

# Difference Between DVT and PAD

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## Key Difference – DVT vs PAD

DVT or deep vein thrombosis can be defined as the occlusion of a deep [vein](#) by a thrombus. Peripheral arterial disease (PAD) is characterized by the occlusion of arteries by the atherosclerotic plaques. Therefore, as their names suggest, the key difference DVT and PAD is that the **DVT is a result of the occlusion of a vein whereas the PAD is due to the occlusion of an artery.**

## What is DVT?

Occlusion of a deep vein by a thrombus is called deep vein thrombosis. DVT of the legs is the commonest form of DVT and it has an alarmingly high rate of mortality.

## Risk Factors

### Patient factors

- Increasing age
- [Obesity](#)
- [Varicose veins](#)
- Pregnancy
- Use of oral contraceptive pills
- Family history

### Surgical Conditions

- Any surgery lasting for more than thirty minutes

### Medical Conditions

- [Myocardial infarction](#)
- Inflammatory bowel disease
- Malignancy
- [Nephrotic syndrome](#)
- [Pneumonia](#)
- Hematological diseases

## Clinical Features

Usually, the lower limb DVT starts in the distal veins and should be suspected when a patient complains of,

- Pain
- Swelling of the lower limbs
- Increased temperature in the lower limbs
- Dilatation of the superficial veins

Although these symptoms frequently appear unilaterally it is possible to have them bilaterally as well. But bilateral DVT is almost always associated with comorbidities such as malignancies and abnormalities in the IVC.

Whenever a patient experiences aforementioned symptoms, the risk factors for DVT should be taken into consideration. During the examination, special attention should be given to identifying any malignant conditions. Since it is possible to have pulmonary embolism together with DVT, symptoms and signs of pulmonary embolism should be also checked.

A set of clinical criteria called the Wells score is used in ranking patients according to their likelihood of having DVT.

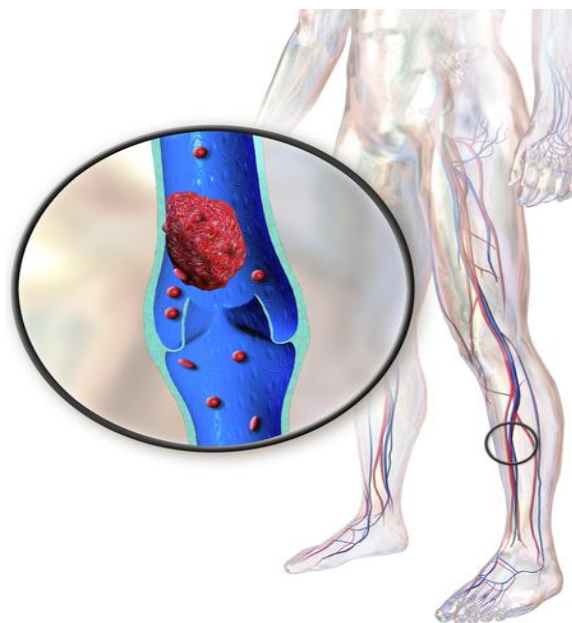


Figure 01: DVT

## **Investigations**

The choice of investigations depends on the Wells score of the patient.

- In patients with a low probability of DVT

D dimer test is done and if the results are normal there is no need of doing more investigations to exclude DVT.

- In patients with a moderate to high probability and in patients belonging to the above category whose D dimer test results are high.

Compression ultrasound scan should be done. At the same time, it is very important to carry out investigations to exclude any underlying pathology such as pelvic malignancies.

## **Management**

- This includes anticoagulation therapy as the mainstay together with elevation and analgesia. Thrombolysis should be considered as an option only if the patient is in a life threatening condition. In the anticoagulation therapy initially, LMWH is administered and it is followed by a coumarin anticoagulant such as warfarin.

## **What is PAD?**

Peripheral arterial disease is characterized by the occlusion of arteries by the atherosclerotic plaques.

## **Risk Factors**

- Smoking
- [Diabetes mellitus](#)
- [Hyperlipidemia](#)
- [Hypertension](#)

## **Clinical Manifestations**

Clinical manifestations of the PAD depend on main 4 factors.

