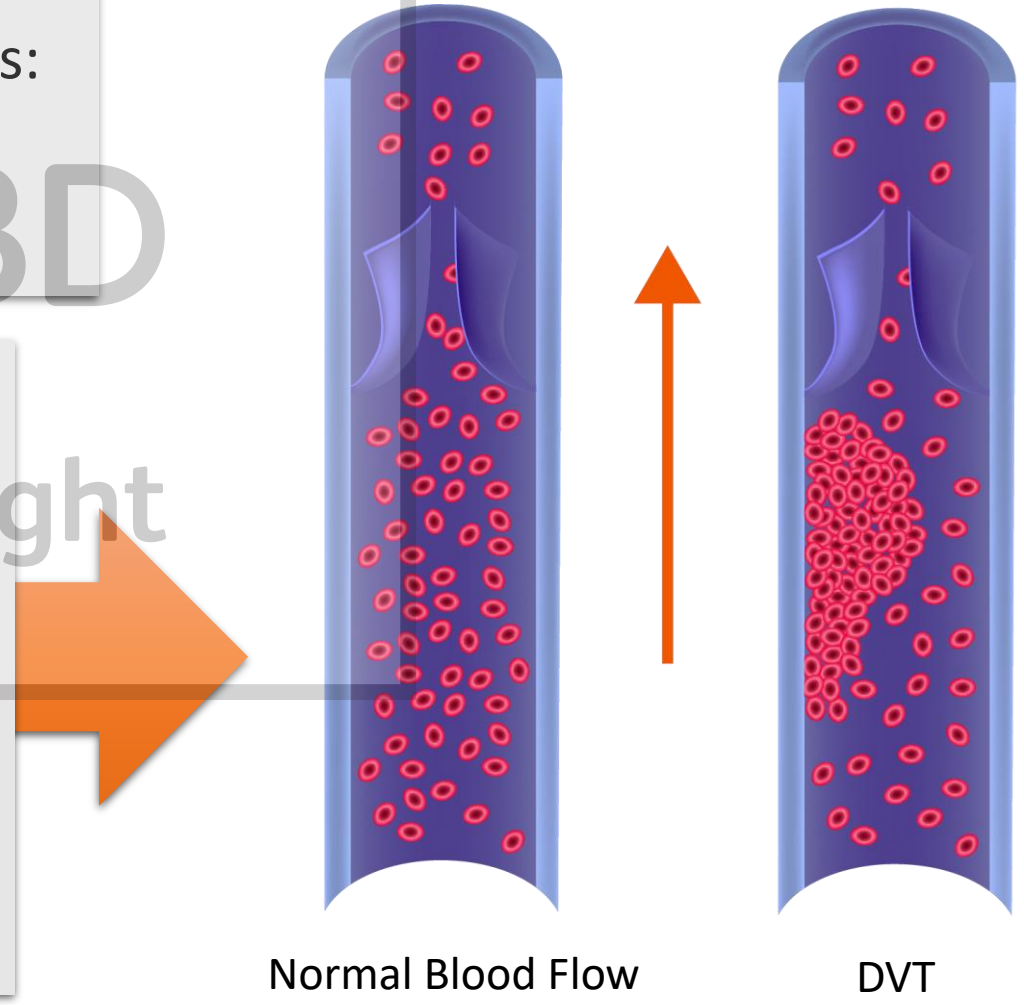
# How does this happen?

Chronic Venous Disease may occur for two reasons:

- **Deep Vein Thrombosis (DVT)**
- **Venous compression**

**What is DVT?** A DVT is clotting of the blood that occurs in the deep veins due to vein injury, preexisting conditions and/or lifestyle changes such as immobility. Over time, an untreated DVT can harden and become chronic venous disease eventually causing permanent vein damage and restricting blood flow. This condition is known as **Post-Thrombotic Syndrome (PTS).**

