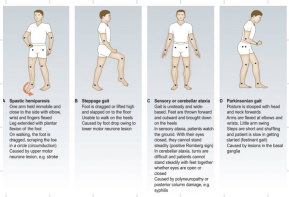
- **Gait & posture**
  - hemiplegic gait :- after stroke.
  - ataxic gait :- cerebellar
  - marche à petitis pas gait :- diffuse cvs disease or parkinson.
  - Tremor :- alchol
  - dystonia :- SE of neuroleptic therapy.
  - chorea :- Huntington's disease.
  - Abnormalities of posture & movement.



3.1 Information gleaned from a handshake

Features	Diagnosis
Cold, sweaty hands	Anxiety
Cold, dry hands	Raynaud's phenomenon
Hot, sweaty hands	Hyperthyroidism
Large, fleshy, sweaty hands	Acromegaly
Dry, coarse skin	Regular water exposure Manual occupation Hypothyroidism
Delayed relaxation of grip	Myotonic dystrophy
Deformed hands/fingers	Trauma Rheumatoid arthritis Dupuytren's contracture

- **Fascial expression**
  - Reluctance to engage in consultation :- depression anxity, fear, anger grief.
  - inappropirate cheerfulness :- depression & anxity.
  - frontal Lobe disease /Bipolar :- animated disinhibition.
  - poventy of expression :- depression or parkinson's.

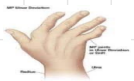
3.3 Facial expression as a guide to diagnosis

Features	Diagnosis
Poverty of expression	Parkinsonism
Startled expression	Hyperthyroidism
Apathy, with poverty of expression and poor eye contact	Depression
Apathy, with pale and puffy skin	Hypothyroidism
Agitated expression	Anxiety, hyperthyroidism, hypomania

- **speech**
  - slurring :- alchol
  - horseness :- recurrent Laryengal nerve.
  - speech cadence Abnormalities :- pressure in hyperthyroidism or slowing in myxoedema.

- **Hands**
  - myotonic dystrophy :- ↓muscle Relax → fail to relase.
  - neurological :- anable to shake.

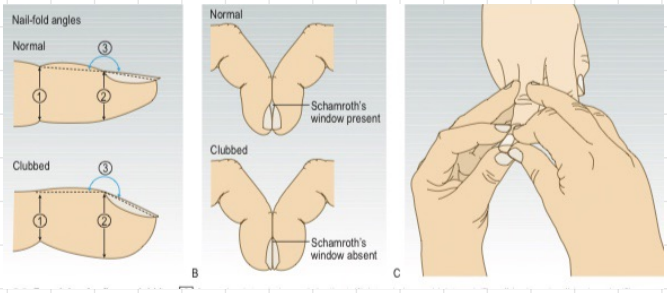
cervical spondylosis → dorsal guttering



- Deformity :- may indicate nerve palsies or arthritic change :- ulnar divation
  - Rheumatoid arthritis :- metacarpophalengeal & proximal interphelangeal Joint + small muscle wasting
  - osteoarthritis & psoriastic arthropathy :- distal interphalangeal Joint.
  - carpal tunnel syndrome :- median nerve compress → wasting of thenar muscle ← dange of T1.
  - Dupuytren's contracture :- thicking in palmar fascia → fixed flexion deformity (Lille & ring fingers).
  - Marfan syndrom :- Arachnodactyly (Long, thin fingers).
  - Trauma :- most common.
- Color :- cynosis or tobaco-staining.
- Temp
  - COPD :- warm.
  - HF :- cold.
  - hyperthyroid :- warm (+HF).
- skin :- systemic sclerosis :- acromegally, Scleroderma + Ca^{+} deposition.
- clubbing :- painLess soft tissue swelling of Terminal phalanges & fconvexity of the nails
  - Symetrically (usually)
  - uniLateral in proximal vascular (AV shunt).
- nail bed (hyponychial) angle :- >190
- Abs of schamroth's window.
- Fluctant movement (↓discrimnetory).

