

PERIPHERAL VASCULAR DISEASES

GROUP B44

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DEFINITION

- Peripheral vascular disease (PVD) is a slow and progressive circulation disorder. Narrowing, blockage, or spasms in a blood vessel can cause PVD.
- PVD may affect any blood vessel outside of the heart including the arteries, veins. Organs supplied by these vessels, such as the brain, and legs, may not get enough blood flow for proper function. However, the legs and feet are most commonly affected.
- Peripheral vascular disease is also called peripheral arterial disease.

Symptoms

depend on:

- what artery is affected
- how severely the blood flow is reduced
 1. Claudication (dull, cramping pain in hips, thighs or calf muscle)
 2. Buttock pain
 3. Numbness or tingling in leg, foot or toes
 4. Changes in skin color (pale, bluish or reddish discoloration)
 5. Changes in skin temperature
 6. Infection/sores that do not heal
 7. Ulceration or gangrene
 8. Uncontrolled hypertension
 9. Renal failure

TABLE 2. Symptoms According to the Area of Arterial Lesion

Area of Lesion	Clinical Picture
Aortoiliac	Buttock-thigh-calf claudication Impotency in a man (if bilateral involvement is present): Leriche syndrome
Femoropopliteal	Calf claudication with/without plantar claudication
Infrapopliteal	Plantar claudication

Causes:

1. Atherosclerosis (the most common cause)
2. Blood clot (thrombus/emboli)
3. Diabetes:
 - High Blood Sugar level damages blood vessels and make them more likely to become narrow or weaken.
 - People with diabetes often have high blood pressure and high level of fats in the blood. Both can accelerate atherosclerosis development.

Causes: (cont.)

4. Inflammation of the arteries:

- Arteritis can cause narrowing or weakening of the arteries.
- Some autoimmune conditions lead to vasculitis.

5. Infection:

- causes inflammation and scarring which can block, narrow, or weaken blood vessels.
- Example: salmonellosis and syphilis are traditionally known to infect and damage blood vessels.

Causes: (cont.)

6. Structural defects:

- Defects in the structure of a blood vessel can cause narrowing mostly acquired at birth.
- the cause remains unknown

7. Injury:

- such as a car wreck or a bad fall.

Risk factors:

- Family history of premature heart attacks or strokes
- Older than 50 years
- Overweight or obesity
- Inactive (sedentary) lifestyle
- Smoking
- Diabetes
- High blood pressure
- High cholesterol or LDL, plus high triglycerides and low HDL

EPIDEMIOLOGY/STATISTICS

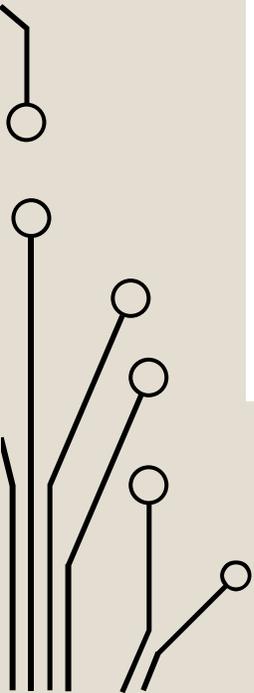
- It affects 15-20% of persons older than 70 years of age
- It affects 10-15% of the general population
- Approximately 50% are asymptomatic

