



How to approach a cough – Are you asking the right questions?

Stephani Schmidt, MSc(Pharm)
Amayeza Information Services

Introduction

Cough is one of the most common symptoms for which patients seek medical advice and pharmacies are often the first places they visit.

A cough is part of a natural reflex that can be triggered by either irritation or obstruction of the airway. During a cough, inhaled particles and secretions are cleared from the airway so that breathing can continue normally.

There are many different causes for cough including, but not limited to, allergens (such as pollens from grasses or trees), animal dander, irritants (such as cigarette smoke or air pollution), inhalation of a foreign body, infections and side-effects from medication. Products are usually recommended based on traditional practices. However, treatment of a cough should be “individualised according to the cause”.

This article will be focusing on the type of questions to ask which will allow pharmacist’s assistants to be able to recommend the most suitable treatment.

How long has the patient been coughing?

There is a movement away from asking whether a cough is “wet” or “dry.” New proposed pathways are being investigated, suggesting that one should rather ask for how long a patient has been coughing. Based on the duration of the cough, a cough can be classified as acute, subacute or chronic. Examples of the most common causes are listed for each class. Knowing the cause may help one to recommend a treatment which is aimed at normalising the cough reflex.

Acute cough

Acute cough, caused by an acute viral infection such as a common cold, is usually self-limiting and lasts for less than three weeks. Patients usually do not need any medical treatment; acute coughs usually improve within a few days with or without treatment and clear once the trigger is gone.

Subacute cough

Subacute coughs usually occur after an infection has cleared and when the only symptom left is a lingering cough. Subacute coughs last between three and eight weeks. It is typically due to bronchial hyper-responsiveness following a specific infection. For example, pertussis (whooping cough) infection can result in a persistent cough even after the infection has resolved.

Chronic cough

A cough that lasts for more than eight weeks is usually classified as a chronic cough. However, there is no consensus regarding the classification of chronic cough in children and some of the international guidelines define chronic cough in children, 14 years and younger, as a daily cough lasting four or more weeks. This allows for earlier investigation and diagnosis of a serious underlying disease.

Important causes of chronic cough in children include, but are not limited to, lung disease, chronic infections (such as pertussis), cough-dominant asthma, foreign body aspiration and tuberculosis.

The most common causes for chronic cough in adults include:

- *Upper airway cough syndrome*

Patients with colds, rhinitis, allergies or sinusitis can develop a postnasal drip. In these cases, the secretions from the nose drip or flow into the back of the throat which can then irritate the throat and trigger a cough.

- *Asthma*

Patients with asthma usually cough at night and they may also complain of symptoms such as wheezing and

shortness of breath. However, some patients may only cough and this is known as cough-variant asthma.

- *Gastroesophageal/acid reflux*

A cough is triggered when the acid from the stomach flows back into the oesophagus (tube connecting the throat and stomach).

- *Pulmonary tuberculosis*

Are there any “red flag” symptoms present?

Before recommending a treatment, patients should always be screened for the presence of “red flag” symptoms (symptoms suggestive of a more serious underlying illness).

Patients should be referred to the doctor if they experience any of the symptoms listed in Table I, if there is a suspicion of an inhaled foreign body, or if the cough has not improved and the patient has been coughing for more than two weeks (with or without appropriate medication).

Table I. “Red Flag” symptoms²

- Blood or blood-stained mucus
- Coloured sputum (yellow, green or brown)
- Shortness of breath or wheezing
- Chest pain
- Vomiting
- Recurrent night-time cough
- Difficulty swallowing
- Hoarseness
- Symptoms such as fever or weight loss

Cough may also be a side-effect of some medicines such as angiotensin-converting enzyme inhibitors used in the treatment of high blood pressure. These patients as well as those with symptoms suggestive of croup or whooping cough and smokers with a change in cough, new cough, or coexisting voice disturbance, should also be referred to the doctor.

Treatment

Over-the-counter cough products are widely used and although some patients find them useful, the evidence to support their efficacy is not strong.

Patients should try to avoid cough triggers such as allergens and irritants. Treatment should be individualised and aimed at the cause.

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Acute coughs usually do not need treatment. However, an acute cough can be bothersome and impair the quality of life for patients.

To help to loosen mucus and relieve an irritated throat, the patient can be advised to drink enough fluids such as water,

juice or soup and to use a cool-mist humidifier or steam vapouriser. A mixture of honey and lemon or a simple linctus may be considered for a mildly irritating cough, as long as the patient does not have a bacterial infection or bronchospasm.