3.4 The nails in systemic disease

Nail changes	Description of nail	Differential diagnosis
Beau's lines	Transverse grooves (see Fig. 3.7B)	Sequella of any severe systemic illness that affects growth of the nail matrix
Clubbing	Loss of angle between nail fold and nail plate (see Fig. 3.8)	Serious cardiac, respiratory or gastrointestinal disease (see Box 3.5)
Leuconychia	White spots, ridges or complete discoloration of nail (see Fig. 3.7C)	Trauma, infection, poisoning, chemotherapy, vitamin deficiency
Lindsay's nails	White/brown 'half-and-half' nails (see Fig. 12.7)	Chronic kidney disease
Koilonychia	Spoon-shaped depression of nail plate (see Fig. 3.7D)	Iron deficiency anaemia, lichen planus, repeated exposure to detergents
Muehrcke's lines	Narrow, white transverse lines (see Fig. 12.6)	Decreased protein synthesis or protein loss
Nail-fold telangiectasia	Dilated capillaries and erythema at nail fold (see Fig. 14.13B)	Connective tissue disorders, including systemic sclerosis, systemic lupus erythematosus, dermatomyositis
Onycholysis	Nail separates from nail bed (see Fig. 3.7A)	Psoriasis, fungal infection, trauma, thyrotoxicosis, tetracyclines (photo-onycholysis)
Onychomycosis	Thickening of nail plate with white, yellow or brown discoloration	Fungal infection
Pitting	Fine or coarse pits in nail (see Fig. 3.7A)	Psoriasis (onycholysis, thickening and ridging may also be present), eczema, alopecia areata, lichen planus
Splinter haemorrhages	Small red streaks that lie longitudinally in nail plate (see Fig. 4.5B)	Trauma, infective endocarditis
Yellow nails	Yellow discoloration and thickening (see Fig. 14.13C)	Yellow nail syndrome



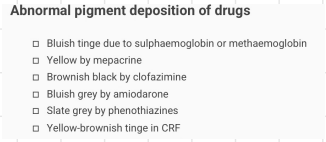
3.5 Causes of clubbing

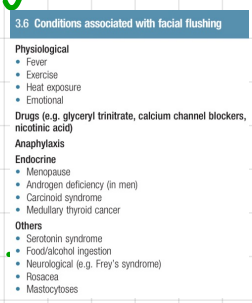
Congenital or familial (5–10%)

Acquired

- Thoracic (~70%):
  - Lung cancer
  - Chronic suppurative conditions: pulmonary tuberculosis, bronchiectasis, lung abscess, empyema, cystic fibrosis
  - Mesothelioma
  - Fibroma
  - Pulmonary fibrosis
- Cardiovascular:
  - Cyanotic congenital heart disease
  - Infective endocarditis
  - Arteriovenous shunts and aneurysms
- Gastrointestinal:
  - Cirrhosis
  - Inflammatory bowel disease
  - Coeliac disease
- Others:
  - Thyrotoxicosis (thyroid acropachy)
  - Primary hypertrophic osteoarthropathy

- **Skin**
  - color → melanin, endogenous brown, carotene, exogenous yellow :- carrots & vegetables.
    - oxyhemoglobin :- Red.
    - deoxyhemoglobin :- Blue.
  - Dipegmentation → vitiligo :- autoimmune, bilateral, symetrical, DM, thyroid, Adrenal, percious Anemia.
    - Hypopituterism :- ↓melantropic peptides.
    - Albinism :- inhrited, blue eye (some Red eye).
  - Hyperpigmentation (Brown patchs) → ↑ACTH, Adrenal insufficiency, Nelson's syndrom (+ cushing).
    - pregrency & oral contraceptives → chloasma (botchy pigment).
      - Linea nigra :- dark Line in middle Lower abdomen.
  - haemochromatosis :- inherited ↑iron absorption → iron deposition & ↑melanin production, pancreare → Bronze diabetes
  - Haemosiderin :- heamoglobin breakdown → Lower Legs, granny's tartan (heat damge) or Erythema abigne.
  - Easy bruising :- reflection of skin & CT fragility, advanced age or glucocorticoid usage, coagulopathy.
  - hypercarotenaemia :- ↑carotene-containing vegetable or hypothyroidsm, anorexia nervosa, yellow discoloration in face & palm, not conjuctiva.
  - Discoloration
    - sallow yellow Brown :- chronic Kidney disease, mepacrine (yellow).
    - Bluish tinge :- abnormal haemoglobins or dapsone.
    - Bluish gray :- amiodarone.
    - slate gray :- phenothiazide
    - Jaundice :- >50 µmol (3mg/dL), parenchymal Liver disease, biliary obstruction, hemolysis.
    - pallor :- anemia, vasocostriction, Best dx in conjuctiva
      - nail-bed pallor :- ↓dx factor.
      - IDA :- angular stomatitis, glossitis, koilonychia, Blue sclera.
    - flushing
    - fascial plethora :- ↑Hb + ↑hemocrit, hypoxia or ↑erthropioietin or SVC obstruction.
    - cynosis :- ↑deoxygenated Hb, ↑methaemoglobin or sulphemoglobin (drug), O_2 don't resolve.
      - central :- sublingeal, toung, ↑deoxyhemoglobin > 50 g/L (5g/dL).
      - peripheral :- cold, ↓CO, Arterial disease & venous stasis or obstruction.
  - characteristic skin changes :- scurvy, neurofibromatosis, ancanthosis nigricans.





