

General Tips on How to Perform an Examination

To **begin** the Examination

Wash your hands.

Introduce yourself to the patient (first name, surname, medical student status)

Greet the patient (title and surname).called.

Explain what you would like to do and seek **consent** for the examination.

Explain **what you are about to do** at each stage **without using jargon**.

Then **Position** the patient appropriately (45 degrees for cardiovascular and respiratory, flat for abdominal).

Then **expose** the relevant part of the patient ensuring as much privacy as possible.

Perform a **general inspection** from the end of the bed. Don't forget to **look at the surroundings** (for sputum pot, central line, walking stick, etc.).

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Haw to Perform Clinical Examination

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During the Examination

Have a **methodical approach** to examination. Although each system is slightly different the standard order is:

- **Inspect**
- **Palpate**
- **Percuss**
- **Auscultate**

Non-jargon terms to use: *look at, touch/put pressure on, tap, listen to*. Avoid saying: 'I'm *just* going to' as this can appear patronising.

You should **avoid causing pain to the patient**. You can achieve this by asking the patient if they have any pain, and by palpating gently to start with. Remember to **look at the patient's face** when you are feeling for tenderness. Ask the patient to let you know if they feel any pain.

To end the Examination

- 1) Consider whether you need to examine any system in more depth (e.g. a full examination of joints in a patient with rheumatoid arthritis).
- 2) Re-examine any aspect that you are unsure about.
- 3) Tell the patient that you have completed your examination. Thank them and help them get dressed if needed.
- 4) Wash your hands once more.

After the consultation has finished and you have left the patient:

- a) Write a two line summary of what you found in the history and examination
- b) Offer a differential diagnosis list for the presenting complaint if the diagnosis has not been fully established.
- c) Make a problem list which will include the present complaint, other illnesses and other personal, psychological or social factors which affect this illness.
- d) Consider what tests (biochemical and radiological) are required to confirm or establish the diagnosis.
- e) Consider what treatment should be given to the patient.
- f) Consider what/if arrangements are needed to hand over the patient's care to another team.
- f) Reflect how the consultation was performed including points to consider for future consultations

Dress and Behaviour Expected in Clinical Area

In order to gain and maintain the trust and confidence of patients, there are certain rules of behaviour that a doctor or medical student must observe. Obviously you must never appear in front of a patient (or indeed in any other teaching situation in College) the worse for drink or drugs, or even smelling of drink. Remember the abuse of drugs implies that you are not to be trusted with drugs or medicines and a conviction for a drugs-related offence may mean that we cannot certify that you are fit to practice.

The dress policy

The dress policy is shown below. This should be adhered to whilst on hospitals wards, GP surgeries, while attending clinical skills sessions with patients or simulated patients and also during ALL examinations.

- Clothes should be smart and clean. No denim allowed. No low cut tops or mid riffs showing.
- White coats should be worn according to individual hospital policy.
- Name badges **MUST** be worn at all times
- Hair should be kept neat and tidy-Long hair must be tied back
- Jewellery should not be worn except for the following:
 - Rings: one single metal band. No rings with stones.
 - Earrings: small studs only
 - Necklaces: a simple chain allowed only if kept tucked inside clothing
 - No bracelets, charity wrist bands.
- Do **NOT** wear a wrist-watch
- Upper body: short sleeved tops or sleeves neatly folded to the elbow. Ties should be secured during an examination or removed according to individual hospital policy.
- Fingernails should be short and clean. No false nails.
- Sensible shoes i.e. no trainers, stilettos, or open toes.

Cardiovascular Examination

Introduction

- W - Wash your hands.
- I - Introduce yourself to the patient.
- P - Permission. Explain that you wish to examine their heart. Obtain consent for the examination. Pain. Ask the patient if they are in any pain and to tell you if they experience any during the examination.
- E - Expose the necessary parts of the patient. Ideally the patient should be undressed from the waist up taking care to ensure the patient is not cold or unnecessarily embarrassed.
- R - Reposition the patient. In this examination the patient should be supine and reclined at 45 degrees.

In the cardiovascular examination a lot of information can be obtained by looking for peripheral signs of cardiovascular disease. The examination is therefore split into a peripheral examination and then examination of the precordium.

Peripheral Examination

End of the Bed

- First examine the patient at the end of the bed for signs of breathlessness or distress.
- It is also important to look at the surrounding environment for oxygen, fluid restriction signs or GTN spray.

