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 it they are warm, cool, or hot
• **Capillary Refill**
  
  o press and release the big toe → refill should only take 3-4 seconds

• **Edema**
  
  o check for pitting or non-pitting edema by pressing your thumb into the patient’s shin

  o if an impression if 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**
  
  o **Femoral**
    1. palpate at the lateral corners of the pubic triangle

  o **Popliteal**
    1. bend the patient’s knee to ~90°
    2. using the pads of the fingers of both of your hands, palpate in popliteal fossa
    3. remember to press **firmly** (the popliteal artery is deep)

  o **Posterior Tibial**
    1. palpate just posterior to the medial malleous

  o **Dorsalis Pedis**
    1. palpate just lateral to the tendon of **Extensor Hallucis Longus**

  o **Palpation for an Abdominal Aortic Aneurysm (AAA)**
    1. palpate deeply with both hands a few centimeters above the umbilicus
    2. 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
  o auscultate over the abdomen, the femoral arteries, and the popliteal fossas

Special Maneuvers
• Pallor on Elevation
  o 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