- **tounge**
  - Smooth :- IDA.
  - enlarged :- Acromegally.
  - wasting & fascicution :- motor-neuron-disease

- **odours**
  - Social :- Alchol, tobacco or cannabis.
  - distinctive smell :- stale urine & anaerobic skin infections.
  - Halitosis (Bad breath) :- dental hygiene, gingivitis, stomatitis, atropic rhinitis, tumors of nasal passeges or supportive Lung conditons (abscess or bronchiectasis).
  - Ketons (sweet) :- DKA or starvation.
  - fetor hepacticus (mousy) :- amine dimethylsuphide in Liver faliure.
  - uraemic fector (fishy or ammonical) :- uremia.
  - foul-smelling belching :- gastric outlet obstruction.
  - faecal smell :- gastrocolic fisula.

- **Weight :-** (BMI = $\frac{Kg}{m^2}$).
  - obesity :- hypothyroidsm, cushing, hypothalamic, oral hypoglycemic
    - glutenal-femoral 'pear' :- good prognosis.
    - apple-shaped :- CAD & metabolic syndrom
  - Loss (malnutrition) :- ↑energy consumption or utilisation, ↑demand.

3.7 The relationship between body mass index (BMI), nutritional status and ethnic group		
Nutritional status	BMI non-Asian	BMI Asian
Underweight	<18.5	<18.5
Normal	18.5–24.9	18.5–22.9
Overweight	25–29.9	23–24.9
Obese	30–39.9	25–29.9
Morbidly obese	≥40	≥30

- **Stature**
  - Short :- nutrition, child illness, familial or osteoprosis (aged ≈5cm).
  - Tall
    - familial
    - marfan
      - Limb > Trunk
      - Arachnodactyly :- Long, slender fingers.
      - narrow feet & high-arched palate.
      - upward dislocation of eye Lens.
      - cvs abnormalities :- mitral prolapse, dilation of aortic root & Aortic regurgitation
    - prepubertal hypogonadism :- Klinefelter's syndrome.
    - Gigantism :- pituitary adenoma.

- **Hydration (Localized edema)**
  - venous :- ↑pressure, DVT, tumor, pregrency, venous valvular incompetence (thrombosis or surgery), ↓normal muscle pumping action (hemiparesis), ↓venous return, immbole patient, ↑travel.
  - Lymphatics
    - Lymphoedema :- obstruction.
    - milroy's disease :- congenital hypoplasia.
    - racidal mastectomy.
    - elephantiasis :- filarial worms.

- **Lumps (SPACESPIT)**
  - Size
  - Position :- multiple Lumps :- neurofibromastosis, skin metastases, Lipomatosis, Lymphomas.
  - Attachment :- malignancy → fixed, peau d'orange.
  - consistency
    - stony :- malignant, calcified or dense fibrous tissue.
    - fluctuation :- abcess, cyst, blister, soft, Lipoma.
  - Edge :- delineated / ill defined, regular / irregular, sharp / rounded, enlarged more difined than inflam or tumor.
  - Surface & shape :-
    - smooth or irregular :- acute hepatitis
    - nodular :- metastatic.
  - Pulsation, thrills, bruites
    - anyrsym ↑vascular tumors
    - may be palpable
    - anegrusm & AV malformation.
  - Inflamation :- erthyma (haemotoma → ecchymosis), tendrness (bolis or abcesses), warmth.
  - Transillumination :- cystic swelling (testicular hydrocoele) → Translucent.

