

5.1 Respiratory history taking/documentation framework

History of presenting symptoms

Specific respiratory symptoms

- Breathlessness
- Wheeze
- Cough
- Sputum/haemoptysis
- Chest pain
- Fever/rigors/night sweats
- Weight loss
- Sleepiness

Past medical history

- Respiratory disease
- Other illness/hospital encounters

Drug and allergy history

- Drugs causing or relieving respiratory symptoms
- Allergies to pollens/pets/dust; anaphylaxis

Social and family history

- Family history of respiratory disease
- Home circumstances/effect of and on disease
- Smoking
- Occupational history

Systematic review

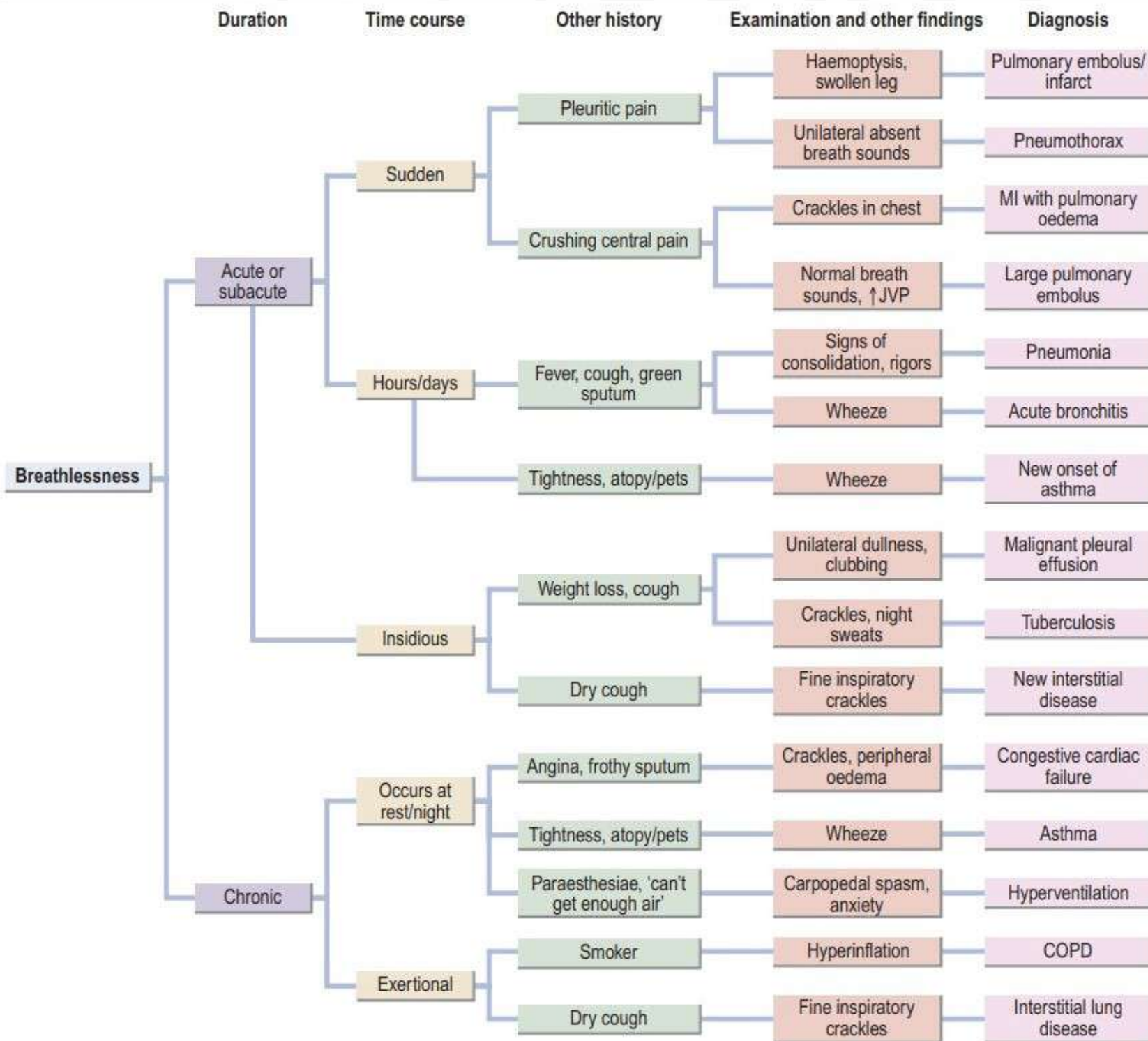
- Systemic diseases involving the lung
- Risk factors for lung disease

