CHECKLIST FOR Peripheral Vascular Exam – UNDERGRADUATE GUIDE

Ones in BLACK must do or comment on, Ones in BLUE must comment on only if present or applicable to patient. Content in blue should be in back of your mind so say when you are practicing but not during exam unless seen on the patient in the exam. **(5 or 10min station)**

(FOLLOW THIS CHECKLIST IN PUBLISHED ORDER FOR 10MIN STATION

For 5min may just be a AAA or diabetic foot – Do not do hands (or abdomen) and focus on area of concern directly (abdomen or limbs).
This is not the varicose vein exam checklist. That will be uploaded separately.

Stage 1 – Pre Exam Checklist	
1. Alcohol Gel	
2. Introduction – "Shake hands/ hello my name is……."	
3. Consent – "Will it be okay if I examine the blood vessels in your tummy and legs?"	
4. Positioning – Lie flat as possible, check if patient comfortable in said position	
5. Exposure – Expose the abdomen; expose the lower limbs (shoes, socks off). Keep underwear on. Keep groin and genitalia covered with sheet.	
Stage 2 – General inspection NB: POSITION YOURSELF TO THE RIGHT SIDE IF NOT ALREADY DONE SO AS ALL EXAMINATION SHOULD BE PERFORMED FROM THE RIGHT SIDE OF PATIENT	
1. Take a step back to end of the bed	
2. Comment on patient (obvious only) • Comfortable at rest or not • Comment on amputations - Hind quarter, above knee, below knee, foot, above ankle, toes • Comment on dressing or bandages and take them down • Comment on any obvious ulcers or bruises • Comment on any obvious scars • Obvious pallor • Obvious signs of distress (e.g. hyperventilation, clammy, pale and gray)	
3. Comment on surroundings • Prostheses, wheelchairs, walking aids • Dietary status (check top of the bed) – NBM, FF, LD, Sips, D&F/E&D, diabetic diet, low residue diet etc • If no other clues "say no other obvious clues around the bed" • Food or drink around indicating E&D • Comment on monitoring attached – observations etc • Comment on infusions (e.g. PCA / Sliding scale), medications Remember this is not close inspection stage (this comes next), So only mention obvious things. Don't commit to things at this stage. So don't need to describe ulcers etc in detail at this stage.	

Stage 3: Peripheral Examination

1. Hand Exam
    - Nicotine stains
    - Temperature (?cold and clammy)
    - Splinter haemorrhages
    - Other visible hand findings
      e.g. clubbing, koilonychia, leuconychia,

2. Radial Pulse
    - Rate
    - Rhythm
    - Volume

3. **Tell the examiner at this point, "I would like to do radio-radial delay, radio femoral delay, blood pressure, and feel central pulses (brachial and carotid), but due to time constraints I will move on to abdomen.**

Stage 4: Abdomen

1. Closer inspection – Now is the time to look closely at things you may have briefly commented on in general inspection
    - Distension – Yes / No
    - Bruising
        - From Clexane, insulin injections
        - From retroperitoneal bleed
        - Rare: Grey Turner's or Cullen's sign
    - Scars :
        - Look for common scars: midline laparotomy, gridiron / appendectomy scar / open cholecystectomy scar
        - If recent scar comment on any erythema/cellulitis, whether clips/stitches insitu, temperature, swelling (?collection) around scar or discharge
    - Drains: location, content in bag (blood, serous, haemoserous, pus)
2. Ask the patient if in pain "any pain in the tummy"
3. Warn them that you will press on the tummy and say "let me know if you have any pain"
4. Other – warn if you have cold hands etc and rub them to make them warm
5. Kneel down by the side of patient on the right side

IN THIS EXAMINATION IN THIS STAGE ONLY PALPATION OF THE ABDOMEN IS REQUIRED

6. Palpation (superficial and deep)
    - Palpate along the 9 quadrants feeling for tenderness, masses

- Especially above and to the left of the umbilicus pause and feel for a pulsation.
- Then use both hands palmar surface down on the abdomen and radial edges facing each other to find the edge of the AAA and see if there is expansile movement of the hands which will indicate an AAA.

STAGE 5: The Legs

1. Inspection
    - Any obvious findings: e.g. amputations, (BKA, AKA, Hind Quarter, Foot, Toes) unless already commented on.