- **LN :-** Lymphadenopathy
  - Dx :- Lymphoproliferative & malignancy.
  - normal :- submandubular, axilla & grain regions.
  - Normal :- <0.5cm diamiter & soft.
  - Hodgkin Lymphoma :- Rubbery.
  - TB :- melted
  - metastatic cancer :- Hard.
  - infection :- tender, enlarged.

- **Spot diagnosis**
  - osteogenesis imperfecta :- AD, fragile & brittle bones, blue sclera.
  - Harding hemorrhagic telangiectasia :- AD, telengiectasia in Lips & tongue.
  - systemic sclerosis :- thicked & tight skin (↓folds, ↓nose peak, puckering mouth).
  - myotonic dystrophy :- AD, frontal balding + bilateral ptosis.

- **chromosomal abnormalities**
  - Down :- short, small head, epicanthic fold, small nose, Low-set ears, brushfield spot eye, single palmar crease
  - Turner :- short, webbing neck, shield like chest
  - Klinefilter :- tall, gynecomastia, ↓pubic hair.
  - Achondroplasia :- AD, cartilage (fibroblast growth factor gene), normal trunk, short Limbs, enlarged skull small face & bridge of nose is flat.

3.9 Conditions with characteristic facial appearances

Diagnosis	Facial features
Hypothyroidism (see Fig. 10.5)	Sparse, coarse hair and eyebrows, periorbital puffiness, dry, waxy skin, apathetic expression, macroglossia
Graves' disease (autoimmune thyrotoxicosis) (see Fig. 10.2A)	Staring appearance due to lid retraction, proptosis, evidence of weight loss
Hypopituitarism (see Fig. 10.10A)	Pale, often unwrinkled skin with loss of hair
Acromegaly (see Fig. 10.9A)	Thickened, coarse skin with enlarged nose and frontal bones, prognathism (lower jaw protrusion), widely spaced teeth, macroglossia
Cushing's syndrome (see Fig. 10.11A)	Moon-shaped plethoric facies
Osteogenesis imperfecta (see Fig. 3.30A)	Blue sclerae
Hereditary haemorrhagic telangiectasia (see Fig. 3.30B)	Telangiectasia on and around lips
Systemic sclerosis (see Fig. 3.30C)	Tight skin constricting mouth, 'beaking' of nose, loss of nasolabial folds
Myotonic dystrophy (see Fig. 3.30D)	Frontal balding, paucity of expression, bilateral ptosis
Down's syndrome (see Fig. 3.31)	Flat facial profile, up-slanting palpebral fissures, small, low-set ears, macroglossia, Brushfield spots in iris
Systemic lupus erythematosus	'Butterfly' erythematous rash on cheeks

2.1 Examples of terms used by patients that should be clarified

Patient's term	Common underlying problems	Useful distinguishing features
Allergy	True allergy (immunoglobulin E-mediated reaction) Intolerance of food or drug, often with nausea or other gastrointestinal upset	Visible rash or swelling, rapid onset Predominantly gastrointestinal symptoms
Indigestion	Acid reflux with oesophagitis Abdominal pain due to: Peptic ulcer Gastritis Cholecystitis Pancreatitis	Retrosternal burning, acid taste Site and nature of discomfort: Epigastric, relieved by eating Epigastric, with vomiting Right upper quadrant, tender Epigastric, severe, tender
Arthritis	Joint pain Muscle pain Immobility due to prior skeletal injury	Redness or swelling of joints Muscle tenderness Deformity at site
Catarrh	Purulent sputum from bronchitis Infected sinonasal discharge Nasal blockage	Cough, yellow or green sputum Yellow or green nasal discharge Anosmia, prior nasal injury/polyps
Fits	Transient syncope from cardiac disease Epilepsy Abnormal involuntary movement	Witnessed pallor during syncope Witnessed tonic/clonic movements No loss of consciousness
Dizziness	Labyrinthitis Syncope from hypotension Cerebrovascular event	Nystagmus, feeling of room spinning, with no other neurological deficit History of palpitation or cardiac disease, postural element Sudden onset, with other neurological deficit