5.2 Medical Research Council (MRC) breathlessness scale

Grade	Degree of breathlessness related to activities
1	Not troubled by breathlessness except on strenuous exercise
2	Short of breath when hurrying on the level or walking up a slight hill
3	Walks slower than most people on the level, stops after a mile or so, or stops after 15 minutes walking at own pace
4	Stops for breath after walking about 100 yds or after a few minutes on level ground
5	Too breathless to leave the house, or breathless when undressing

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Diagnostic approach to breathlessness



5.3 Causes of chronic cough and accompanying clues in the history

Pathophysiology	Suggestive features in history/examination
Airways inflammation: Asthma – 'cough-variant asthma'	Affects children and some adults Often present at night Associated wheeze, atopy
Chronic obstructive pulmonary disease	History of smoking and intermittent sputum
Persisting airway reactivity following acute bronchitis	Recent acute-onset cough and sputum
Bronchiectasis	Daily purulent sputum for long periods Pneumonia or whooping cough in childhood Recurrent haemoptysis
Lung cancer	Persistent cough, especially in smokers Any haemoptysis Pneumonia that fails to clear in 4–6 weeks
Rhinitis with postnasal drip	Chronic sneezing, nasal blockage/discharge
Oesophageal reflux	Heartburn or regurgitation of acid after eating, bending or lying Nocturnal as well as daytime cough
Drug effects	Patient on angiotensin-converting enzyme inhibitors
Interstitial lung diseases	Persistent dry cough Fine inspiratory crackles at bases
Idiopathic cough	Long history with no signs and negative investigations – diagnosis of exclusion

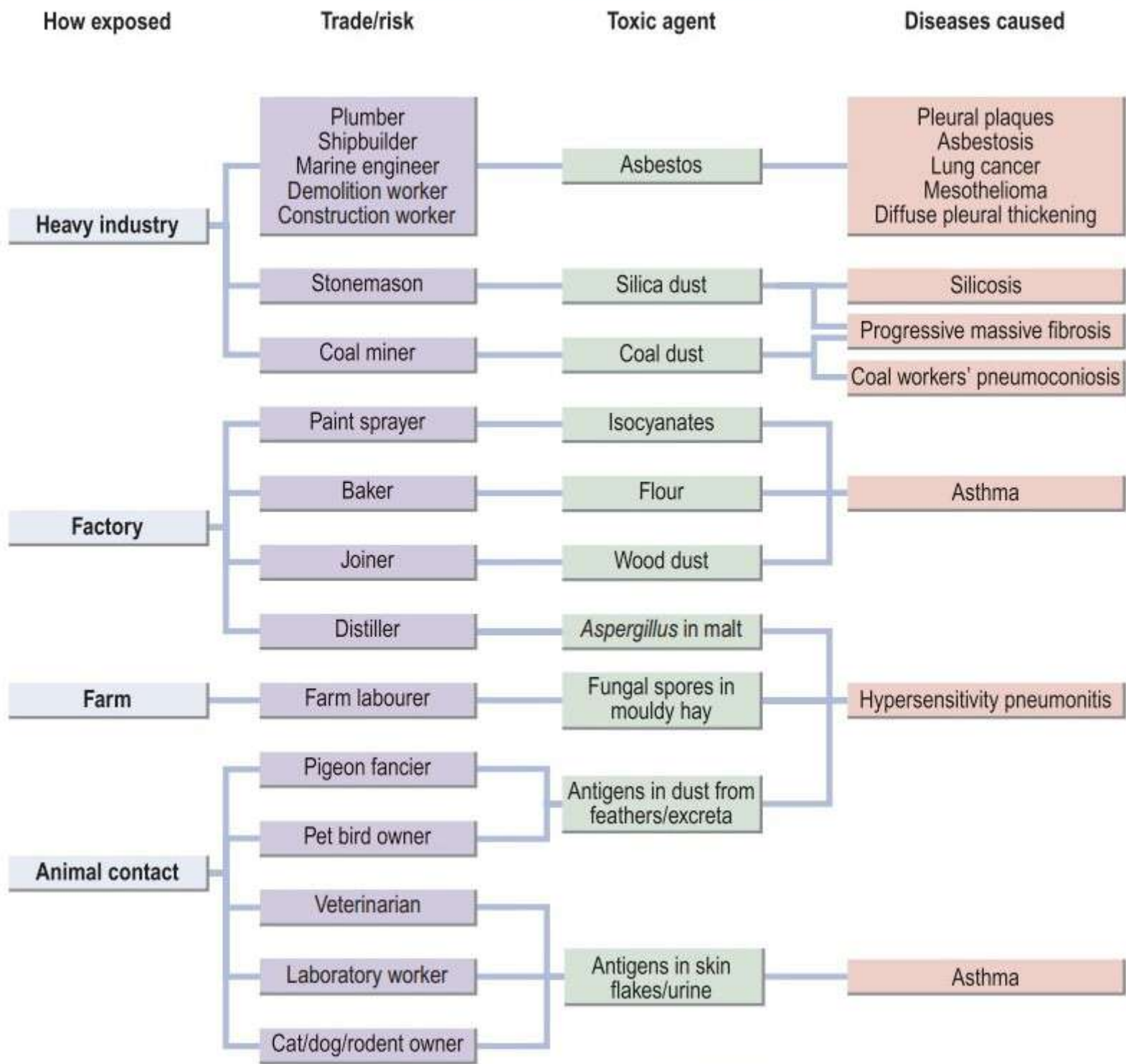
5.4 Previous illness relevant to respiratory history

