THE RESPIRATORY SYSTEM
PHYSICAL EXAMINATION

Overview

The respiratory examination should include the following:

- General inspection from the end of the bed.
- General examination of:
  - Hands / pulse
  - Face
  - Neck
- Examination of the chest – repeated on the anterior and then the posterior chest wall.
  - Inspection
  - Palpation
  - Percussion
  - Auscultation

Preparation

- Wash your hands
- Introduce yourself to the patient if you have not already done so and check the identity of the patient
- Ask the patient’s permission to carry out the examination
- Give a brief explanation to the patient before you start. Further explanation/instructions can be given as you proceed.
- Equipment
  - Stethoscope
  - Peak Flow meter
- Patient position
  - Ideally the patient should be sitting at 45 degrees with the whole of the chest exposed
  - In female patients the bra will need to be removed for you to carry out the examination effectively. Do not expose the patient’s chest until you are ready to examine.

General Observations

- Look at the patient from the end of the bed. Note:
  - Obvious discomfort/pain
  - Breathlessness
  - Colour
  - Use of accessory muscles, tachypnoea, audible breathing (e.g. wheezing, stridor).
Hands

- Inspect both hands; nails, back and palms.
  - You should be able to recognise and know the significance of the following: clubbing, peripheral cyanosis, temperature and tar staining.
- Feel the radial pulse. Note the rate, rhythm and character
  - Tachycardic, bounding pulse in CO2 retention
- Check for flap of CO2 retention if appropriate
  - Ask patient to stretch arms out in front of them with the wrists dorsiflexed and fingers extended.
  - Look for irregular, jerky flexion/extension at the wrists and MCP joints

Face

- Gently pull down lower eyelids and ask patient to look up.
  - Inspect for pale conjunctiva of anaemia
- Ask patient to open their mouth and stick their tongue right out and then to the ceiling.
  - Look for central cyanosis – inspect the lips and the tongue

Neck

- Palpate for enlarged lymph nodes
  - Occipital
  - Post-auricular
  - Pre-auricular
  - Submandibular
  - Submentol
  - Anterior and posterior cervical
  - Supraclavicular (including Scalene nodes)

The Chest

The chest wall must be examined completely (inspection, palpation, percussion, auscultation), first the whole of the front and then the whole of the back. Examine from side to side and not top to bottom so that you can make comparisons. Lymph nodes can be palpated whilst the patient sits up in between.

INSPECTION - ANTERIOR

With the chest exposed look carefully for
- Chest wall abnormalities e.g. barrel chest, pectus carinatum, pectus excavatum, Harrison's sulci, kyphosis and scoliosis.
- Breathing pattern and asymmetry of movement
- Scars

PALPATION – ANTERIOR

- Tracheal deviation
  o Warn the patient it may be uncomfortable and place a finger either side of the trachea, judging the space each side.
  o Should lie centrally.
- Chest expansion.
  o Place hands around the chest, with thumbs extended and elevated from the chest wall
  o Ask the patient to take a deep breath in and then out.
  o Your thumbs will move apart. Note the amount and symmetry of movement.

PERCUSSION – ANTERIOR

- Start from the clavicles and move from side to side down the chest wall and under the arms. The diagram below shows where you should percuss the chest wall.
- You should be able to describe the percussion note produced and know its significance. i.e. tympanic, hyper resonant, dull
- Each area of the chest wall correlates with different areas of the lungs in both percussion and auscultation.
  o anterior wall - upper lobes
  o posterior wall - lower lobes
  o right lateral wall - middle lobe
  o left lateral wall - lingula

AUSCULTATION – ANTERIOR

Breath Sounds
- Ask the patient to keep breathing in and out through the mouth
  o Bear in mind the comfort of the patient – too many deep breaths may become distressing
- Starting above the clavicle, listen at the same places that you percussed.
- Compare side to side and listen during both inspiration and expiration

Vocal Resonance
- Ask the patient to keep repeating ‘ninety-nine’ while you
- Listen in the same places again using the diaphragm of the stethoscope comparing side to side
- You should be able to recognise changes in the transmission of sound and understand their significance,
POSTERIOR CHEST EXAMINATION

Repeat inspection, palpation, percussion and auscultation on the posterior chest. Points for percussion and auscultation are illustrated below:

Completing the Examination

- Cover patient /assist to redress if necessary
- Thank the patient
- Bed side tests
  - Peak flow
  - Temperature
- Inspect sputum sample
- It is important to note that in the clinical setting, the respiratory system should not be examined alone, but in conjunction with a cardiovascular examination, including looking for peripheral oedema