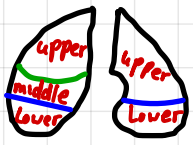
2.9 Examples of occupational disorders

Occupation	Factor	Disorder	Presents
Shipyard workers, marine engineers, plumbers and heating workers, demolition workers, joiners	Asbestos dust	Pleural plaques Asbestosis Mesothelioma Lung cancer	>15 years later
Stonemasons	Silica dust	Silicosis	After years
Farmers	Fungus spores on mouldy hay	Farmer's lung (hypersensitivity pneumonitis)	After 4–18 hours
Divers	Surfacing from depth too quickly	Decompression sickness Central nervous system, skin, bone and joint symptoms	Immediately, up to 1 week
Industrial workers	Chemicals, e.g. chromium Excessive noise Vibrating tools	Dermatitis on hands Sensorineural hearing loss Vibration white finger	Variable Over months Over months
Bakery workers	Flour dust	Occupational asthma	Variable
Healthcare workers	Cuts, needlestick injuries	Human immunodeficiency virus, hepatitis B and C	Incubation period >3 months

2.4 Typical patterns of symptoms related to disease causation

Disease causation	Onset of symptoms	Progression of symptoms	Associated symptoms/pattern of symptoms
Infection	Usually hours, unheralded	Usually fairly rapid over hours or days	Fevers, rigors, localising symptoms, e.g. pleuritic pain and cough
Inflammation	May appear acutely	Coming and going over weeks to months	Nature may be multifocal, often with local tenderness
Metabolic	Very variable	Hours to months	Steady progression in severity with no remission
Malignant	Gradual, insidious	Steady progression over weeks to months	Weight loss, fatigue
Toxic	Abrupt	Rapid	Dramatic onset of symptoms; vomiting often a feature
Trauma	Abrupt	Little change from onset	Diagnosis usually clear from history
Vascular	Sudden	Stepwise progression with acute episodes	Rapid development of associated physical signs
Degenerative	Gradual	Months to years	Gradual worsening with periods of more acute deterioration

★chapter 5:-The Respiratory system



.oblique
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5.1:-Anatomy & physiology

- at the end of tidal expiration
  - Dome of diaphragm:- Lvl of anterior end of 5th Rib.
  - Left (stomach, spleen) Lower than Right (Liver).
  - posteriorly Lung extend Lower (12th Rib on inspiration).
  - pleura extending Lower than Lungs.
- Apical Lung tumors (pancoast).
  - bracial plexus (disrupt T1 root)
    - pain
    - numbness → inner upper arm.
    - wasting of small hand muscles.
  - upper thoracic symphatic outflow to eye
    - constricted pupil.
    - ptosis.
- Mid & Lower mediastinum tumors:- compromise & invade (pericardium, atria, oesophagus).
- Aairway & parenchymal Lung disease:- causes
  - disrupt close matching of Regional ventilation & perfusion.
  - hypoxia
  - cynosis
  - stimulate breathing
    - BreathLess.
    - tachypnea.

5.2:-The history

- should ask for more clarifications to descripe respiratory symptoms to avoid misunderstanding.
- should start with open questions then should also specifally all the areas.
- 1. common presenting symptoms

1 Breathlessness (dyspnea)

- uncomfortable need to breathe / challenging to quantify / Respiratory or cardiac or psychological.
- most commonly reported respiratory symptom.
- mechanisms
  - (+) intrapulmonary afferent nerve by
    - interstinal inflammation.
    - thromboembolism.
  - ↑Loading of Respiratory muscles by
    - airflow obstruction.
    - fibrosis "↓Lung compliance".
  - hypoxia.
- MRC breathLessness Sacale:-useful, valideted way to document the patient's Level of dyspnoea formally.
  1. strenous exercise.
  2. walking up slight hill.
  3. stops after walking mile or 15min (90m)
  4. stop after few min.
  5. when undressing, Leave the house.
- Questions about breathlessness:-
  - How is your breathing at rest & overnight?
  - How did the breathlessness come on?
  - when does the breathlessness come on?
  - is your breathing normal some day?
  - Something make you breathless?
- Fig 5.2 on page 78:- summaries how to use the history & examination findings to determain cause of breathlessness.