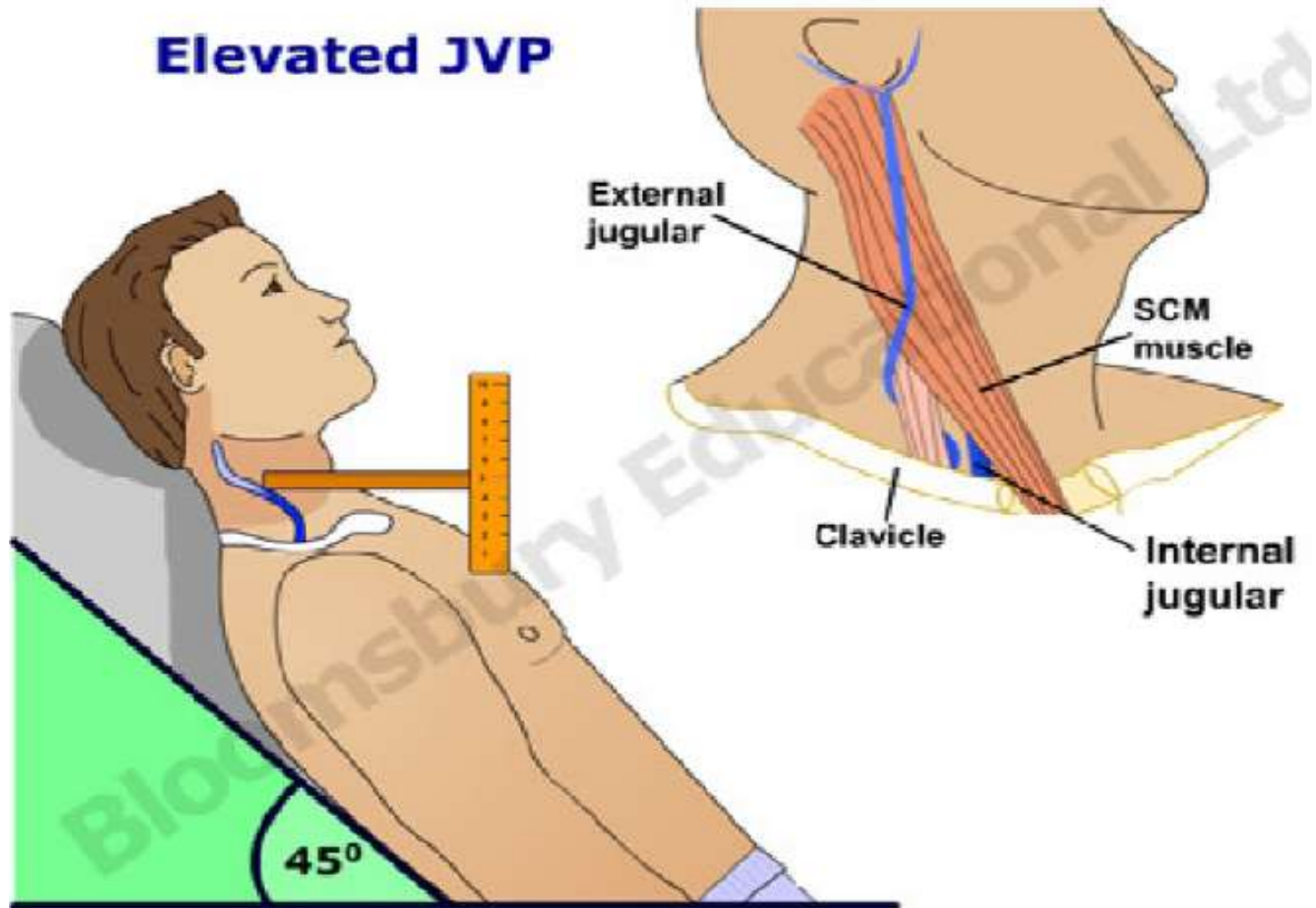
Hands

- Take the patient's hand and assess warmth, sweating and whether there is peripheral cyanosis.
- Check the capillary refill (press the end of the finger for 5 seconds, release and see how long it takes the colour to return. It should be less than 2 seconds)
- Examine the nails for clubbing or signs of infective endocarditis (splinter haemorrhages, Osler's nodes and Janeway lesions).
- Palpate the radial pulse and assess the rate and rhythm.
- Locate and palpate the brachial pulse and assess its character.
- Measure the blood pressure. If the blood pressure is raised compare both arms

Face

- Check eyes for corneal arcus and xanthelasma.
- Inspect the conjunctiva for signs of anaemia.
- Check for mouth and tongue for central cyanosis.
- Assess the jugular venous pressure height and wave form (see p22 for tips).
- Palpate the carotid pulse and assess its character.

