

## Transcript for Overview of venous disease

### Course objectives

#### Narration:

Welcome to the Overview of venous disease course.

By the end of this module, you should be able to:

- Recognize venous disease
- Identify key terminology
- Differentiate between acute and chronic venous disease
- Recognize the prevalence of venous disease
- Identify risk factors of venous disease
- Identify common symptoms of venous disease
- And identify venous disease based on approved classification systems

### Topic: Overview

#### Overview of venous disease

##### Narration:

Venous disease is a common condition that impairs the ability of veins to return blood to the heart.

It can be caused by reflux, which is blood flow the wrong direction, obstruction which is the blockage of blood flow, or both.

Patients can have abnormal function of their superficial veins, deep veins, or both.

### Overview

#### Narration:

Venous disease can be separated into three groups: superficial venous disease, venous thromboembolism, and deep venous disease. Click the venous disease box to learn more.

#### ***Superficial venous disease popup:***

Superficial venous disease is disease that affects the veins near the surface of the skin, in the superficial venous system. Venous valvular reflux, varicose veins, and blood clots in the superficial veins, also known as superficial thrombophlebitis, are characterized as superficial venous disease.

#### ***Venous reflux popup:***

Venous valvular reflux occurs when venous valves do not function properly and reversed blood flow occurs.

***Superficial thrombophlebitis popup:***

Superficial thrombophlebitis is also known as blood clots in the superficial veins.

***Varicose veins popup:***

Varicose veins occur when vein walls and valves become weakened and lose their elasticity. The blood is allowed to pool within the veins.

***Skin changes and ulcerations popup:***

Skin changes and ulcerations can also be evidence of superficial vein disease.

***Venous thromboembolism popup:***

Venous thromboembolism is a blockage of a vein by a thrombus or blood clot. Deep vein thrombosis, post thrombotic syndrome, and pulmonary embolisms are all forms of venous thromboembolism.

***Deep vein thrombosis (DVT) popup:***

A DVT is a blood clot in the veins of the deep venous system.

***Post thrombotic syndrome popup:***

Post thrombotic syndrome is a long-term condition that occurs as a result of a DVT. Symptoms include redness, swelling, ulcers and chronic leg pain.

***Pulmonary embolism popup:***

Pulmonary embolisms occur when a DVT moves into the lung and blocks or stops blood flow.

***Skin changes and ulcerations popup:***

Skin changes and ulcerations can also be evidence of venous thromboembolism.

***Deep venous disease popup:***

Deep venous disease involves the deep veins and includes both thrombotic and non-thrombotic obstructions.

***Non-thrombotic popup:***

Non-thrombotic is also known as a NIVL, a non-thrombotic iliac vein lesion. A NIVL occurs when the artery crosses over and compresses the vein. Bony structures and other anatomy can also be sources of compression.

May-Thurner Syndrome is the most referenced NIVL and occurs when the right common iliac artery compresses the left common iliac vein.

A May-Thurner lesion is always a NIVL; but not all NIVLs are May-Thurner lesions.

***Thrombosis popup:***

Thrombosis is the formation of a blood clot in a blood vessel.

## **Venous disease**

**Narration:**

Venous disease is very common! In fact, venous disease is 5 times more common than peripheral artery disease.

10-35% of adults have leg veins that don't function properly.

Over 600,000 people are hospitalized for deep vein thrombosis, or DVT, yearly. DVT with the risk of pulmonary embolism, or PE, may be the most preventable cause of death among hospitalized individuals today.

Up to 50% of DVT patients develop post-thrombotic syndrome.

Approximately 2 million workdays per year are lost due to venous ulcer-related disability.

One third of people with DVT/PE will have a recurrence within 10 years.

## **Acute and chronic venous disease**

**Narration:**

Common causes of venous disease include previous blood clot, venous insufficiency and iliac vein compression. Acute illnesses generally develop suddenly and last a short time, often only a few days or weeks. Chronic conditions may develop slowly and worsen over an extended period of time - months to years

A previous blood clot may cause scar tissue to develop in the vein which does not allow blood to return quickly back to the heart. This acts like a clogged pipe. Blood backs up, or pools, towards the ankle causing venous hypertension and complications such as pain, swelling, skin changes, and ulcers. This prevents blood from moving through the vein toward the heart. As a result, blood pools below the clot.