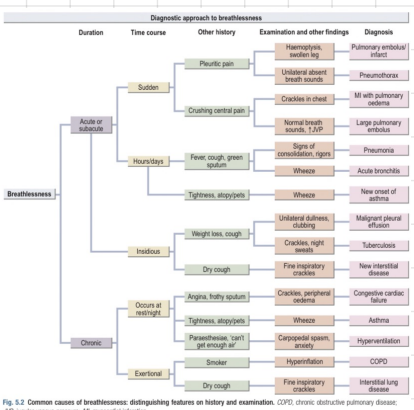
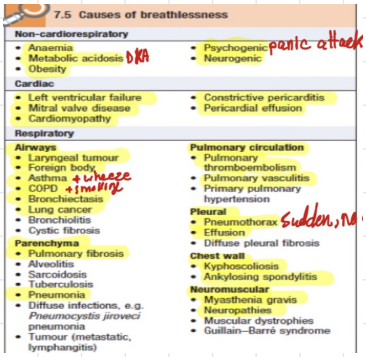
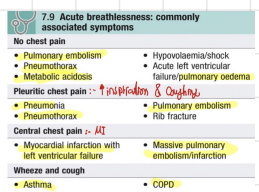


Fig. 5.2 Common causes of breathlessness: distinguishing features on history and examination. COPD, chronic obstructive pulmonary disease; JVP, jugular venous pressure; MI, myocardial infarction.





2 Wheeze

- high-pitched musical sounds produced by turbulent airflow through narrowed small airways.
- heard during expiration (most commonly).
- causes
  - COPD
    - worse during exercise?
    - worse on waking in morning?
    - Relieved by sputum?
    - Smoking?
  - Asthma
    - worse after exersice?
    - wake during the night?
    - Fever or other Allergies (occasionally, asthma's patients smoke).
  - bronchiectasis
    - yellow or green sputum?
    - with blood sometimes?
  - Acute Respiratory tract infection.

3 Cough

- subsequent sudden oppening of glottis with rapid expiratory flow produces the characteristic sound
- to dislodge foreign material or secretion from central airways.
- Questions about cough
  - Duration?
  - present every day?
  - any triggers?
  - smoking?
  - intrusive/irresistible or deliberately?
  - Drug history (ACE)
  - sputum (how much? colour?)
  - with (wheeze, Heart burn, altered voice, swallowing)?.

	Normal chest X-ray	Abnormal chest X-ray
Acute cough (<3 weeks)	• Viral respiratory tract infection • Bacterial infection (acute bronchitis) • Inhaled foreign body • Exacerbation 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

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

- most commonly asymptom of acute viral upper respiratory track infections (self-Limiting).
- chronic cough :- >8w. causes (COPD, Asthma, Bronchiectasis, Acute bronchitis, Rhinitis with postnasal drip, interstitial Lung disease, Lung cancer, oesophageal reflux, idiopathic).

4 Sputum

- URT secretions, saliva, accumulation of neutrophils, mucus, proteinaceous secretion in the airway.
- Questions about sputum
  - colour
    - clear (mucoid):- COPD/bronchiectasis.
    - yellow (mucopurulent):- acute LRT infection/asthma.
    - Green (purulent):- aucte disease or COPD.
    - Red/Brown (rusty):- pneumococcal pneumonia.
    - pink (serous/frothy):- acute pulmonary edema.
  - Volume (24 h)
  - consistency
    - ↑viscosity:- bronchiectasis.
    - as firm "plugs":- Asthma

7.3 Types of sputum

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

5 Haemoptysis

- coughing up blood from the Respiratory tract
  - acute or chronic Respiratory tract infection.
  - Lung cancer.
  - pulmonary embolism.
- Questions about hemoptysis:-
  - was blood definitely coughed up from chest?
  - is it pure blood or mixed with suputum?
  - Duration & frequency?
  - Amount of blood?
- massive haemoptysis :- >20 mL/once, >200mL/day
  - Lung cancer, bronchiectasis, cavitatory pulmonary vasculitis, pulmonary arteriovenous malformation.

6 stridor

- harsh high-pitched respiratory sounds caused by vibration of the walls of the trachea or major bronchi, when the lumen is critically narrowed by compression, tumor, inhaled foreign body.
- Types
  - inspiratory stridor.
  - expiratory stridor.
  - inspiratory & expiratory stridor.

7 chest pain

- may originate from
  - musculoskeletal
    - chest trauma.
    - forceful coughing.
    - C.T disease.
  - Respiratory
    - pleural pain (pneumonia, pneumothorax)
      - worse on inspiration & coughing.
      - sharp, stabbing.
    - chest wall pain
      - Sudden, Localised after coughing.
      - rib fracture / intercostal muscle injury
      - Lung cancer → dull, unrelated to respiration. + (x sleep)
  - cardiovascular :- myocardial ischemia.
  - gastro-esophageal disease.