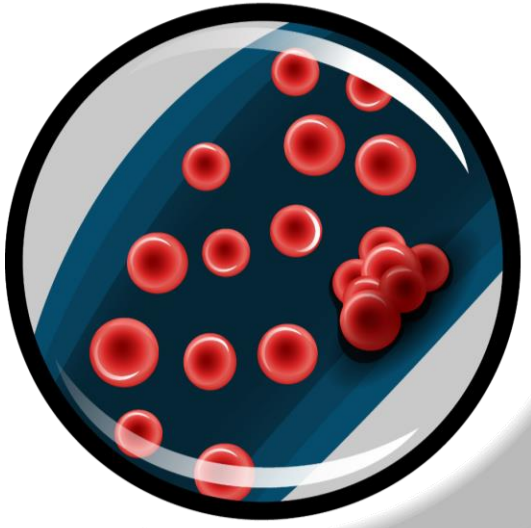




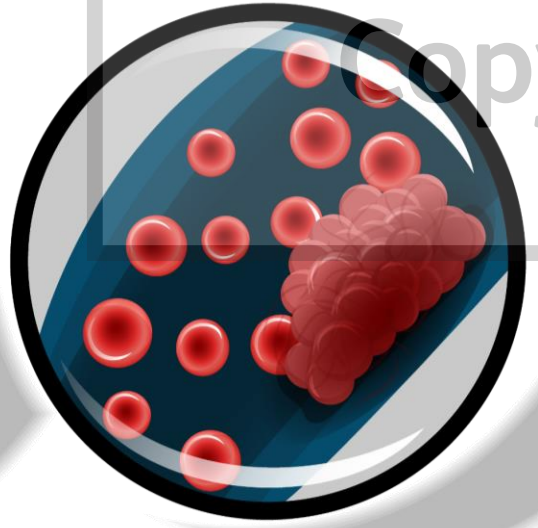
# What happens next?

## Progression of DVT to PTS

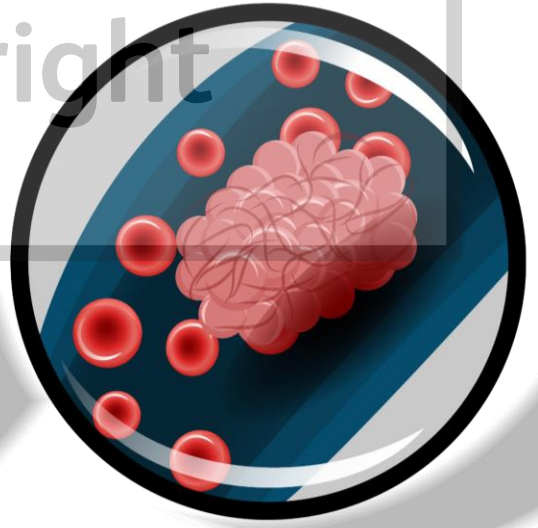
**1.** A blood clot, or DVT, will begin to form in a deep vein, usually in the legs



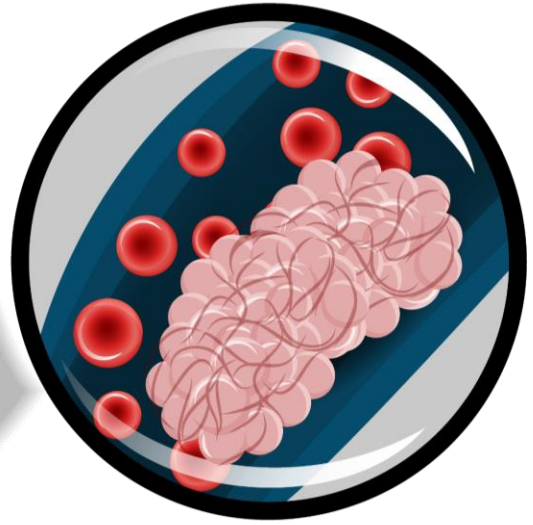
**2.** As the DVT ages, the consistency begins to change to a sponge-like texture **(less than 2 weeks old)**



**3.** Over time, the DVT will begin to harden into a tough, elastic substance **(2-4 weeks old)**



**4.** Eventually, the DVT will solidify and stick to the vein wall. At this point, the DVT has become chronic **(over 28 days old)** and may be classified as PTS