***Acute and chronic venous disease slide 2:***

With venous insufficiency, the one-way valves don't work, and blood leaks back through the damaged valves causing symptoms of:

- H. heaviness
- A. aching
- S. swelling
- T. throbbing
- I. itching

***Acute and chronic venous disease slide 3:***

Non-thrombotic iliac vein compression is another cause of venous disease. Compression is the result of the artery pressing against the vein. Compression of the vein causes stagnation of blood flow in the vein.

***Acute and chronic venous disease slide 4:***

The buildup of blood in the veins leads to venous hypertension. Over time, venous hypertension will lead to chronic venous disease.

***Acute and chronic venous disease slide 5:***

Chronic venous disease leads to more severe symptoms including edema skin changes and venous stasis ulcers.

## Topic: Signs and symptoms of venous disease

### Signs and symptoms

**Narration:**

There are multiple signs and symptoms of venous disease. Click the tabs to learn more about the common signs and symptoms.

***Varicose veins tab:***

Varicose veins are twisted, enlarged veins.

***HASTI tab:***

HASTI stands for heaviness, aching, swelling, throbbing, and/or itching

***Swelling tab:***

Swelling can occur in the legs and ankles.

***Hyperpigmentation tab:***

Hyperpigmentation and lipodermatosclerosis can occur in the legs and ankles.

***Leg ulcer tab:***

Leg ulcers are open wounds on your leg that take more than two weeks to heal despite treatment. These ulcers typically appear between the ankle and knee.

***Venous claudication tab:***

Leg pain when walking due to inadequate venous drainage or poor return of blood by the veins of the legs. Patients typically describe the pain as bursting or tense calf.

## Topic: Risk factors for venous disease

### Risk factors

**Narration:**

There are a number of risk factors for venous disease. Risk factors for thrombotic venous disease include:

- Family history of venous disease
- Older age
- Lack of exercise
- Multiple pregnancies
- Female sex
- Sitting or standing for long periods of time
- Immobility
- Recent long-distance travel
- Hospitalization
- Recent surgery
- And heredity

## Topic: Venous disease classification systems

### Classification overview

**Narration:**

There are 3 different classification systems that can be used to categorize and classify venous disease. These are: CEAP, VCSS and Villalta. The CEAP score is typically what you will see most often but the other scores are used as well. Click each category to continue.

***CEAP Classification tab:***



CEAP classification is an internationally excepted standard for describing patients with chronic venous disorders.

The CEAP classification was developed in 1994 and updated in 2004 and 2020.

CEAP classification is composed of 4 sub classifications:

- C:** Clinical
- E:** Etiological
- A:** Anatomical
- P:** Pathophysiological

While all 4 sub-classifications are important for assessment, in practice, the clinical classification is what is most often utilized.

**Narration:**

In practice, the physician will categorize the clinical aspect of the CEAP score into 7 presentations with 5 clinical subcategories. Physicians will often use these subcategories when describing a patient's symptoms. Drag the slider to learn more about these 7 presentations.

***C0 slider:***

No visible signs of venous disease.

***C1 slider:***

Telangiectasis or reticular veins.

***C2 slider:***

Varicose Veins.

***C3 slider:***

Edema.

***C4 slider:***

Changes in skin and subcutaneous tissue secondary to chronic venous disease.

***C5 slider:***

Healed venous leg ulcer.

***C6 slider:***

Active venous ulcer.

## ***Venous clinical severity score (VCSS) tab:***

Although the CEAP classification is widely used, it does have its limitations. Specifically, it responds poorly to change.

The Venous Clinical Severity Score, VCSS, was developed to complement the CEAP classification and is used to evaluate changes in disease severity over time and in response to treatment.

The CEAP classification is descriptive. The VCSS classification is objective. Take a moment to review the VCSS rating system.

## ***Villalta Post-thrombotic syndrome (PTS) scale tab:***

Finally, let's take a look at the Villalta PTS scale.

The Villalta PTS, or Post-thrombotic syndrome scale, is a scoring system to diagnose and categorize the severity of post-thrombotic syndrome.

The Villalta PTS scale is a clinical measure that incorporates venous symptoms and signs in the leg, ipsilateral to a DVT. Both the patient and the clinician participate in grading the score.

## **Topic: Conclusion**

### **Key take aways**

#### **Narration:**

Venous disease:

- is 5x more prevalent than arterial disease.
- includes superficial, deep and thromboembolism.
- can be caused by previous DVT, venous insufficiency, and/or compression.
- has multiple risk factors including immobility, female sex, obesity, and family history.
- has multiple symptoms including pain, swelling, skin changes, and ulcerations.
- has several accepted classification systems that can be utilized including CEAP, VCSS, and Villalta PTS score.