History	Current implications
Eczema, hay fever	Allergic tendency relevant to asthma
Childhood asthma	Many wheezy children do not have asthma as adults, yet many adults with asthma had childhood wheeze
Whooping cough, measles, inhaled foreign body	Recognised causes of bronchiectasis, especially if complicated by pneumonia
Pneumonia, pleurisy	Recognised causes of bronchiectasis Recurrent episodes may be a manifestation of bronchiectasis
Tuberculosis	Reactivation if not previously treated effectively Respiratory failure may complicate thoracoplasty Mycetoma in lung cavity may present with haemoptysis
Connective tissue disorders, e.g. rheumatoid arthritis	Lung diseases are recognised complications, e.g. pulmonary fibrosis, effusions, bronchiectasis Immunomodulatory treatments of these diseases may also cause pulmonary toxicity or render patients susceptible to respiratory infection
Previous malignancy	Recurrence, metastatic/pleural disease Chemotherapeutic agents recognised causes of pulmonary fibrosis Radiotherapy-induced pulmonary fibrosis
Cancer, recent travel, surgery or immobility	Pulmonary thromboembolism
Recent surgery, loss of consciousness	Aspiration of foreign body, gastric contents Pneumonia, lung abscess
Neuromuscular disorders	Respiratory failure Aspiration

5.5 Respiratory problems caused by drugs

Respiratory condition	Drug
Bronchoconstriction	Beta-blockers Opioids Non-steroidal anti-inflammatory drugs
Cough	Angiotensin-converting enzyme inhibitors
Bronchiolitis obliterans	Penicillamine
Diffuse parenchymal lung disease	Cytotoxic agents: bleomycin, methotrexate Anti-inflammatory agents: sulfasalazine, penicillamine, gold salts, aspirin Cardiovascular drugs: amiodarone, hydralazine Antibiotics: nitrofurantoin Intravenous drug misuse
Pulmonary thromboembolism	Oestrogens
Pulmonary hypertension	Oestrogens Dexfenfluramine, fenfluramine
Pleural effusion	Amiodarone Nitrofurantoin Phenytoin Methotrexate Pergolide
Respiratory depression	Opioids Benzodiazepines