    - Colour
        - Erythema
        - Pallor
        - Mottled

    - Trophic changes
        - Sign of chronic venous congestion (e.g. Haemosiderin deposition, Lipodermatosclerosis)
        - Hair loss
        - Muscle wasting
        - Toe nail changes / fungal infection of nails
        - Inverted champagne bottle sign

    - Ulcers
        - Inspect the Gaiter area (medial aspect of lower legs) for venous ulcers

        - Pressure point including heels and back of heel (ask patient to lift leg up and look at back of the heel and legs for ulcers

        - Inspect foot closely including toes and between toes for ulcers

        - Distinguishing different ulcers
            - Arterial – Deep, punched out ulcers / clear border, Usually distal (in toes, foot as opposed to lower leg / thigh)

            - Venous – Superficial, irregular borders, Commonly found in the Gaiter area

            - Mixed – Features of both

            - Neuropathic – Over pressure points (e.g. heel / back of heel), punched out deep, associated with loss of sensation in the area affected

- Scars:
    - Inspect both legs for scars of vascular surgery (e.g. peripheral vascular bypass surgery or vein grafting scars fro CABG)
    - Inspect both groins for scars (e.g. from varicose vein surgery, femoral endarterectomy, embolectomy etc)

2. Palpation

Tell the patient “I am going to examine your legs now and have a feel for the temperature and pulses”

- Check capillary refill
    - Use big toe press on nail for 5 seconds, return to pink within 2 seconds or less. If > 2seconds abnormal
    - Check both sides
    - If no big toe (e.g. in amputation, use other toe or over a bony prominence e.g. medial / lateral malleolous)

- Check temperature
    - Use dorsum of hand
    - Work from proximal to distal, checking both sides as you work down (e.g. right thigh then left thigh, right leg then left leg etc.), looking for a level of temperature change and also comparing both sides

- Pulses
    - Feel all pulses in the leg
        a) Femoral right and left – Tell the examiner “I am now feeling for the femoral pulse at the mid inguinal point which is half way between the ASIS and public symphysis, which is present (or absent)” as you are feeling the pulse at the above location. Now do the same on the other side.

        b) Popliteal right and left – Flex the knee to approx 30 degrees, use both hands with thumbs positioned over tibial tuberosity, use remaining fingers feeling medial to lateral along the edge of tibial plateau feeling for a pulse.

        Tip: Popliteal artery is the deepest structure in the popliteal fossa. (The order from sup → deep nerve [tibial], vein then artery). Now do the same on the other side

c) Dorsalis pedis pulse right and left – Tell the examiner "feeling for the dorsalis pedis pulse lateral to the extensor hallucis longus tendon in the first webspace" and feel for pulse at the said location. Now do the same on the other side

d) Posterior tibial pulse right and left – Tell the examiner "feeling for posterior tibial pulse just posterior to the medial malleolous and it is present (or absent)" and feel for a pulse there Now do the same on the other side

NB only feel one pulse at a time. When feeling for the pulse note if present or absent, weak or good volume compared to other side.

IF PULSES ABSENT OFFER TO USE DOPPLER OR USE IT IF AVAILABLE.

- The Tests

a) Buerger's Test

- Ask patient if they have any pain in the hip
- Then gently lift leg up (one side at a time) and observe closely to see if leg becomes pale.
- The angle between the bed at which leg becomes pale is **Buerger's angle**.
- In health there should be no Buerger's angle (i.e. leg should not go pale)
- Then whilst holding their leg up tell the patient **"I will keep holding your leg up if you can kindly shuffle to the end of the bed and sit up with the legs dangling down the side, I will gently lower the leg I am holding as you sit up"**
- Do the above and when sat up if leg goes purple / bright red this is the **sun set foot sign**
- All of the above steps is the Buerger's Test
- Ask the patient to lie down and repeat the same for the other leg.

b) Ankle Brachial Pressure Index - ABPI. (may be asked to

perform or just talk through how to do ABPI)

- You will need a BP cuff and manual device (sphygmomanometer) and Doppler
- Use Doppler to identify radial pulse on the right.
- Apply cuff over arm (as for normal BP measurement).
- Inflate cuff until sound of radial pulse ceases on Doppler.
- Inflate a bit more and then deflate until sound reappears. The pressure recorded at level when pulse first reappears is considered the **brachial pressure**
- Then apply the cuff on the leg over the calf on the right side.
- Find the dorsalis pedis pulse using Doppler
- Then inflate until pulse sound disappears. Inflate more and then deflate until sound reappears. The pressure at which sound reappears is the **ankle pressure**.
- Record pressures on a 2 x 2 table
- Repeat the same steps on the opposite side.
- ABPI = Ankle Pressure / Brachial Pressure
- TIP: Normal 0.9 – 1.2

>1.2 could be calcified vessels e.g. in diabetes
0.8 – 0.7 – Mild Ischaemia
0.6 – 0.5 – Moderate Ischaemia
< 0.5 – Severe / Critical Ischaemia

- Auscultate
  - Auscultate over groin for femoral bruits

STAGE 6: TO FINISH OFF

Turn to the examiner and say:
"To complete my examination I would like to:"

- Examine all the other peripheral pulses
- Cardiovascular examination

• Lower limb neurology • ABPI - unless already performed • Doppler any pulses not palpate – unless already performed • Urine DIP – (renal vascular disease)	
STAGE 7: COMPLETION	
• Thank the patient • Offer to help get dressed and cover up • USE ALCOHOL GEL AGAIN AT THE END	
STAGE 8: PRESENT FINDINGS	
END OF EXAMINATION	