4 STAGES CLASSIFICATION OF LERICHE-FONTAINE



TABLE 1. Fontaine's Clinical Classification

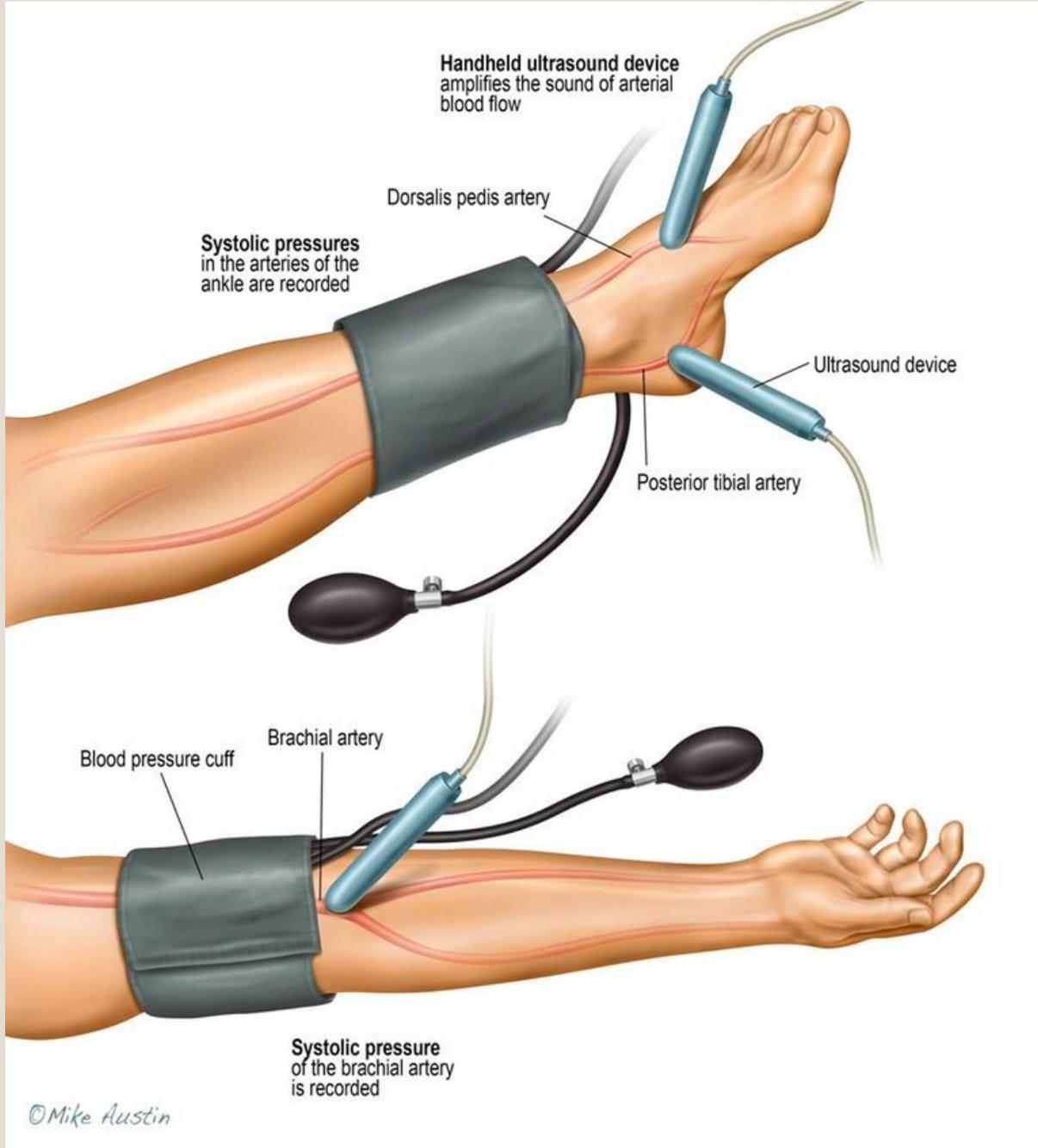
Grade I	Asymptomatic. Detectable by ankle-arm index <0.9
Grade IIa	Intermittent claudication not limiting the patient's life style
Grade IIb	Intermittent claudication limiting for the patient
Grade III	Pain or paresthesias at rest
Grade IV	Established gangrene. Trophic lesions
Grade III and/or IV	Critical ischemia. Threat of loss of limb



Diagnosis procedure

- Ankle Brachial Index (ABI)
- Ultrasound Doppler Test
- Angiogram

ANKLE BRACHIAL INDEX (ABI)



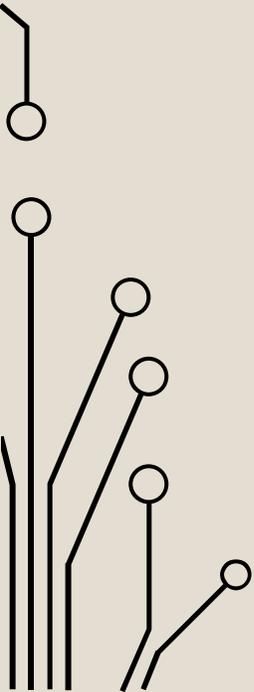
Treatment:

Invasive Interventions

1. Angioplasty and Stents
2. Atherectomy
 - a minimally invasive intervention procedure
 - excision and removal of blockages by catheters with miniature cutting systems.

Purpose of the procedures:

- removes plaque
- compresses plaque or
- displacing of plaque



Treatment: (cont.)

Surgery

- If blockage is extremely long
- If blockage has become very hard and calcified with time
- If blockage may be resistant to atherectomy or angioplasty and stents

Purpose:

- to bypass the problem area.

Treatment: (cont.)

Revascularization

- to prevent limb loss
- for patients with rest pain, tissue loss, or gangrene
(s/s of Critical Limb Ischemia)

includes:

- endovascular angioplasty or stenting, or
- open surgical reconstruction by peripheral bypass or endarterectomy

Treatment: (cont.)

Non-invasive interventions

1. Exercise

2. Positioning

- avoid crossing of legs (interferes blood flow)
- elevate feet at rest (manages swelling)
 - not above the heart level
 - extreme elevation slows arterial blood flow to the feet

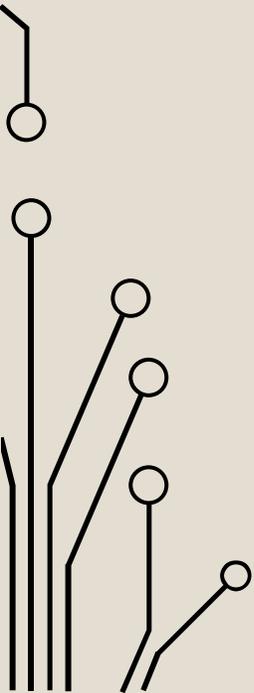
Treatment: (cont.)

3. Promoting vasodilation

- provision of warmth to the affected extremity
- maintain a warm environment at home
- wear socks or insulated shoes at all times
- Never apply direct heat to the limb (heating pad or extremely hot water) to reduce the risk of burns

4. Stop Smoking

- Smoking causes vasoconstriction



Treatment: (cont.)

5. Avoid exposure to cold temperatures

6. Avoid or limit intake of caffeine

- causes vasoconstriction.

7. Medications

- given to patients with chronic PVD —> Antiplatelet medications (such as Aspirin and Plavix)

8. Rolling Hypertension

- Controlling high blood pressure can improve blood flow through the blood vessels and reduce the constriction

Thank you