Occupational and environmental lung disease



5.6 Categories of respiratory disease and associated features on history and examination

Category of problem	Suggestive features on history	Suggestive features on examination
Infection: Acute bronchitis Exacerbation of chronic obstructive pulmonary disease Pneumonia	Fever Wheeze, cough, sputum Acute-on-chronic dyspnoea Pleuritic pain, rusty sputum, rigors	Wheeze Hyperinflation If lobar, dull to percussion and bronchial breathing
Malignancy	Insidious onset, weight loss, persisting pain or cough	Cervical lymphadenopathy, clubbing, signs of lobar/lung collapse ± effusion
Pulmonary fibrosis	Progressive dyspnoea	Tachypnoea, inspiratory fine crackles at bases, cyanosis
Pleural effusion	Progressive dyspnoea	Unilateral basal dullness and reduced breath sounds
Pulmonary embolism: Large Medium Multiple small	Sudden, severe dyspnoea Episodes of pleural pain, haemoptysis Progressive dyspnoea	Normal breath sounds Pleural rub, swollen leg if deep vein thrombosis, crackles if infarct Raised jugular venous pressure, right ventricular heave, loud pulmonary second sound
Asthma	Atopy, hay fever, pet ownership, variable wheeze, disturbance of sleep	Polyphonic expiratory wheeze, eczema



7.2 Causes of cough

	Normal chest X-ray	Abnormal chest X-ray
Acute cough (<3 weeks)	Viral respiratory tract infection Bacterial infection (acute bronchitis) Inhaled foreign body Inhalation of irritant dusts/fumes	Pneumonia Inhaled foreign body Acute hypersensitivity pneumonitis
Chronic cough (>8 weeks)	Gastro-oesophageal reflux disease Asthma Postviral bronchial hyperreactivity Rhinitis/sinusitis Cigarette smoking Drugs, especially angiotensin-converting enzyme inhibitors Irritant dusts/fumes	Lung tumour Tuberculosis Interstitial lung disease Bronchiectasis



7.22 Causes of diminished vesicular breathing

Reduced conduction

- Obesity/thick chest wall
- Pleural effusion or thickening
- Pneumothorax

Reduced airflow

- Generalised, e.g. COPD
- Localised, e.g. collapsed lung due to occluding lung cancer



7.25 Causes of crackles

Phase of inspiration	Cause
Early	Small airways disease, as in bronchiolitis
Middle	Pulmonary oedema
Late	Pulmonary fibrosis (fine) Pulmonary oedema (medium) Bronchial secretions in COPD, pneumonia, lung abscess, tubercular lung cavities (coarse)
Biphasic	Bronchiectasis (coarse)



7.27 Causes of bronchial breath sounds

Common

- Lung consolidation (pneumonia)

Uncommon

- Localised pulmonary fibrosis
- At the top of a pleural effusion
- Collapsed lung (where the underlying major bronchus is patent)



7.10 Symptoms of obstructive sleep apnoea/hypopnoea syndrome (OSAHS)

- Snoring
- Excessive daytime sleepiness
- Witnessed apnoeas
- Impaired concentration
- Unrefreshing sleep
- Choking episodes during sleep
- Restless sleep
- Irritability/personality change
- Nocturia
- Decreased libido



7.21 Percussion note

Type

Detected over

Resonant

Normal lung

Hyperresonant

Pneumothorax

Dull

Pulmonary consolidation

Pulmonary collapse

Severe pulmonary fibrosis

Stony dull

Pleural effusion

Haemothorax



7.20 Common causes of tracheal deviation

Towards the side of the lung lesion

- Upper lobe or lung collapse
- Upper lobe fibrosis
- Pneumonectomy

Away from the side of the lung lesion

- Tension pneumothorax
- Massive pleural effusion

Upper mediastinal mass

- Retrosternal goitre
- Lymphoma
- Lung cancer



7.9 Acute breathlessness: commonly associated symptoms

No chest pain

- Pulmonary embolism
- Pneumothorax
- Metabolic acidosis
- Hypovolaemia/shock
- Acute left ventricular failure/pulmonary oedema

Pleuritic chest pain

- Pneumonia
- Pneumothorax
- Pulmonary embolism
- Rib fracture

Central chest pain

- Myocardial infarction with left ventricular failure
- Massive pulmonary embolism/infarction