Mucolytics

Mucolytics such as carbocysteine and bromhexine reduce the viscosity of secretions and may be useful for the treatment of airway conditions associated with the production of chronic, viscous mucus.

Expectorants

Expectorants such as guaiphenesin or ammonium chloride may promote the coughing-up of mucus and therefore may help to alleviate productive (wet, chesty, sputum-producing) coughs.

Bronchodilators

Bronchodilators such as theophylline and orciprenaline help to open the airways and may be considered for patients with bronchospasm. However, bronchodilators should not be used for the treatment of an acute cough in non-asthmatic children.

Cough suppressants

Examples of centrally-acting opioid-like cough suppressants include dextromethorphan, codeine and pholcodine. Suppressing a cough is seldom necessary. A cough suppressant may be of value for a troublesome cough when nothing else works, provided there is no serious underlying cause. In these cases, a cough suppressant may be recommended for a couple of nights for a non-productive cough (dry, tight or tickly, with no sputum) that is severe, interrupts sleep and if the cough does not respond to a simple linctus.

Antihistamines

Antihistamines such as diphenhydramine and promethazine are included in some cough preparations and may be useful when a cough and cold occur together (they have a drying effect on secretions and reduce frequency of coughing) or as a night-time dose to minimise a cough that interrupts sleep (induces drowsiness).

Other

Although there is some evidence suggesting that South African geranium (*Pelargonium sidoides*) may assist with symptoms associated with acute bronchitis and that ivy herbal extract may be useful in relieving cough-related symptoms, more robust studies are needed to confirm their efficacy.

Points to remember

- Productive coughs should not be suppressed as this may result in the retention of mucus in the airways and increase the risk of infection.
- Underlying medical conditions such as postnasal drip, asthma and acid reflux should be treated appropriately.

- Always recommend an age-appropriate product since some cough mixtures may not be suitable for children.
- Do not recommend the use of products that contain medicines that suppress coughs (e.g. codeine or dextromethorphan) and medicines that promote coughing (e.g. ammonium chloride) in the same preparation as these medicines have opposite effects.

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Conclusion

Before recommending a treatment for a cough remember to ask the right questions – the aim should be to treat the cause of the cough.

Bibliography

1. Vally M, Irhuma MOE. Management of cough: a practical approach. South African Family Practice 2016; 58(4):35-39 [cited 5 Feb 2018]. Available from: <http://www.safpj.co.za/index.php/safpj/article/view/4486/5377>
2. Morice AH. A new way to look at acute cough in the pharmacy. The Pharmaceutical Journal. March 2017 [cited 1 Feb 2018].
3. Van Schoor J. An approach to recommending cough mixtures in the pharmacy. SAPJ 2012;79(6). Available from: <http://www.sapj.co.za/index.php/SAPJ/article/view/1317/1960>
4. Silvestri RC, Weinberger SE. Patient education: Chronic cough in adults (Beyond the Basics) UpToDate [homepage on the Internet] [Updated 19 Sept 2016; cited 1 Feb 2018].
5. NHLBI Health Topics. Cough. PubMed Health. [updated 11 June 2014] [cited 5 Feb 2018]. Available from: <https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0062988/?report=pr>
6. Irwin RS, French CL, Chang AB. Classification of cough as a symptom in adults and management algorithms. CHEST Guideline and Expert Panel Report. Chest 2018; 153(1):196-209 [cited 1 Feb 2018] Available from: [http://journal.chestnet.org/article/S0012-3692\(17\)32918-5/fulltext](http://journal.chestnet.org/article/S0012-3692(17)32918-5/fulltext)
7. Silvestri RC, Weinberger SE. Evaluation of subacute and chronic cough in adults. UpToDate [homepage on the Internet] [Updated 23 Jun 2017; cited 1 Feb 2018].
8. Chang AB, Marchant JM. Approach to chronic cough in children. UpToDate [homepage on the Internet] [Updated 30 Jan 2018; cited 1 Feb 2018].
9. Rossiter D, editor. South African Medicines Formulary. 12th Cape Town. Ed: Health and Medical Publishing Group;2016:558-561.
10. Blenkinsopp A, Paxton P, Blenkinsopp J. Symptoms in the pharmacy: a guide to the management of common illnesses. 7th ed. John Wiley & Sons. 2014.
11. University of Maryland Medical Center. Bronchitis. [cited 8 Feb 2018] Available from: <https://www.umm.edu/health/medical/altmed/condition/bronchitis>