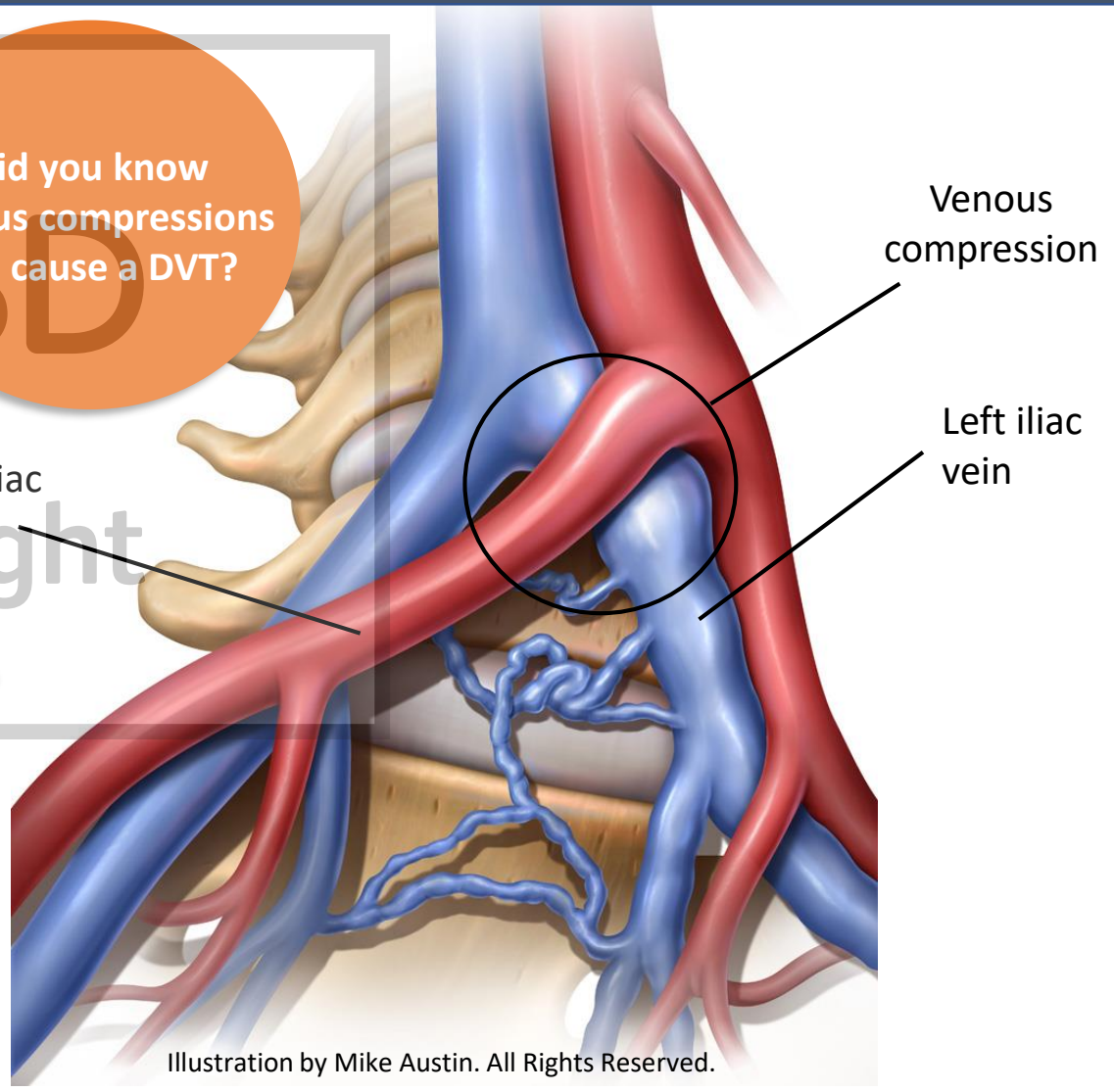
# How *else* does this happen?

Chronic venous disease may also occur because of a **venous compression.**

**What is a venous compression?** A venous compression is a condition in which the vein is being compressed by something in the body, ultimately restricting blood flow. One type of venous compression is **May-Thurner Syndrome.** This occurs when the right iliac artery, located near the belly button, compresses the left iliac vein, resulting in narrowing of the vein.

**May-Thurner Syndrome** usually presents with symptoms in the left leg and is more common in younger women.

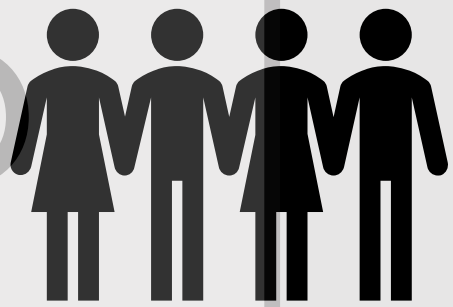
**Did you know venous compressions can cause a DVT?**



# How common is it?

Up to **900,000**

People in the U.S. may be affected by DVT each year[1]



**50%** of patients diagnosed will have long-term complications such as chronic venous disease[1]

Up to **49%** of patients with a left-sided leg DVT may have an underlying venous compression[2]



[1]Centers for Disease Control and Prevention (CDC)