Wheeze and cough

- Asthma
- COPD



7.8 Causes of chest pain

Non-central

Pleural

- Infection: pneumonia, bronchiectasis, tuberculosis
- Malignancy: lung cancer, mesothelioma, metastatic
- Pneumothorax
- Pulmonary infarction
- Connective tissue disease: rheumatoid arthritis, SLE

Chest wall

- Malignancy: lung cancer, mesothelioma, bony metastases
- Persistent cough/breathlessness
- Muscle sprains/tears
- Bornholm's disease (Coxsackie B infection)
- Tietze's syndrome (costochondritis)
- Rib fracture
- Intercostal nerve compression
- Thoracic shingles (herpes zoster)

Central

Tracheal

- Infection
- Irritant dusts

Cardiac

- Massive pulmonary thromboembolism
- Acute myocardial infarction/ ischaemia

Oesophageal

- Oesophagitis
- Rupture

Great vessels

- Aortic dissection

Mediastinal

- Lung cancer
- Thymoma
- Lymphadenopathy
- Metastases
- Mediastinitis



7.6 Breathlessness: modes of onset, duration and progression

Minutes

- Pulmonary thromboembolism
- Pneumothorax
- Asthma
- Inhaled foreign body
- Acute left ventricular failure

Hours to days

- Pneumonia
- Asthma
- Exacerbation of COPD

Weeks to months

- Anaemia
- Pleural effusion
- Respiratory neuromuscular disorders

Months to years

- COPD
- Pulmonary fibrosis
- Pulmonary tuberculosis



7.5 Causes of breathlessness

Non-cardiorespiratory

- Anaemia
- Metabolic acidosis
- Obesity
- Psychogenic
- Neurogenic

Cardiac

- Left ventricular failure
- Mitral valve disease
- Cardiomyopathy
- Constrictive pericarditis
- Pericardial effusion

Respiratory

Airways

- Laryngeal tumour
- Foreign body
- Asthma
- COPD
- Bronchiectasis
- Lung cancer
- Bronchiolitis
- Cystic fibrosis

Parenchyma

- Pulmonary fibrosis
- Alveolitis
- Sarcoidosis
- Tuberculosis
- Pneumonia
- Diffuse infections, e.g. *Pneumocystis jiroveci* pneumonia
- Tumour (metastatic, lymphangitis)

Pulmonary circulation

- Pulmonary thromboembolism
- Pulmonary vasculitis
- Primary pulmonary hypertension

Pleural

- Pneumothorax
- Effusion
- Diffuse pleural fibrosis

Chest wall

- Kyphoscoliosis
- Ankylosing spondylitis

Neuromuscular

- Myasthenia gravis
- Neuropathies
- Muscular dystrophies
- Guillain–Barré syndrome



7.4 Causes of haemoptysis

Tumour

Malignant

- Lung cancer
- Endobronchial metastases

Benign

- Bronchial carcinoid

Infection

- Bronchiectasis
- Tuberculosis
- Lung abscess

- Mycetoma
- Cystic fibrosis

Vascular

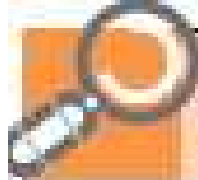
- Pulmonary infarction
- Vasculitis
- Polyangiitis
- Trauma
- Inhaled foreign body
- Chest trauma
- Cardiac
- Mitral valve disease
- Haematological
- Blood dyscrasias

- Arteriovenous malformation
- Goodpasture's syndrome
- Iatrogenic
- Bronchoscopic biopsy
- Transthoracic lung biopsy
- Bronchoscopic diathermy
- Acute left ventricular failure
- Anticoagulation



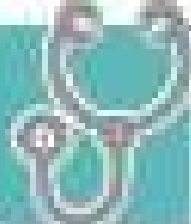
7.3 Types of sputum

Type	Appearance	Cause
Serous	Clear, watery	Acute pulmonary oedema
	Frothy, pink	Alveolar cell cancer
Mucoid	Clear, grey	Chronic bronchitis/chronic obstructive pulmonary disease
	White, viscid	Asthma
Purulent	Yellow	Acute bronchopulmonary infection
	Green	Asthma (eosinophils) Longer-standing infection Pneumonia Bronchiectasis Cystic fibrosis Lung abscess
Rusty	Rusty red	Pneumococcal pneumonia



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