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CHECKLIST FOR Varicose Vein Exam – UNDERGRADUATE GUIDE

Ones in BLACK must do or comment on, Ones in BLUE must comment on only if present or applicable to patient. **FOLLOW THIS CHECKLIST IN PUBLISHED ORDER.**

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| This is usually a short 5 min station.<br>**Definition: A varicose vein is a dilated tortuous vein** | |
| Stage 1 – Pre Exam Checklist (If doing separately do this stage if not skip to stage 3) | |
| 1. Alcohol Gel / Bare Below Elbows<br>- Gloves not necessary | |
| 2. Introduction – "Shake hands/ hello my name is……." | |
| 3. Consent – "Will it be okay if I examine the veins in your leg today?" | |
| 4. Chaperone and privacy – Request a chaperone as this can be an intimate examination | |
| 5. **Positioning** – Ask the patient to stand up | |
| 6. Exposure – Ask the patient to remove trousers down to underwear. | |
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| Stage 2 – General inspection | |
| 1. Take a step back and inspect patient | |
| 2. Comment on patient (obvious only)<br>• Comfortable at rest or not<br>• Comment on any obvious ulcers, dressings etc | |
| Remember this is not a close inspection stage (this comes next), so only mention obvious things. Don't commit to things at this stage. | |
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| Stage 3: Examination of varicose veins | |
| 1. Inspection<br><br>**POSITION YOURSELF LOWERING YOUR SELF DOWN TO PATIENTS HIP LEVEL (KNEEL or CROUCH). REMEMBER TO STAND <u>TO THE SIDE OF PATIENT NOT IN FRONT</u>**<br>• Examine from front back and sides taking time on each position.<br>• Comment on obvious findings<br>➢ Scars (stab avulsion scars anywhere in the leg, LSV high tie + ligation + strip scars in groin and below the knee, venous grafting scars for CABG etc)<br>➢ Asymmetry (due to unilateral swelling)<br>➢ Oedema<br>➢ Skin changes – Cellulitis, Ulcers (In Gaiter area where venous ulcers commonly occur)<br>➢ Trophic changes – (Lipodermatosclerosis and inverted champagne bottle sign, Haemosiderin deposition)<br>➢ And of course – any dilated tortuous veins (Say where they are medial or lateral, in distribution of LSV or SSV)<br>➢ Inspect the groin in detail for scars and possible saphenovarix | |

2. Palpation
   - Ask the patient if they have any pain before proceeding further
   - Quick palpation of temperature (dorsum of hand, one side at a time)
   - Feel the varicosities, should feel soft and compressible. If not may superficial thrombophlebitis
   - Feel the varicosity for thrill (may be AV malformation)
   - Feel along the distribution of LSV (for tenderness, for varicosity)
   - Feel along the distribution of SSV (for tenderness, for other varicosity)

3. Percussion
   - Anterograde – percussion from the top of varicosity (if long one) or small just above knee where LSV runs and palpate over varicosity inferiorly for thrill.
   - Retrograde – do opposite of above.
   - If thrill palpable it indicates continuous column of blood and no thrombophlebitis

4. Special Tests:
   - **Tourniquet Test:**
     - ✓ Step 1: Ask the patient to lie down
     - ✓ Step 2: Choose to examine the affected site first
     - ✓ Step 3: First palpate relevant anatomy. Identify ASIS, then pubic symphysis then lateral to it pubic tubercle. 4cm inferior and lateral to it is the **Saphenofemoral junction**. Make a note of this. (say this bit out loud as you feel for the different landmarks)
     - ✓ Step 4: Apply tourniquet loosely just below this level but DO NOT TIGHTEN YET. (ideally an older clip on one)
     - ✓ Step 5: Ask if any pain in hip. If not lift the leg up to about 45 degrees. Massage and milk the veins to empty them in an upward motion until fully empty (upto 10 seconds)
     - ✓ Step 6: With leg still elevated now tighten the tourniquet.
     - ✓ Step 7: Ask the patient to stand up. You can let go of leg as they stand up (i.e. do not need to keep it up)
     - ✓ Step 8: Observe varicosities to see if they fill up (3 possibilities here)
       - **Option1:** Patient stands up tourniquet still on and nothing happens (i.e. veins do not fill up). Release tourniquet. Then the veins fill up.
         **Problem** – SFJ incompetence. No further action required
       - **Option2:** Patient stands up tourniquet still on and vein gradually fills up. Tighten tourniquet to make sure fully tight at SFJ. If still filling then release tourniquet. Then the veins fill up even more
         **Problem** – SFJ incompetence and incompetence lower down. Need to work lower down until an option 1 obtained
       - **Option3:** Patient stands up tourniquet still on and vein fills up fully. Release tourniquet. Nothing much changes.
         **Problem** – Incompetence lower down

Apply tourniquet at the next level down. Keep repeating this until an option 1.

