

MBChB Year 2 Clinical contact in GP – Breathlessness 29th January 2026

Overview of the Breathlessness session in GP clinical contact

The Intended Learning Outcomes for this session are:

Undertake a clinical consultation & gather information relevant to the patient presentation
Describe & perform a clinical examination relevant to the patient presentation including vital signs
Practice formulating a differential diagnosis
Practice presenting the patient and be able to discuss the differential diagnosis and management options

The aims for this session are:

- Discuss how respiratory problems present in practice.
- Practice consulting and examination (preferably respiratory).
- Link university learning to primary care and share your clinical experience.

Common to all sessions:

- refer to the [Year 2 GP handbook](#), which covers the information common to all sessions.
- Please see [Session plans for Clinical contact in GP year 2 \(2025-26\)](#) also attached to this email to help you structure time with your group.
- [Clinical skills protocols](#) for student examination practice

Structure

- Introductions and review of previous learning.
- Student-led patient interaction.
- Summarize and plan next session.
- Identify 1–2 learning points for follow-up.

(Expert) patients

Suitable patients for the session (If this isn't possible, flexibility is allowed.)

- Chronic or recurrent respiratory conditions (asthma or COPD, bronchiectasis, cystic fibrosis, fibrosing alveolitis, lung cancer)
- Patients with a previous episode of acute breathlessness e.g. pneumonia, pulmonary embolism, pneumothorax.
- Examination: Patient with respiratory signs

Context for the session

Students will have covered the following in the two-week breathlessness block:

In **Case-Based Learning** a 26-year-old female bakery assistant who is a non-smoker taking over the counter ibuprofen for a sprained ankle with an acute asthma attack admitted to hospital; and her 66-year-old grandfather with severe chronic obstructive pulmonary disease (COPD).

In **Lectures, workshops and practical** learnt about:

- Pathophysiology of shortness of breath
- Cardiac causes of breathlessness
- Haematological and biochemical investigations of breathlessness
- Respiratory infections
- Common airways diseases & Introduction to spirometry
- Interstitial lung disease
- Diseases of the pleura
- A diagnostic and pharmacological approach to breathlessness and respiratory disease
- Air pollution
- Respiratory pandemics
- Applied anatomy and imaging
- Critical appraisal of a qualitative research paper

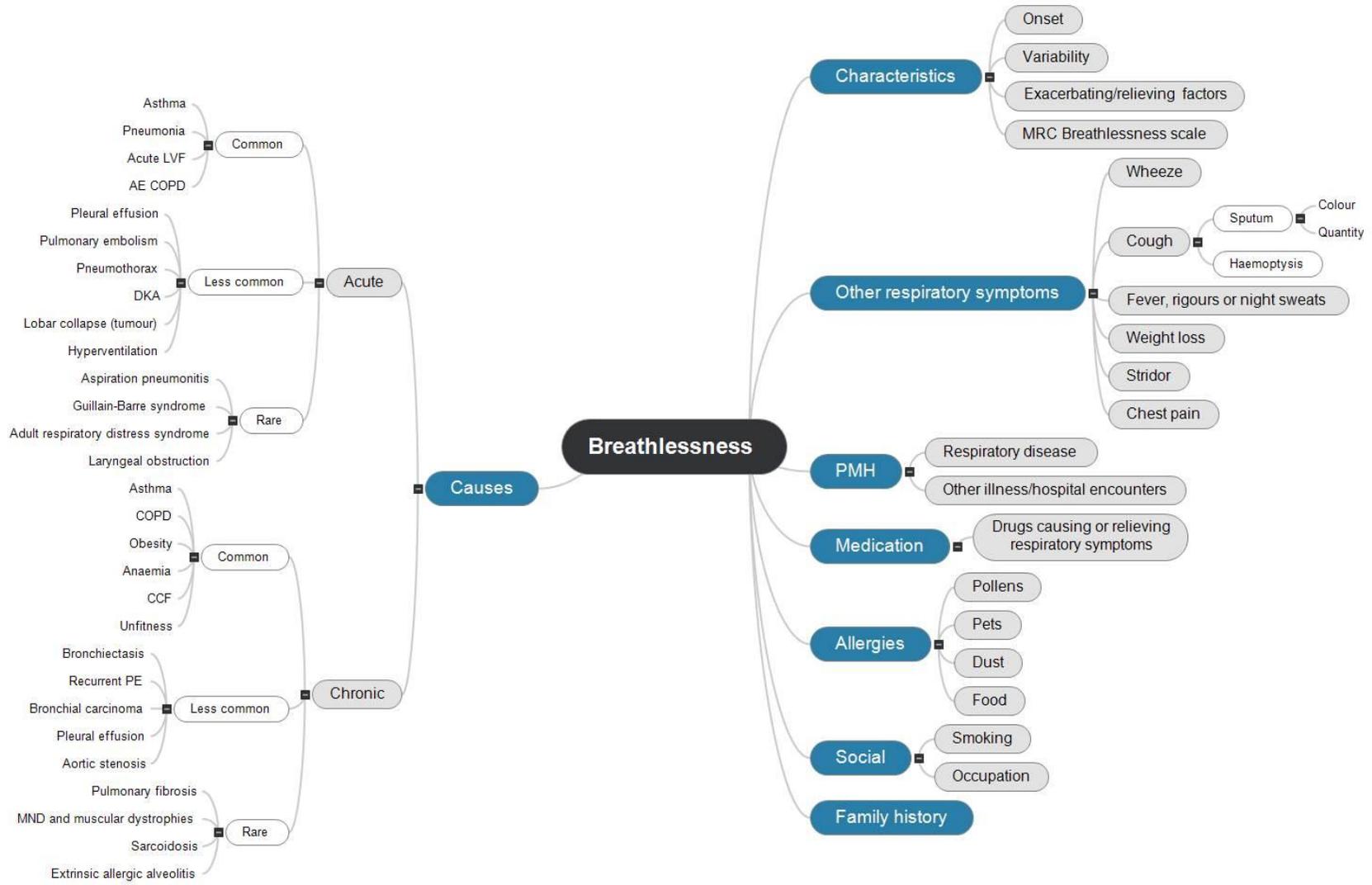
In their **Effective Consulting lab** they will:

Describe & demonstrate a focused history in a patient presenting with breathlessness
Describe the features of serious causes of breathlessness (red flags)
Describe & demonstrate a focused history of smoking and use motivational interview skills to discuss a patient's smoking with them
Formulate a differential diagnosis in a patient presenting with breathlessness including differentiating between asthma and chronic obstructive pulmonary disease (COPD)
Demonstrate a patient centred explanation of asthma and COPD

Brainstorm for Breathlessness in GP clinical contact – mind map next page

Ask the students to reflect on their learning from the previous block (chest pain) and how it might apply to breathlessness e.g. cardiac causes of breathlessness.

- Brainstorm how you assess breathlessness and possible causes of breathlessness (acute and chronic) – history and examination
- Identify how to differentiate between different causes, e.g. what is the difference between asthma and COPD and how do we diagnose these conditions?
- How can we measure the functional impact of patients' breathlessness (see MRC dyspnoea





Student information

Acute breathlessness

Acute dyspnoea is new onset or abruptly breathlessness over less than two weeks. It can be caused by life-threatening conditions such as a large pulmonary embolism. Clinical evaluation and monitoring should be combined with investigations such as chest x-ray, assessing acid-base status e.g. arterial blood gases and ECG.

The following suggest serious causes:

- Respiratory rate > 30 breaths per minute.
- Tachycardia > 130 beats per minute.
- Systolic BP < 90mmHg, or diastolic BP < 60mmHg (unless this is normal for them).
- Severe hypoxaemia--Oxygen saturation < 92% or central cyanosis (if no history of chronic hypoxia).
- Hypercapnia
- Altered level of consciousness (exhaustion or reduced GCS).
- High temperature (especially if more than 38.5°C).

Causes include:

- **Upper airway obstruction** e.g. inhaled foreign body/anaphylaxis/epiglottitis
- **Infective:** Infection (especially infective exacerbations of asthma or COPD) are the commonest reason for an acute presentation of breathlessness but tend to come on over days not suddenly.
- **Cardiac:** Cardiac tamponade, arrhythmias, acute coronary syndrome. Pulmonary oedema can also occur or worsen in a short time frame.
- **Acute asthma:** acute or subacute worsening of symptoms e.g. cough, wheeze, chest tightness with decreased objective pulmonary function compared to baseline e.g. peak expiratory flow rate and FEV1
- **Pneumothorax:** Causes unilateral, sudden onset pleuritic pain and breathlessness. There may be reduced breath sounds and hyperresonance on percussion of the chest.
- **Pulmonary embolism:** Patients may present with breathlessness, tachypnoea, and pleuritic chest pain, or there may be signs of a DVT. Patients may also be tachycardiac, have haemoptysis, or hypotension/syncope.
- **Anxiety:** Triggered by worries or a stressful situation and associated with feelings of panic, sweating, dizziness and hyperventilation.