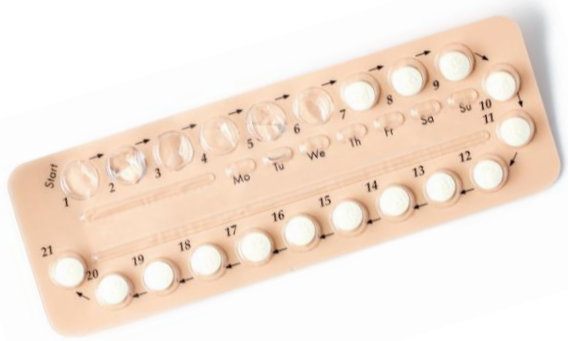
[2]Kasirajan K, Gray B, Ouriel K. Percutaneous Angiojet thrombectomy in the management of extensive deep vein thrombosis. Journal of Vascular and Interventional Radiology. 2001; 12:179–185.

# What are the risk factors?

Surgery is oftentimes a cause of DVT

## Hypercoagulability*

- Oral contraceptives
- Pregnancy
- Cancer
- Smoking
- Genetics
- Hormone therapy



Oral contraceptives can cause hypercoagulability

## Vein Damage

- Trauma/injury to the vein
- Surgery

## Venous Stasis (slow blood flow)

- Abnormal anatomy
- Prolonged immobility/long travel

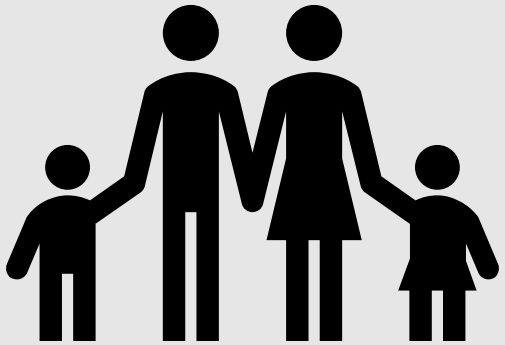


*Hypercoagulability = factors in your blood that increase your chance of developing blood clots

# How is it diagnosed?

Chronic venous disease is diagnosed based on:

## Medical & Family History

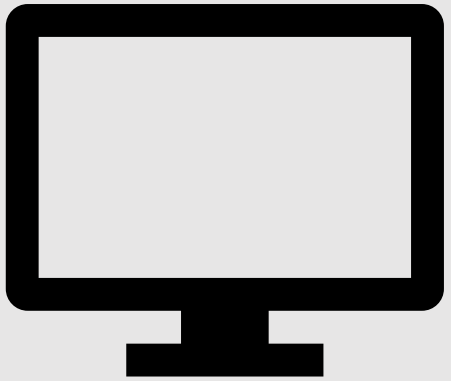


If you have a family history of DVT, or if you've previously had a DVT, your chances of developing chronic venous disease may increase

## Physical Exam

If you are showing symptoms of chronic venous disease such as leg pain, swelling, skin discoloration, varicose veins and/or leg ulcers, see your doctor for a physical exam

## Diagnostic Imaging



If your symptoms are severe, you may need diagnostic imaging to see inside your body. This may include an X-Ray and/or a catheter-based imaging tool to locate blockages in your vein(s)

# What are the treatment options?

## Anticoagulation Therapy

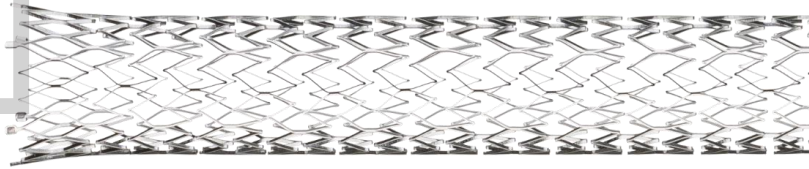
If you have a DVT or if you are at risk for one, you may be prescribed anticoagulation therapy, or blood thinners


## Compression Therapy

If you are at risk of getting a DVT, you may be encouraged to use compression stockings and/or mechanical foot pumps

## Interventional Therapy

If you have been diagnosed with venous disease, you may benefit from minimally invasive surgery options such as removing or dissolving a DVT via catheter, and/or implanting a venous stent to open your narrowed vein





**Remember:** Treatment options vary upon individual situations. If you suspect you may have venous disease, talk to your physician about what may be right for you.

# How can you prevent it?

Chronic venous disease can happen to almost anyone for a variety of reasons, but there are steps you can take to decrease your chances of developing disease:




**Remember:** If you suspect you may have venous disease, talk to your physician about prevention and/or treatment options that may be right for you.

# Questions?