(Usually will only have time to do one of the special tests. Recommend Tourniquet Test)

- **Trendelenburg Test :**
  - ✓ Step 1: Ask the patient to lie down
  - ✓ Step 2: Choose to examine the affected site first
  - ✓ Step 3: First palpate relevant anatomy. Identify ASIS, then pubic symphysis then lateral to it pubic tubercle. 4cm inferior and lateral to it is the **Saphenofemoral junction**. Make a note of this. (say this bit out loud as you feel for the different landmarks)
  - ✓ Step 4: Now elevate the leg and milk the veins until empty.
  - ✓ Step 5: Once empty press using two three fingers over SFJ (warn the patient you are about to do so).
  - ✓ Step 6: Ask patient to stand up with you still pressing SFJ
  - ✓ Step 7: Inspect the varicosities to see if they fill up
    - **Option1:** Patient stands up, you are still pressing on groin and nothing happens (i.e. veins do not fill up). Release hand. Then the veins fill up.
      **Problem** – SFJ incompetence. No further action required
    - **Option2:** Patient stands up; you are still pressing on groin and vein gradually fills up. Press harder to make sure SFJ fully compressed. If still filling then release. If the veins fill up even more;
      **Problem** – SFJ incompetence and incompetence lower down. Need to work lower down until an option 1 obtained
    - **Option3:** Patient stands up; you are still pressing on groin. Release hand. Nothing much changes.
      **Problem** – Incompetence lower down

  **NOTE**: Trendelenburg Test only assesses SFJ incompetence. Need tourniquet test to see if incompetence lower down.

- **Doppler Test :**
  - ✓ With patient standing put handheld Doppler over SFJ
  - ✓ Milk varicose vein up (standing)
  - ✓ Will here "whoosh" as venous return into femoral vein
  - ✓ If SFJ incompetence will here a second "whoosh" as blood flows back through incompetent valve
  - ✓ Normally only one sound

**IMPORTANT:**
Saphenofemoral junction: 4cm inferior lateral to the pubic tubercle
After you stand the patient up observe for about 10-20seconds to see if vein filling
The levels where you apply tourniquet in step 9:

- Mid thigh – just below mid way on thigh (to check mid thigh perforators incompetence)
- Below knee – to check SPJ incompetence
- Mid calf – just below mid calf level (to check mid thigh perforators)

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| 5. Auscultate<br>- Use stethoscope to auscultate over varicosities for bruits and groin for thrill | |
| 6. Other<br>- If groin lump / swelling (saphenovarix) check for cough impulse to differentiate with groin hernia | |
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| Stage 5: To Finish Off | |
| Turn to the examiner and say:<br>"To complete my examination I would like to:"<br>1. Full arterial examination of the lower limb<br>2. Any special tests you have not performed<br>3. Abdominal examination to rule out abdominal pathology which could have given rise to varicose veins<br>4. Duplex Doppler USS assessment of lower limb | |
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| STAGE 6: COMPLETION | |
| • Thank the patient<br>• Offer to help get dressed and cover up<br>• USE ALCOHOL GEL AGAIN AT THE END | |
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| STAGE 7: PRESENT FINDINGS | |
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| END OF EXAMINATION | |

- Risk factors for varicose veins
    - Local – Prolonged standing, DVT, Pelvic malignancy, Pregnancy
    - Patient factors – Age (young), Female, Smoking
- Treatment
    - Conservative – Compression hosiery (after ABPI and ensuring arterial supply OK), life style changes (resting legs, stop smoking etc)
    - Medical – Topical treatment – emollients, moisteurisers, treatment if thrombophelbitis present(heparin based cream)
    - Invasive – Endo vascular laser treatment, Sclerotherapy, Surgery (no longer funded in the NHS unless significant morbidity associate with varicose veins)