(SOCRATES)

8 fever

- infection usually.
- , rigors
  - generalized
  - uncontrollable episodes of body shaking.
  - Sepsis, Lobar pneumonia, pyelonephritis (m.c)
- , sweats
  - chronic infection (TB)
  - malignancy.

9 weight Loss

- causes
  - Lung cancer
  - chronic infection disease :- TB, bronchiectasis
  - Disease causing chronic breathlessness :- COPD, interstitial Lung disease.
- Questions about weight Loss
  - extent.
  - duration.
  - appetite.
  - dietary intake.

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

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

10 sleeping

- Excessive daytime sleepiness (OSA, OSAS H).
- Questions about sleeping :-
  - normal sleep habit?
  - shift or night work?
  - wake refreshed or exhausted?
  - have they struggled to stay awake in the day?

2. past medical history

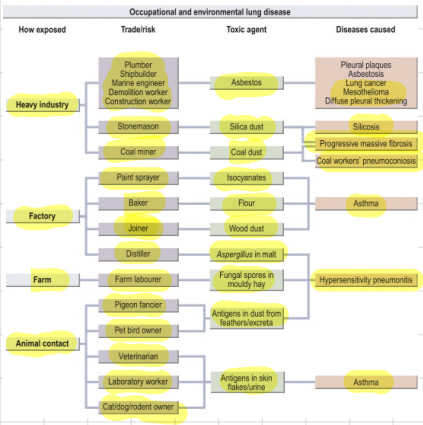
- past illness related to respiratory disease (Asthma, TB, Rheumatoid arthritis, neuromascular disease CT disorders, previous malignancy, Recent surgery)

3. Drug & allergy history

- note all drugs that patient is currently using non-prescription remedies & recreational drugs.
- Ask about having any allergy.

4. Family history
- Ask about family history of (Asthma, cystic fibrosis, Respiratory disease).

5. Social history (Fig 5.4 page 83).
- Home circumstance :- about home & enviroment.
- Smoking → history of tobacco, cannabis & e-cigarettes.
  - if others smoke in the house.
- occupational history → heavy industry (Asbestos....).
  - factory (wood dust, flour ...).
  - farm (fungal spores).
  - animal contact.



6. Systemic enquiry
- Ask about any Risk factors, such as malignancy for thromboembolism, ovarian malignancy.

5.2 :- The physical examination :- The patient should be reclining on an examination couch or bed at about 45°, with the thorax exposed and head supported by a pillow.

1 inspection
- shape of the chest → Respiratory movement → pursed-Lip breathing → chest deformities → pectus excavatum & pectus carinatum, Tripoid position. (pec.major pull ribs).
- Notice inhaler, oxygen therapy, cynosis.
- Respiratory rate :- (>20 breaths/min → abnormal) (normal 12-20).

over 20 breaths per minute is abnormal for an adult.
In healthy adults at altitude, elderly people and patients with heart failure, a distinctive pattern of alternating periods of deep and shallow breathing may be seen. This is known as Cheyne-Stokes respiration and is thought to represent abnormal feedback from the carotid chemoreceptors to the respiratory centre.
Subcutaneous metastases from lung tumours (Fig. 5.7A) may

2) Kussmaul breathing → DKA. (Rapid deep).

- Hands & arms
  - Tar staining :- smoking.
  - ↑Temp :- pneumonia
  - clubbing :- Lung cancer, bronchiectasis, interstitial Lung disease.
  - wasting :- pancost tumor
  - flapping tremor :- CO_2 retention (ask to hold his hand extended at wrist).
  - peripheral cynosis :- COPD.
  - hypertrophic pulmonary osteoarthropathy :- Lung cancer (squeeze wrist → swelling).
    - ↳ formation of new bone.

  - COPD :- warm + cynosis
  - yellow nail syndrome
  - erthyma nodosum → cancer, sarcodosis
  - Tremor
    - fine :- β-agonist.
    - flapping :- ↑ CO_2 (Asterixis)

- Face & neck
  - Look at accessory muscles.
  - notice dental hygiene.
  - Look for central cynosis (under tongue).
  - Look for Horners syndrom (ptosis, miosis, anhydrosis).
  - Look for lymph nodes especially scalene.
  - Look for JVP (↑ = SVC obstruction, pamberton's sign).
  - Fascial plethora :- COPD & polycythemia. (plethoric complexion).

