Lower limb venous system examination

Intro (WIIPPPPE)
- Wash your hands
- Introduce yourself
- Identity of patient – confirm
- Permission (consent and explain examination)
- Pain?
- Position – initially standing
- Privacy
- Exposure – trousers/skirt removed

General Inspection
- Surroundings
  - Monitoring and treatments
  - Paraphernalia – especially walking aids
- Patient
  - Well or unwell?
  - Comfortable or in pain?
  - Body habitus

Systemic examination
- Inspect (standing)
  - Ask patient to externally rotate each leg. Inspect long saphenous vein and perforator veins of the superficial system (2, 3 and 5cm above medial malleolus).
    - Pay close attention to the saphenofemoral junction (SFJ) for a saphena varix (2.5cm lateral and below the pubic tubercle).
  - Ask patient to turn away from you to inspect the short saphenous vein and sapheno-popliteal junction.
- Inspect (supine at 45 degrees)
  - Signs of venous insufficiency - entire leg and foot but especially gaiter area:
    - Venous ulcers
    - Scars from healed venous ulcers
    - Haemosiderin deposit
    - Venous eczema
    - Lipodermatosclerosis and inverted champagne bottle shaped legs
    - Atrophie blanche
    - Venulectasias (thread veins)
  - Signs of thrombophlebitis
    - Swollen, red, tender vein
    - Hardened thrombus within vein
  - Signs of DVT
    - Swollen, red, painful calf often with dilated superficial veins
- Palpate
  - Temperature
  - Calf tenderness (DVT)
  - Pitting oedema
  - Palpate over course of long saphenous, perforators and short saphenous vein (varicosities, thrombophlebitis)
  - If there is a saphena varix:
    - Ask the patient to cough to emphasise it
- Palpate for a thrill over varix
  - Tap test:
    - Tap long saphenous vein (medial) at knee and palpate SFJ simultaneously. A palpable impulse at the SFJ indicates venous insufficiency in the long saphenous vein.
- Auscultate
  - Any large clusters of veins (continuous ‘machinery’ murmur suggests AV fistula)

Closure
- Thank patient
- Ensure patient is comfortable
- Check if they need any help getting dressed
- Wash hands

Turn to examiner, hands behind back, holding stethoscope before saying:

- “To complete my examination, I would like to...”
- Further examinations:
  - Perform a peripheral arterial examination (mixed vessel disease may contraindicate venous compression stockings)
  - Perform an abdominal examination (to exclude abdominal cause of varicose veins)
- Bedside investigations:
  - Confirm site of venous incompetence with hand-held Doppler probe
- Further investigations
  - Colour flow venous duplex of superficial and deep system
  - Colour flow arterial duplex if mixed vessel disease suspected
  - Consider venography in complicated cases
- For further information on special tests in the venous exam (Trendelenberg’s, Pethes’ and the tourniquet test) please see the questions section.