Elevated JVP



Examination of the precordium

Inspection

Inspect the chest wall for

- Previous scars
- Pacemaker
- Abnormal pulsations
- A visible apex beat

Palpation

Palpate for:

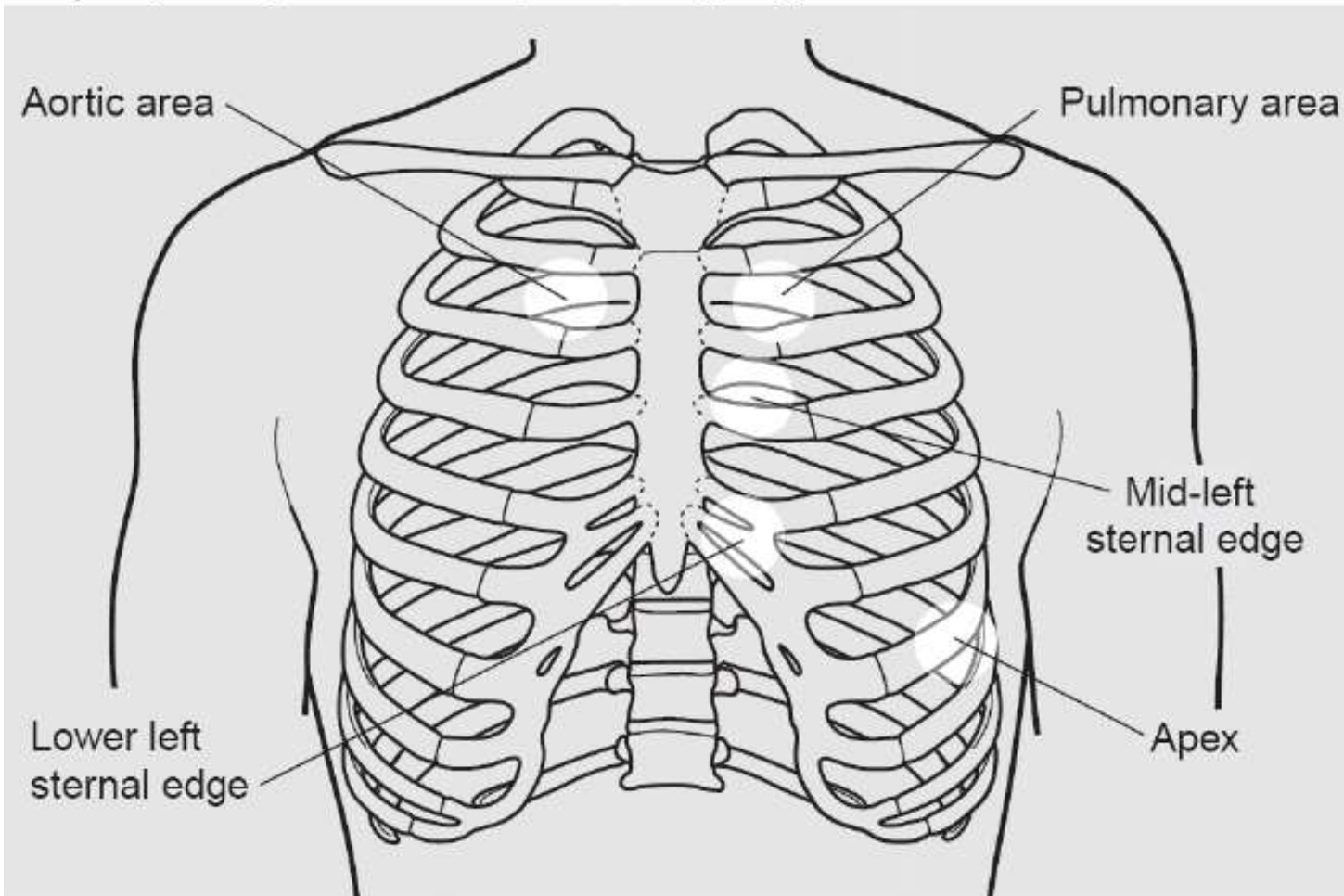
- Apex beat, note the location and assess the quality of impulse felt. Is it forceful, diffuse, tapping?
- Heaves, forceful ventricular contractions. Heaves represent ventricular hypertrophy and feel as if your hand is being lifted off patient's chest. This should be performed close to the left sternal border and towards the apex.
- Thrills. Thrills are 'palpable murmurs' that can be present over any area of heart. They feel like 'stroking a purring cat'. If present there should be an easily audible murmur present on auscultation.

Percussion

This is not normally performed in this examination.

Auscultation

Listen with diaphragm and the bell of your stethoscope at the apex, base, aortic and pulmonary regions.



- Start by listening to the heart sounds. To help you differentiate between the heart sounds they should be timed against the carotid pulse.
- The first heart sound is principally the sound of the mitral valve closing. It is the sound immediately before the main apical impulse and carotid pulsation. It is usually loudest at the apex or between the apex and the lower left sternal border.
- The second heart sound is due to closure of the aortic and pulmonary valves. It is the sound which follows the apical impulse and carotid pulsation. It is usually best heard at the upper left sternal edge using the diaphragm of the stethoscope.
- If you hear any murmurs these should also be timed with the carotid pulse to determine whether they are systolic (with carotid pulse) or diastolic. Also listen to whether the murmur is louder in inspiration or expiration.
- Ask your patient to hold their breath and auscultate over the carotid arteries for bruits.