Intermittent or chronic breathlessness

Chronic dyspnoea is defined as lasting two weeks or more. It's not always straightforward to make the diagnosis as pathologies can co-exist, and early COPD and cardiac failure may initially have no clinical signs initially and normal chest x-ray.

A combination of clinical assessment (history, examination and pulse oximetry) should be combined with pulmonary function tests, blood tests (especially FBC), ECG, and chest x-ray.

A list of causes is in your textbook Macleod's clinical diagnosis available online through the library.

Chronic obstructive pulmonary disease (COPD)

Chronic obstructive pulmonary disease (COPD) is characterised by airflow obstruction, which is usually progressive, not fully reversible and does not change markedly over several months. It is now the preferred term which covers many previously used clinical labels (chronic bronchitis, emphysema, chronic obstructive airways disease, chronic airflow limitation). The most important cause is smoking.

Typical clinical features of COPD include:

- Breathlessness
- chronic cough
- regular sputum production
- frequent winter “bronchitis”
- wheeze.

On examination patients may have:

- Hyperinflated chest
- Use of accessory muscles
- Poor chest expansion
- Pursing of lips on expiration
- Cyanosis
- Hyper resonant chest with reduced cardiac dullness
- Peripheral oedema and raised JVP
- Cachexia

Spirometry is required to make the diagnosis; the presence of a post-bronchodilator $FEV_1/FVC < 0.70$ confirms the presence of persistent airflow limitation.

Classification of COPD	FEV_1/FVC	FEV_1	FEV_1 is the volume of air the patient can exhale in the first second of forced expiration FVC is the total volume of air the patient can forcibly exhale in one breath FEV_1/FVC is the ratio of FEV_1 to FVC expressed as a percentage
Mild	<0.7	$>80\%$	
Moderate	<0.7	$\geq 50-79\%$	
Severe	<0.7	$\geq 30-49\%$	
Very severe	<0.7	$<30\%$	

A chest x-ray along with blood tests e.g. FBC can exclude other diagnoses/complications of COPD.

COPD management includes **smoking cessation** to prevent worsening, treating infections promptly and symptom management, pulmonary rehabilitation to improve exercise capacity and influenza and pneumococcal vaccination.

Asthma

Asthma is a clinical diagnosis, tests increase probability, but no test is diagnostic. There is presence of more than one of the following *variable* symptoms: breathlessness, wheeze, cough, or chest tightness.

You should do a structured clinical assessment from history/examination, previous records:

- Symptoms are recurrent, episodic and commonly diurnal (worse at night or in the early morning) and can be triggered by cold, exercise, viruses, or allergens—ask about triggers.
- There is absence of symptoms that would support an alternative diagnosis.
- There may be personal/family history of atopy.
- There may be recorded episode of wheeze, or recorded variable PEF or FEV₁

Also ask about medication (NSAIDs or betablockers may trigger symptoms). Consider occupational asthma in adult-onset asthma that is worse at work.

Objective tests to support a diagnosis of asthma in adults

- Measure the blood eosinophil count or Fractional exhaled Nitric Oxide (FeNO)
- If asthma is not confirmed; measure bronchodilator reversibility (BDR) with spirometry.

If spirometry inconclusive or unavailable measure peak expiratory flow (PEF) twice daily for 2 weeks.

- Although guidelines recommend this only when other tests are inconclusive, it is easy to do and helps the patient with self-monitoring (which is then useful for patient held asthma action plans in the management of asthma).
- The patient measures their peak flow am & pm for 2-4 weeks and an average taken of the highest and lowest readings, >20% variability is a positive result (but may not pick up variability if asthma is not active).