1. Anatomical site
2. Presence of collateral supply
3. Speed of onset
4. Mechanism of injury

## **Chronic Lower Limb Ischemia**

PAD affects the lower limbs more frequently than the upper limbs.

In chronic lower limb [ischemia](#), the patient presents with two prominent clinical features.

### **Intermittent Claudication**

An intense pain is felt usually in the calves upon walking. This is an ischemic pain which arises as a result of the lack of blood supply to the muscles. The site of pain varies according to the artery that is affected. Pain is felt in the calf if the femoral artery is occluded and if it is the iliac artery that is blocked pain will be felt in the thighs or in the buttocks.

### **Critical Limb Ischemia**

This condition is identified based on six criteria.

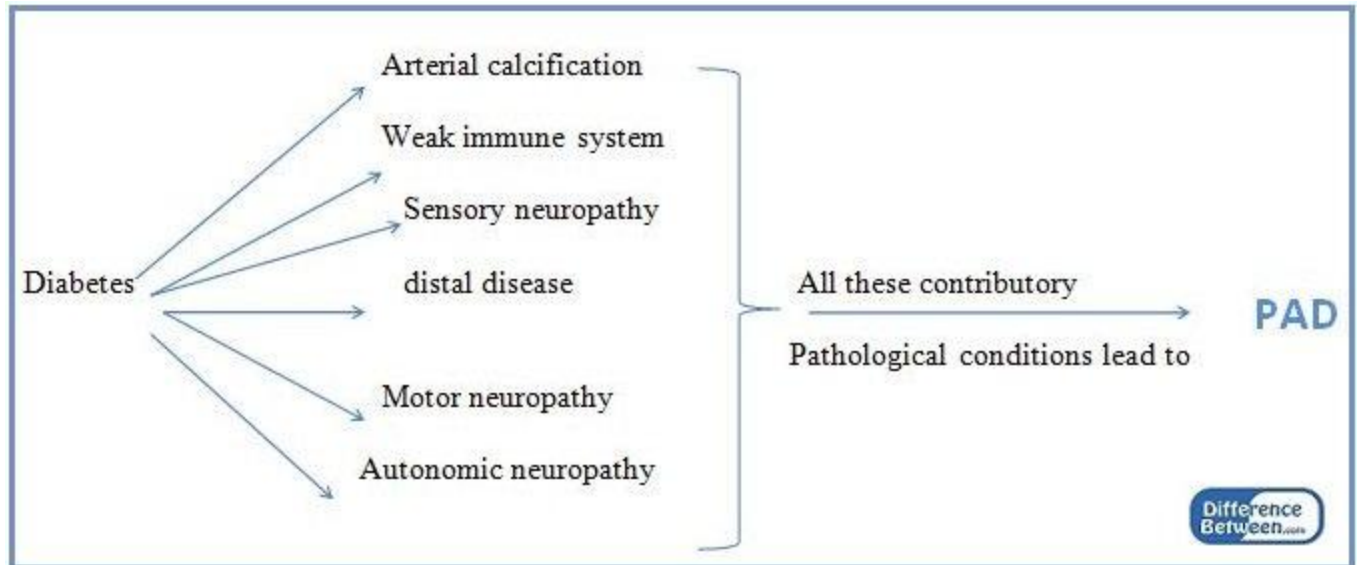
1. Night/rest pain
2. Requirement of opiates as analgesic agents
3. Reduced skin temperature in the lower limbs
4. Tissue loss (ulceration)
5. Duration (more than 2 weeks)
6. Ankle blood pressure (less than 50mmHg)

### **Clinical Features**

- Pulses are diminished or absent
- Presence of bruits
- Buerger's sign
- Muscle wasting
- Loss of hair
- Dry, thin, and brittle nails

## Diabetic Vascular Disease

How does diabetes predispose PAD?



## Buerger's Disease

This is an inflammatory condition affecting the arteries where the inflammatory changes result in the arterial obliteration. Buerger's disease is commonly seen among young male smokers.

## Chronic Upper Limb Arterial Disease

Subclavian artery is the commonest site involved.

