

Respiratory Examination

- **Intro (WIIPPPPE)**
 - Wash your hands
 - Introduce yourself
 - Identity of patient – confirm
 - Permission (consent and explain examination)
 - Pain?
 - Position at 45°
 - Privacy
 - Expose chest fully

- **General Inspection**
 - *Surroundings*
 - Monitoring:
 - pulse oximeter
 - ECG monitoring
 - Treatments:
 - oxygen therapy (method of delivery, rate, SATs, humidified, venturi)
 - Inhalers
 - Blue (reliever, short-acting B2 agonist e.g. salbutamol)
 - Brown (preventer, corticosteroids e.g. beclometasone)
 - Spiriva (tiotropium bromide, COPD patients)
 - Nebulisers (driven by oxygen?)
 - NIV
 - IV infusions
 - Chest drains
 - Creon (capsules for CF patients with exocrine pancreatic insufficiency)
 - Paraphernalia:
 - Ensures
 - food and drink
 - sputum pots
 - Cigarettes/ nicotine patches/ gum
 - *Patient*
 - Well or unwell?
 - Alert and orientated or drowsy and confused?
 - Comfortable at rest or in pain?
 - Body habitus? Cachectic or obese?
 - Signs of respiratory distress:
 - Dyspnoea/ tachypnoea
 - Tripod posture
 - Use of accessory muscles
 - Pursed lip breathing
 - Flared nostrils, intercostal/ subcostal recession, tracheal tug (children)
 - Chest shape
 - Breathing pattern
 - Added breath sounds? Stridor, audible wheeze?
 - Colour? Pale and shocked or peripherally cyanosed?

- Obvious scars
 - Ask patient to cough
 - Listen to nature of cough – dry or productive?
- **Hands**
 - *Inspect*
 - Clubbing – perform Shamoroth’s window test and consider respiratory causes:
 - Abscess of lung
 - Bronchiectasis
 - Cancer of the lung (not SCLC)/ Cystic fibrosis
 - Empyema
 - Fibrosis
 - Cigarette tar staining (*not* nicotine!)
 - Peripheral cyanosis
 - Wasting of small muscles of hand
 - Especially dorsal interossei and thenar eminence
 - Can be caused by a C8/T1 lesion e.g. Pancoast’s tumour
 - Hand signs of rheumatological conditions or steroid use
 - *Palpate:*
 - Pulse
 - RR
 - Normally 12-16 breaths per minute
 - Component of CURB-65
 - CO2 retention flap (also look for fine salbutamol-induced tremor)
- **Arms**
 - Signs of steroid use (thin skin, easy bruising)
 - Cannulae
 - Ask for BP (component of CURB-65)
- **Neck**
 - JVP - respiratory causes of ↑JVP:
 - Tension pneumothorax
 - Severe acute asthma
 - PE
 - Carotid pulse (CO2 retention = bounding)
 - Tracheal deviation
 - Normal = central
 - Deviated away = tension pneumothorax, large pleural effusion
 - Deviated towards = lung collapse, pneumonectomy
- **Face**
 - Facial swelling
 - SVC obstruction (usually due to bronchogenic carcinoma)
 - Smoker’s facies
 - Horner’s syndrome
 - Unilateral miosis, ptosis and anhidrosis
 - May be caused by Pancoast’s tumour
 - Conjunctival pallor (anaemia)
 - Blue lips- peripheral cyanosis
 - Mucous membranes (dehydration)
 - Tongue (bright red = CO poisoning)
 - Central cyanosis under tongue - respiratory causes:
 - Pneumothorax
 - PE

- Pleural effusion
- Pulmonary oedema
- COPD
- Acute severe asthma
- Acute respiratory distress syndrome (ARDS)

- **Chest: anterior**

- examine anterior chest as quickly and efficiently as possible as most signs will be best detected on the posterior chest
 - *Inspect* (ask patient to put hands on hips)
 - Chest wall deformity
 - Pectus excavatum ('funnel chest' e.g. Marfan's syndrome)
 - Pectus carinatum ('pigeon chest' e.g. severe childhood asthma)
 - Harrison's sulcus (severe childhood asthma)
 - Barrel chest (asthma, COPD)
 - Breathing pattern
 - Seesaw breathing (diaphragm in, abdomen out on inspiration; severe airway obstruction)
 - Flail chest/ paradoxical breathing (fracture of 2 or more ribs anteriorly and posteriorly)
 - Kussmaul breathing (DKA)
 - Cheynes-Stokes/periodic breathing (comatose patient)
 - Missing ribs
 - Scars
 - Thoracotomy – pneumonectomy or lobectomy
 - Thoracoplasty – rib removal (commonly old TB)
 - Small scars in axillae (previous chest drains)
 - Radiotherapy tattoos
 - *Palpate*
 - Apex beat (may be impalpable in COPD, pleural effusion)
 - RV heave (cor pulmonale)
 - Expansion:
 - Lateral: symmetry, >5cm increase
 - AP: symmetry
 - *Percuss*
 - At apices and 3 places on each side, alternating sides in an S shape, then axillae
 - *Auscultate*
 - Same places as percussion
 - Vocal resonance
 - If an area of dullness is found, vocal resonance can be used to distinguish between consolidation (increased) and effusion (decreased).
 - It is not necessary to also perform pectoriloquy or tactile vocal fremitus, but it is important to be aware of them.

- **Chest: posterior**

- It is often easier to detect pathology when examining the posterior chest so be thorough!

- *Inspect again*
 - Scars
 - Radiotherapy tattoos
 - Deformity – particularly kyphosis or scoliosis
 - Breathing pattern
 - *Palpate*
 - Expansion- repeat lateral expansion
 - Lymph nodes
 - Cervical
 - Supraclavicular
 - Sacral oedema (cor pulmonale)
 - *Percuss*
 - Percuss the upper, middle and lower zones in an S shape
 - *Auscultate*
 - Same as percussion
 - Vocal resonance
- **Legs**
 - Peripheral oedema
 - Cor pulmonale
 - Easy bruising
 - Calf swelling (DVT)
 - Erythema nodosum
 - Respiratory causes:
 - Viral/ streptococcal throat infections
 - Mycoplasma pneumoniae infections
 - TB
 - Sarcoidosis
- **Closure**
 - Thank patient
 - Patient comfortable?
 - Help getting dressed?
 - Wash hands

Turn to examiner, hands behind back, holding stethoscope (try not to fidget!) before saying:

- **“To complete my examination, I would like to...”**
- Bedside Invx:
 - Look at obs chart and repeat set of obs (pulse, BP, SATs, temp.)
 - Measure peak flow
 - Inspect any sputum pots and send for MCS
- Further Invx as indicated
 - Bloods
 - Lung function tests
 - CXR