  - Respiratory distress syndrome
    - Tachypnea
    - indrawing intercostal
    - accessory muscle
    - Nasal sparing
    - Bursed lip. central cynosis.

- Anterior chest
  - From the foot of the bed → symmetry, pattern of breathing & chest deformity.
  - From the Rt. side of patient → scars, Lesion, dilated veins, hair distribution.

2 palpation
- Superficial palpation :- tenderness, subcutaneous emphysema, masses (move hands continuosly without gaps).
- upper mediastinum
  - Tracheal deviation (place middle finger into suprasternal notch).
  - cicosternal distance (measure distance between suprasternal notch & cricoid cartilage).
  - Tracheal tug (patient take deep breath & place finger in suprasternal N).
  - ↓ :- in hyperinflation
  - COPD, aneurysm
- Lower mediastinum :- Look for the apex beat. (hyperinflation, v. elergment)
- Tractile vocal fremitus (TVF) :- put your hands on both side of the chest.
- chest expantion :- 5cm normally :- hold chest with 2 hands → Ask the patient to take a deep breath.
  - ↓ unilateral :- effusion, collapse, phemothorax, fibrosis
  - ↓ bilateral :- COPD, fibrosis.
  - paradoxical inward movement :- diaphragmatic paralysis, ↑COPD.

VSD, HF
- Rt. V heave (pulmonary HTN).

3 percussion

- place the palm of your Lt.hand on the chest with the fingers separated & press the middle fingers of your Lt.hand against the chest by middle finger of the Rt.hand.
- percussion over normal Lungs:- resonance.
- percussion over solid structure (Liver):- dull note.
- while patient is holding his breath on expiration, percuss over the 5th intercostals space for Liver.
- if Resonance is heard instead of dullness ⟶ hyperinflation.

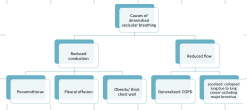
Resonant	Hyperresonant	Dull	Stony dull
• Normal lung	• Pneumothorax	• Pulmonary consolidation • Pulmonary collapse • Severe pulmonary fibrosis	• Pleural effusion • Haemothorax

(Diaphragmatic excursion) ⟶ (3-5 cm) توسع الرئة
↳ ↓:- hyperinflated, phrenic nerve pulse, pneumonia or pneumothorax.

4 Auscultation

- By diaphragm, the same areas of percussion anteriorly from above clavicle, down to 6th rib & Latterally from axilla to 8th Rib.
- Don't auscultation near midline because they may transmit sounds directly from trachea or main bronchi.
- Vocal resonance:- in consolidation (pneumonia):- clearly audible. , ↓:- pneumothorax, effusion
- whispering pectoriloquy:- in consolidation (pneumonia):- audible (ask the patient to whisper then ascultate).
- Aegophony (ask the patient to say E):- if heard as(A):- Aegophony indicates consolidation. , normal:- E.
- Breathing sounds
  - vesicular ⟶ inspiratory > Expiratory.
    - Soft intensity of expiration.
    - Low pitch of expiration.
  - Bronchial ⟶ expiratory > inspiratory.
    - Loud intensity of expiration.
    - High pitch of expiration.
- Added sounds
  - wheezes:- asthma
  - crackles:- often heard in interstitial Lung fibrosis.
  - Rubs:- Suggest pleural inflammation.

• DVT & erthyma nodosum & sacral edema & ascitis & hepatomegally & pitting edema.



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)

• HF

• Normal bilateral air entery, no added sounds such as (___).

5.4:- interpretation of finding

- Review your finding & assemble the positive features.
- you should have a broad idea of the category of Respiratory illness.
- consider as you go the likely categories of disease & how these affect presntation.

5.5:- investigation (Read only)

- infection:- chest x-Ray, ABG, Sputum or blood culture, RFT.
- Malignancy:- chest x-Ray, Biopsy, CT scan, RFT.
- pulmonary fibrosis:- chest x-Ray, RFT.
- Asthma:- peak flow rate, FEV_1, reversibility, allergen skin test.
- pulmonary embolism:- d-dimer, CT pulmonary angiogram, O_2 saturation.
- pleural effusion:- chest x-Ray, ultrasound-guided aspiration, CT thorax→abdomen.

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