Systolic murmurs

Aortic stenosis is an ejection systolic murmur best heard at the apex and upper right sternal edge. It often radiates to neck.

Mitral regurgitation is a pansystolic murmur best heard at the apex. It radiates to the axilla.

Diastolic murmurs

These are often more difficult to hear and require the patient to be moved into the best position to hear them.

Mitral Stenosis is best heard with the patient rolled on to their left side using the bell of the stethoscope to auscultate at the apex. The murmur is low pitched and rumbling and often localised.

Aortic Regurgitation is best heard with the patient sitting up, leaning forward and breathing out. (NB left sided murmurs are quieter on inspiration and louder on expiration). It is heard at the left sternal edge using the diaphragm.

Finishing Off

- State that you would complete the examination by:
- Auscultating the lung bases posteriorly for pulmonary oedema
- Checking for sacral and ankle oedema
- Checking the peripheral pulses – femoral, popliteal, posterior tibial & dorsalis pedis.
- Check for an abdominal aortic aneurysm

Respiratory Examination

Introduction

- W -** Wash your hands.
- I -** Introduce yourself to the patient.
- P -** Permission. Explain that you wish to perform a respiratory examination and obtain consent for the examination. Pain. Ask the patient if they are in any pain and to tell you if they experience any during the examination.
- E -** Expose the necessary parts of the patient. Ideally the patient should be undressed from the waist up taking care to ensure the patient is not cold or unnecessarily embarrassed.
- R -** Reposition the patient. In this examination the patient should be supine and reclined at 45 degrees.

Peripheral Examination

End of the Bed

- First look at the patient from the end of the bed for signs of breathlessness or distress.
- It is also important to look at the surrounding environment for sputum pots, nebulisers, peak-flow meters, inhalers or oxygen tubing.

Hands

- Look at the hands for clubbing, tar staining and peripheral cyanosis.
- Examine for tremor and a carbon dioxide retention flap.
- Palpate the radial pulse to calculate heart rate. At this time also assess respiratory rate and determine the pattern of breathing.

Face

- Look at the patient's eyes and face for signs of Horner's syndrome or lupus pernio.
- Inspect the conjunctiva for signs of anaemia.
- Look at the lips and tongue for central cyanosis
- Lie the patient at 45 degrees and assess JVP.
- Palpate the cervical, supraclavicular and axillary lymph nodes.

Examination of the chest

Inspection

Next the chest wall is then examined. Look specifically for:

- Chest wall deformity
(e.g. barrel chest, pectus excavatum/carinatum, scoliosis or kyphosis)
 - Previous scars
 - Use of accessory muscles
 - Asymmetry of chest wall expansion (ask patient to take deep breath)
- Next note the pattern of breathing; is it regular, what is the rate?

Palpation

- Palpate the trachea by placing a finger either side of the trachea and judging whether the distance between it and the sternomastoid tendons are equal on both sides. Before doing this warn the patient that this might be slightly uncomfortable.
- Assess chest expansion by putting the fingers of both your hands as far round the chest as possible and then bring your thumbs together in the midline but not touching the chest wall. Ask your patient to take a deep breath and observe whether the distance moved is the same for both thumbs.
- Palpate for tactile vocal fremitus by placing the edge or flat of your hand on the chest and asking your patient to say 'ninety nine'. This should be performed in a systematic fashion, comparing each side and covering all areas of the front and back of the thorax (including the axilla).

Percussion

Start percussion by tapping directly in the middle of both clavicles. Then work down the chest in a systematic manner comparing each side and including the axillary region. The finger on the chest should always be placed in the intercostal space, and there is no need to percuss more heavily than is necessary as this can be distressing for the patient.

Auscultation

Auscultation is then performed in a similar manner using the diaphragm of your stethoscope.

Ask the patient to take deep breaths through their mouth and commencing at the apices work down the chest in a stepwise manner, comparing each side with the other and remembering to include the axillary region.

Listen for breath sounds - are they vesicular (normal)? Next are there any added sounds (wheeze, crackles, or rubs)?

Assess vocal resonance: use the same auscultation technique but ask patient to say 'ninety nine'. If appropriate (normally if consolidation is suspected) test for whispering pectoriloquy by asking patient to whisper (if consolidation present the sound will still be heard clearly).

The patient is then asked to lean forward and the examination is then performed on the posterior aspect of the patient's chest.

Finishing Off

State that you would complete the examination by:

Checking for ankle oedema (cor pulmonale)

Measuring the peak flow rate

Measuring the oxygen saturation

Examining the contents of the sputum pot