Clinical manifestations of this condition are,

- Arm claudication
- Atheroembolism
- Subclavian steal

## Raynaud's Phenomenon

Cold and emotional upheavals can give rise to vasospasms resulting in the characteristic sequence of events known as the Raynaud's phenomenon which includes,

- Digital pallor
- Cyanosis
- Rubor

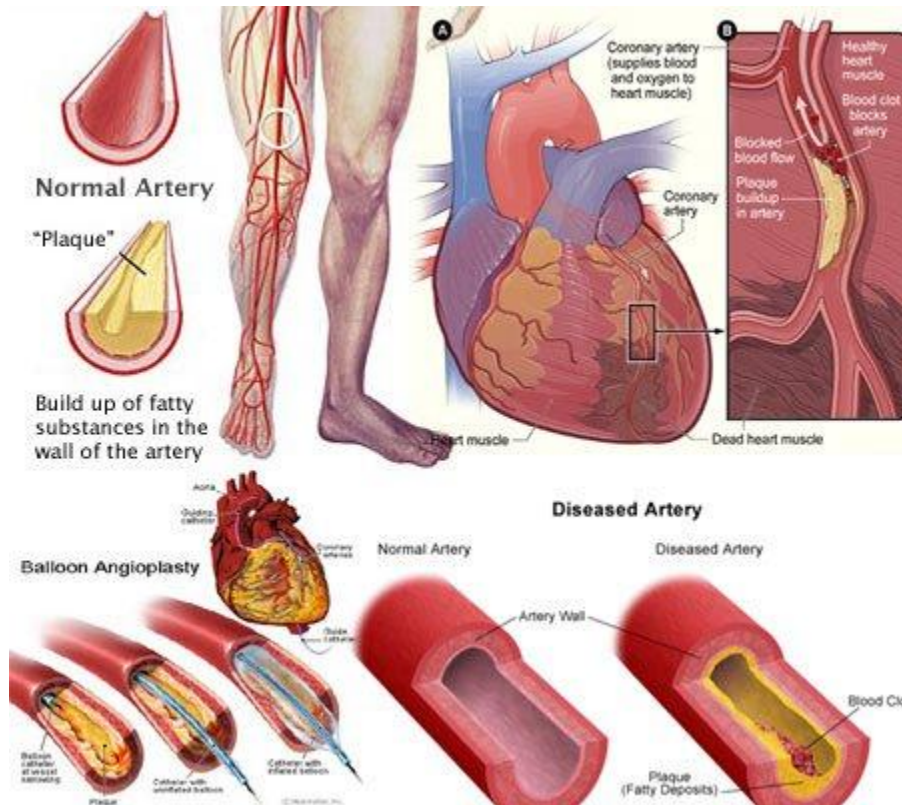


Figure 02: PAD

## What are the similarities between DVT and PAD?

- In both conditions we have discussed here, it is the occlusion of a blood vessel that acts as the foundation for all the pathological complications.
- Both DVT and PAD commonly affect the lower limbs.

## What is the difference between DVT and PAD?

### DVT vs PAD

DVT or deep vein thrombosis can be defined as the occlusion of a deep vein by a thrombus.

Peripheral arterial disease (PAD) is characterized by the occlusion of arteries by the atherosclerotic plaques.

## Occlusion

Veins are occluded in DVT.

Arteries are occluded in PAD.

### Summary – DVT vs PAD

It is important to understand the difference between DVT and PAD clearly, in order to make an accurate diagnosis and treat these conditions. One vital fact to be noticed is that through life style modifications most of the risk factors for DVT and PAD can be taken out of the equation. So the importance of increasing the community awareness on these preventive life style changes should be emphasized because it is always better to prevent the disease than trying to cure it.

#### Reference:

1. Hayes, P. C., K. J. Sympson, and O. J. Garden. "Davidson's Principles and practice of Medicine." (2002).

#### Image Courtesy:

1. "Blausen 0290 DeepVeinThrombosis" by Blausen.com staff (2014). "Medical gallery of Blausen Medical 2014". WikiJournal of Medicine 1 (2). DOI:10.15347/wjm/2014.010. ISSN 2002-4436. – Eie werk ([CC BY 3.0](#)) via [Commons Wikimedia](#)
2. "Peripheral-Artery-Disease" by Adams999 ([CC BY-SA 2.0](#)) via [Flickr](#)

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