

# Examination of the Peripheral Vascular System (Legs only)

---

**Wash your hands & Introduce the exam to your patient**

## **Positioning & Draping**

- with the patient supine, expose both legs in order to compare each side
- be sure to place draping between the patient's legs in order to cover their groin

## **Inspection**

- General -Look for:
  - masses, scars, and lesions (trauma)
  - atrophy/hypertrophy
  - erythema/discolouration
  - swelling
  - muscle bulk/symmetry
- Evidence of vascular problems -Look for:
  - hair loss
  - shiny skin
  - venous ulcers      -often occur in the regions proximal to the medial malleolus
  - arterial ulcers      -most commonly occur on the distal aspect of the foot, (ie) the toes.
  - edema

## **Palpation**

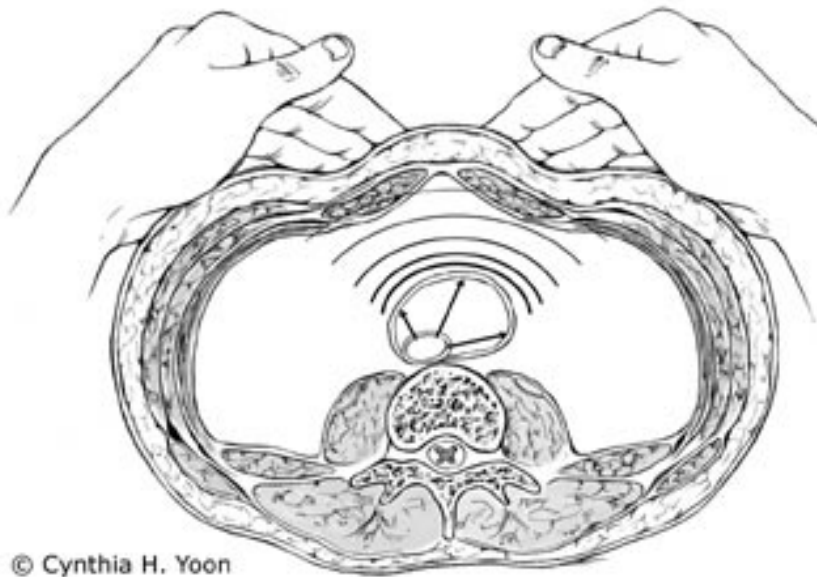
- Temperature
  - using the back of your fingers, palpate the legs from the knees to the toes to see if they are warm, cool, or hot

- Capillary Refill
  - press and release the big toe → refill should only take 3-4 seconds
- Edema
  - check for pitting or non-pitting edema by pressing your thumb into the patient's shin
  - if an impression is left, the edema is pitting
  - NB: -before you perform this maneuver, be sure to inform the patient that this may cause them some discomfort
- Pulses
  - Femoral
    - palpate at the lateral corners of the pubic triangle
  - Popliteal
    - bend the patient's knee to ~90°
    - using the pads of the fingers of both of your hands, palpate in popliteal fossa
    - remember to press **firmly** (the popliteal artery is deep)
  - Posterior Tibial
    - palpate just posterior to the medial malleolus
  - Dorsalis Pedis
    - palpate just lateral to the tendon of Extensor Hallucis Longus
  - Palpation for an Abdominal Aortic Aneurysm (AAA)
    - palpate deeply with both hands a few centimeters above the umbilicus
    - feel for a mass that is both pulsatile **and** expanding

- using your index fingers, estimate the width of the aorta

**Figure 1:**

**Technique for the palpation of an Abdominal Aortic Aneurysm**



**Auscultation**

- Bruits
  - auscultate over the abdomen, the femoral arteries, and the popliteal fossas

**Special Maneuvers**

- Pallor on Elevation
  - passively elevate the patients legs and hold them for 15-30 seconds
    - mild pallor on elevation is normal
    - marked pallor may signify arterial insufficiency
- Rubor on Dependency

- after being held in the elevated position as described above, lower the patient's legs and swing them over the side of the bed
  - colour should return in <10 seconds
  - superficial veins usually fill in <15 seconds
  - Rubor on Dependency: With severe arterial insufficiency, the dependent limb often becomes very red after a period of elevation