

## Respiratory Examination

A thorough respiratory examination should include the following aspects. Underlined are the areas of highest importance which should always be considered.

### General Inspection

**Patient wellbeing:** stable, alert, comfortable, breathless, cachexia (cancer, emphysema), cushingoid (steroid use).

**Breathing:** use of accessory muscles (severe asthma, COPD, pneumothorax) , pursed lip breathing (keeps open small airways by increasing thoracic pressure during expiration in severe emphysema), stridor (upper airway obstruction), wheeze, cough, prolonged expiratory phase.

**Around the bed / couch:** oxygen, medications, sputum samples, cigarettes

### Hands

Generalised fine tremor (beta agonists), CO<sub>2</sub> retention flap, perfusion (eg cyanosis), small muscle wasting (eg Pancoast tumour), clubbing (IPF, lung cancer, bronchiectasis) tar staining.

### Pulse and Respiratory rate

**Pulse:** rate and rhythm, bounding pulse (CO<sub>2</sub> retention)

**Respiratory rate:** tachypnoea (hyperventilation, pneumothorax, anxiety) bradypnoea (sedation)

### Head and Neck

**Face:** cushingoid, plethoric (CO<sub>2</sub> retention)

**Eyes:** conjunctival pallor (anaemia of chronic disease)

**Mouth:** central cyanosis

**Neck:** JVP height (raised in cor pulmonale) tracheal tug, tracheal deviation (pleural effusion, pneumothorax, collapse), lymphadenopathy

**Chest – both anteriorly and posteriorly**

**Inspection:** Asymmetry (previous surgery, spinal deformities), scars (previous surgery), shape

**Palpation:** Both supra-mammary and infra-mammary chest wall expansion, feel for RV heave

**Percussion:** Percuss alternately left then right across chest (dull = consolidation or collapse, stony dull = pleural effusion, hyper-resonant = increased air space eg emphysema, pneumothorax).

**Auscultation:** During deep breaths: listen during inspiration and expiration and compare both sides.

- Decreased air entry: emphysema, pneumothorax, pleural effusion, collapse
- Added sounds:
  - Wheeze- asthma, COPD
  - Crackles- coarse (bronchiectasis, consolidation, pulmonary oedema), fine (pulmonary fibrosis)
  - Pleural rub – pulmonary infarction (PE)
- Vocal resonance: (Increased in consolidation, decreased in effusion / pneumothorax)
- Bronchial breathing: consolidation or fibrosis

	Pneumothorax	Pneumonia	Pleural effusion	Collapse
Tracheal displacement	AWAY	Normal	AWAY if large	TOWARDS
Expansion	All reduced on the side of the problem			
Percussion resonance	INCREASED	DECREASED	“Stony dull”	DECREASED
Breath sounds	Reduced or absent	Bronchial breathing and crackles	Reduced or absent	Reduced or absent

**Finally**

**Calves / lower legs:** peripheral oedema, DVT

**Sacrum:** peripheral oedema

