

Clinical Stream Highlights

Managing cough in primary care



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Key learning points:

- Taking a history, doing the examination, chest X-ray and spirometry are really important
- Look for red flags and refer these patients straight to secondary care.
- Do the basics which will point you towards the things you can do in primary care.
- If you are worried about patients at any stage or feel you haven't got a clue – you can refer them to secondary care at any stage

About one in ten patients present with chronic cough and the majority of cases can be dealt with in primary care, Kevin Gruffydd-Jones told delegates.

The most common diagnosis is likely to be asthma and COPD so first do a chest X-ray and spirometry.

Definitions and causes of cough

- **Acute cough** (<3 weeks):
Caused by:
 - o Viral respiratory tract infections
 - o Pneumonia
 - o Exacerbation of underlying disease (COPD, asthma)
- **Sub-acute** (3-8weeks)
Caused by:
 - o Post infection cough (including TB) may be helped by Tiotropium
 - o Exacerbation of underlying chest condition
 - o Upper Airway Cough Syndrome
- **Chronic** (>8 weeks)
Caused by:
 - o Asthma/non asthma eosinophilic bronchitis
 - o Upper Airway Cough Syndrome
 - o Gastro-oesophageal disease

Impact of cough on health status

Ask patients how their cough is impacting on their health. The physical impact could include – chest pain, a hoarse voice and for women, stress incontinence. It can also cause sleep disturbance, syncope and rib fracture from coughing so hard.

The psychosocial impact will have a detrimental effect on a patient's social life, cause embarrassment and could result in a partner sleeping in another bedroom. The psychosocial impact can be similar to severe COPD in terms of depression and anxiety.

The causes of chronic cough:

- Asthma/COPD
- Upper Airway Cough Syndrome
- Gastro-oesophageal reflux (acid and non-acid)
- Drugs (e.g. ACE inhibitors, Sitagliptin)
- Other lung disease (lung cancer, bronchiectasis, interstitial lung disease)
- Infection (TB, pertussis)
- Cardiovascular problems (cardiac failure, recurrent P.E.)
- Cough hypersensitivity syndrome (refractory cough)

Take a history

Look for red flags such as: hemoptysis, a smoker over 45 with a new cough, older smokers, trouble swallowing when eating, vomiting, and recurrent pneumonia. Consider lung cancer, TB and HIV.

Think about:

- The nature of the cough - is it dry/wet, intermittent/persistent, when did it start, is there vomiting or a whoop after coughing?
- Any associated symptoms and their impact, such as: wheeze, heartburn, post-nasal drip, nasal blockage and breathlessness. It is really important to ask - how does it affect you?
- Triggers caused by the patient's occupation, their exposure to any pollutants such as smoking whether second-hand or direct, or from a main road, food, speech, lying down, allergens, medications, infections from recent travel (e.g. TB).
- Past family history such as atopy or rhinitis

The examination in primary care

Look for: anaemia, clubbing, lymphadenopathy, chest – any localising signs, basal crackles, upper airway (nose and throat), cardiovascular and if you suspect whooping cough, ask the patient to make a recording on their mobile phone.

Tests

- Spirometry – look at the pattern of obstruction and restriction and do a reversibility test if you suspect asthma
- Chest X-ray (it may be normal in lung cancer and bronchiectasis so have a high index of suspicion)
- Peak flow monitoring, do a full blood count including eosinophils and if you suspect bronchiectasis do a sputum test
- FeNO – if the level is > 50ppb these patients with a cough are twice as likely to respond to ICS than <50ppb in patients with non-specific cough.

Management of cough

Once you have done the basics, you will have a pretty good idea of what might be going on so there are some quick hits that can be done at this stage:

- Refer immediately if TB or lung cancer is suspected
- Give smoking cessation advice or remove the patient from the irritant. The cough may initially worsen but will improve after four weeks.

- Stop an ACE inhibitor – but monitor the patient
- Stop Sitagliptin – the cough will improve after a week

Other conditions to consider

Cough variant asthma

These are adults who get a cough without wheeze and they may have shortness of breath. The characteristic history points in the direction of asthma but there is no evidence for just giving them an ICS. A raised FeNO reading or bloody eosinophils might be indicators. Also consider non-asthma eosinophilic bronchitis – the patient will have high sputum eosinophilia, they may have a high FeNO reading but have no airways hyperactivity or obstruction. This condition may be triggered by the patient's occupation and will take a more benign course because it will respond to ICS and leukotriene receptor antagonists (LTRA) but not to long acting beta agonists (LABA).

Pertussis

The patient may not have the characteristic 'whoop' or any fever. Symptoms include a paroxysmal cough and vomiting after coughing. It can be diagnosed by an oropharyngeal or nasopharyngeal swab in the first two weeks or by IgG serology after 14 days in adults aged over 17 or by oropharyngeal secretions in patients aged 5-16. Macrolides only work in the first three weeks to reduce infectivity. The condition lasts for around 112 days but most patients are reassured when you make a positive diagnosis.

Upper Airway Cough Syndrome

The most common cause of this condition is post nasal drip but 20% of patients are not aware of this. They may have nasal congestion and sneezing. When you examine the upper airway look for bumps in the throat that look like cobblestones, mucus in the oropharynx, swollen inferior turbinates, polyps and deviated septum.

Treatment: try a strong topical steroid such as betamethasone nasal drops for one month then a maintenance nasal spray. Make sure the patient understands the technique for using the nasal spray.

Bronchiectasis

- Bronchiectasis is characterised by recurrent or persistent sepsis due to irreversibly and damaged dilated bronchi.
- Suspect bronchiectasis if the patient has had a recurrent/persistent cough for longer than 8 weeks with production of purulent/mucopurulent sputum.
- Management is down to preventing further damage with antibiotics and physiotherapy.
- Refer all your patients with bronchiectasis to secondary care

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whether you have made a diagnosis or suspect it. Formulate a management plan.

- A new BTS Guideline for Bronchiectasis in Adults was published in January 2019¹ and an article on the practical implications for primary care published in *NPJ Primary Care Respiratory Medicine*².

Gastro-oesophageal disease

Acid and non-acid laryngeal micros aspiration or vagally stimulated oesophageal reflux may be responsible. Symptoms include coughing worse after eating and phonation (on telephone) lying down

Treatment: prescribe an eight-week trial of a PPI and a shorter trial of a prokinetic agent and give lifestyle advice on losing weight, posture, diet etc.

Chronic hypersensitivity/refractory cough

This syndrome is characterised by troublesome coughing often triggered by low levels of thermal, mechanical or chemical exposure. It can account for 10-20% of patients in the cough clinic. Patients are often middle aged women who are overweight. Symptoms are often a cough or tickling in throat, worse with phonation and fumes.

Treatment: speech therapy can be very effective along with education, breathing techniques and counselling can improve quality of life. Medication: Amitriptyline is probably the best. Also consider Gabapentin (but 1 in 3 suffer side effects), Pregabalin, TRPV1 antagonist, P2X3 antagonist and morphine for palliative care or IPF.

References

1. Hill, AT *et al.* British Thoracic Guideline for bronchiectasis in adults. *Thorax* 2019; **74** (Suppl 1), 1–69. <https://www.brit-thoracic.org.uk/quality-improvement/guidelines/bronchiectasis-in-adults/>
2. Gruffydd-Jones K, Keeley D, Knowles V *et al.* Primary care implications of the British Thoracic Society Guidelines for bronchiectasis in adults. *npj Prim Care Respir Med* 2019;**29**:24. <https://www.nature.com/articles/s41533-019-0136-8>