Breathlessness	
A to E assessment	
Assess and manage the acutely unwell patient with breathlessness.	
Assessing breathlessness:	
Presenting complaint (PC) and history of presenting complaint (HPC)	
Begin with open-ended questions	
<ul style="list-style-type: none"> • “Can you tell me more about what you mean by breathless?” Let the patient describe in their own words. • “What does it feel like when you’re breathless?” Tight chest, inability to get air in, fatigue, etc. • “When do you notice it most?” Explore triggers—exercise, rest, lying flat, emotional stress • “How does it affect what you can do day-to-day?” Functional impact—walking, stairs, dressing see MRC dyspnoea scale • “Has it changed over time?” Progression—stable, worsening, intermittent. • “What makes it better or worse?” Relieving/exacerbating factors—rest, inhaler, posture. 	

<ul style="list-style-type: none"> • “Do you ever feel tight in the chest, wheezy, or just out of breath?” Distinguishes asthma-like symptoms from general fatigue/weakness. Clarify what people mean by “wheeze” – classically, a “musical sound” made by the turbulent flow of air through constricted bronchioles. • “Do you feel like you can’t get enough air in, or that you can’t breathe out?” (Helps differentiate obstructive vs restrictive patterns.) • “Are there any other symptoms—like cough, fever, sputum (colour, any blood?), or chest pain?” <p>Overall: Assess Pattern of symptoms: gradual/sudden onset; stable or getting worse; variability (with exercise or by time of day)</p>
RED FLAGS
Any sudden onset or rapidly worsening breathlessness Calf pain or swelling, haemoptysis, pleuritic pain (suspect PE from DVT) Loss of appetite, weight loss, persistent cough, haemoptysis (suspect malignancy)
SYSTEMS REVIEW – A brief overview (not exhaustive), what you ask depends on the presenting problem and situation
Cardiovascular: Heart failure symptoms; Orthopnoea? Paroxysmal nocturnal dyspnoea? Peripheral oedema, chest pain, palpitations, dizziness, claudication/DVT signs Gastrointestinal: Appetite, weight, abdominal pain, bowel changes Genitourinary: Urinary symptoms, menstrual history, pregnancy Neurological: Headaches, faints, weakness Musculoskeletal/Dermatological: Joint pain, rashes, ulcers
PAST MEDICAL HISTORY
<ul style="list-style-type: none"> • Atopy • Cardiovascular disease • Rheumatological disease. • Previous cancers +/- chest radiotherapy. Malignancy raises the risk of recurrence, metastases, thromboembolism and radiotherapy for lung cancer can cause radiation pneumonitis.
MEDICATION HISTORY
Any medications (e.g. methotrexate or amiodarone) that can have adverse respiratory effects Inhalers or treatment indicating existing respiratory disease
FAMILY HISTORY
Atopic history. Conditions that may run in the family e.g. Alpha-1 antitrypsin deficiency
SOCIAL AND LIFESTYLE HISTORY
Occupation, living situation, connectedness, smoking, alcohol, activity levels Smoking is a risk factor for COPD and lung cancer. Think about occupational exposure to dust/flour/chemicals/ asbestos.
PATIENT PERSPECTIVE: Ideas, concerns, expectations, impact and emotion (ICE-IE)
What are the patient’s ideas, concerns and expectations about what is going on and what will happen now? What impact are their symptoms having on them? What emotions are associated with the situation?

Functional impact: Grade the degree of breathlessness using the modified MRC scale:		
Grade	Dyspnoea	Impact

0	No dyspnoea	Not troubled by breathlessness except on strenuous exercise
1	Slight dyspnoea	Troubled by shortness of breath when hurrying on a level surface or walking up a slight hill
2	Moderate dyspnoea	Walks slower than normal due to age on a level surface due to breathlessness or has to stop for breath when walking on a level surface at own pace
3	Severe dyspnoea	Stops for breath after walking 100 yards or after a few minutes on a level surface
4	Very severe dyspnoea	Too breathless to leave the house or becomes breathless while dressing or undressing

References/further information

[Diagnosing COPD | Asthma + Lung UK](#)

The BTS, NICE, and SIGN (2024) summary: Objective tests for diagnosing asthma in adults and young people (aged over 16 years) with a history suggesting asthma [NG245 Asthma: Algorithm A 27/11/2024](#)

[Peak Expiratory Flow Rate \(PEFR\) Measurement | Asthma | Geeky Medics](#)

[Peak flow | Asthma + Lung UK](#)

[How to use your inhaler | Asthma + Lung UK](#)