



DIAGNOSING AND TREATING CHRONIC COUGH IN ADULTS

understanding the professional guidelines



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Introduction

Coughing is a normal and important reflex which prevents you from choking and allows you to clear your lungs or throat. Coughing can become a problem when it is persistent even when you are not ill or have not been exposed to an obvious irritant such as cigarette smoke. This is called chronic cough. Chronic cough affects between five and ten people in every 100.

Having chronic cough can affect your quality of life and may lead to other conditions such as: incontinence, fainting and a hoarse, gravelly voice. Some people might find that this makes them feel depressed or socially isolated.

Many people who have chronic cough find that they are very sensitive to perfumes, bleaches and cold air which cause the sensation of tickling/irritation in the throat and an urge to cough. This is because the nerves in the throat and upper airways have become supersensitive. Women have a greater sensitivity than men and two in three people who have chronic cough are women. The main age group affected are people in their fifties and sixties although it can occur at any time in life even in childhood.

With this guideline, we hope to provide you with the information that you need to fully understand your condition and treatment options and to be able to confidently speak about this with your doctor.

This guideline was produced by a multidisciplinary, international panel of clinicians and scientists. We worked closely with a group of people with chronic cough who provided their experiences and helped to prioritise their key questions. We hope that you will find it helpful while you explore your condition with your Doctor.

What is chronic cough?

Some people may experience their cough on a daily basis for many years, others may have a relapse remitting (on/off) experience. This means that we should not only consider time when diagnosing chronic cough.

It is important to consider several features of the cough which will be discussed later.

Your doctor should consider that you may have the condition of chronic cough; it is not as well-recognised by some healthcare professionals as other respiratory diseases. Many people might be misdiagnosed as having frequent chest infections, treatment resistant asthma or exacerbations of chronic obstructive pulmonary disease (COPD).

How chronic cough may affect you

You will have your own reasons for seeking medical advice about your cough. The following are reasons why a lot of people do:

- concern about a serious underlying illness
- vomiting
- exhaustion
- sleep disruption
- social embarrassment
- difficulty speaking on the telephone
- urinary incontinence
- annoyance to family, friends, and workmates



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Urinary incontinence is a very common side-effect of having chronic cough, particularly in women. It is okay to feel uncomfortable about talking about urinary incontinence, but it can have a big impact on your quality of life. Your doctor will be used to discussing these things and can help you find the right treatment to improve this common issue.

There are certain tools or questions that your doctor may want to go through with you. These help to assess the impact that your condition is having on your quality of life. They may also ask you to score the severity of your cough out of 10.

What causes chronic cough?

Coughing is an important and normal reflex if you breathe in a solid or liquid or harmful vapours. Most people with a chronic cough have a very sensitive cough reflex and may react to much less stimulation, such as temperature changes and vapours that are commonly around, such as perfume and cleaning products.

You may be diagnosed with cough hypersensitivity syndrome. This is a general term given to chronic cough. There are many types of cough within this category and they may have different causes.



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Assessing your cough with your doctor

At your first assessment your doctor should cover the following:

- A full medical history
- Physical examination

These are conducted to make sure that there is no infection, no foreign body that has been breathed in and that you are not using any medication that may cause cough such as an ACE inhibitor.

They will also:

- Assess how your cough impacts you- this may be done with a questionnaire or by simply asking you to rate the severity of your cough out of 10.
- Test your breathing using a spirometry test (this may be different during the COVID-19 pandemic).
- Conduct a chest radiograph.

Before your consultation with your doctor, we recommend taking the Hull Airway Reflux Questionnaire (HARQ) which is available at www.issc.info. This will provide your doctor with useful information about your cough and help them to appropriately assess your cough.

Should I request a CT (computed tomography) scan?

If your physical examination and chest radiograph are both normal then no, it is not usually advised to have a CT for chronic



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cough. This is because it is important to weigh up the possible risk against the benefits. In this case, that means possible cancer risk from the CT radiation versus the ability of the scan to provide information to diagnose the reason for your cough.

Instead, you should request further examination to check that it is not caused by asthma, eosinophilic bronchitis, reflux and oesophageal dysmotility and rhinosinusitis (covered further down).

Reflux and dysmotility

You may experience reflux and dysmotility (digestive muscles not working as they should). This may occur without the usual peptic symptoms (heartburn, burning stomach pain, or stomach acid coming up).

Possible investigations

It is very common for people with chronic cough to have abnormal oesophageal physiology (differences in the performance of the tube in your throat that goes from the mouth to the stomach - also called the gullet). This may be checked for in three ways:

24-h pH monitoring- your doctor may advise this to check for a reflux disease; however it only reveals information about acid reflux and is often negative because it is the non-acid component of reflux which causes the cough.

Barium swallow- this may be offered but is not the best way to pick up any abnormalities.

High-resolution oesophageal manometry- is a test that measures the pressure in the oesophagus and the sphincters (circular muscles that open and close at either end of the oesophagus). The test assesses how well the sphincters at either end of the oesophagus and the muscles in the oesophagus are working and whether they are working well together. This test is the most accurate and can provide information about where in the oesophagus and in what way the muscles are not working in most people.

You may experience some symptoms in your upper airway such as runny nose and sneezing or sinus pain. If the doctor think that there might be an issue with your sinuses, then they may ask to do a rhinoscopy or nasoscopy; this is where a small tube is used to examine inside of the nose. While this may help with any other symptoms you are experiencing it may not highlight the cause of your chronic cough.

Treating chronic cough

Chronic cough is a very difficult condition to treat. Even after thorough testing it may not be possible to identify how to treat your cough. Your doctor may recommend taking a treatment for a period of time to see if it works. Different treatments take different amounts of time to work, and some might take months to see an effect.

Questions and answers

Should I ask about asthma medication?

This may be beneficial if you have an asthmatic cough. Your doctor might suggest a short-term trial of inhaled corticosteroids, antileukotriene treatment or a combination of inhaled corticosteroids along with a long-acting bronchodilator. You can discuss this with them to see if it might work for you. However, they do not work in a lot of patients with chronic cough and you should stop them if you do not see any benefit.

Could anti-acid treatment help?

It is unlikely that anti-acid treatment will help your chronic cough unless you have acid reflux or peptic symptoms (heartburn, nausea, burning stomach pain). It is likely that the possible side-effects out-weigh the benefits.

What are drugs with promotility activity?

These drugs increase the force and movement of the muscles in your digestive system. If you have chronic bronchitis your doctor



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may recommend a month's trial of azithromycin, an antibiotic which has also been shown to reduce cough.

What are neuromodulators and should I ask my doctor about them?

Neuromodulatory drugs change the way that neurons (nerve cells) interact with each other. These drugs include: pregabalin, gabapentin, tricyclics and opiates- such as low dose morphine.

Low doses of morphine may reduce the severity of your cough. There is no need to try progressively higher doses of morphine as it will either work or it will not. It may cause some side effects such as some drowsiness or constipation.

Gabapentin or Pregabalin may also be trialled. These may be effective at limiting the frequency of coughing. These drugs also come with side effects such as: dizziness, fatigue, cognitive changes, nausea or blurred vision.

Morphine has been shown to be effective in more people than either Gabapentin and Pregabalin and has been shown to result in fewer side effects.

What treatments are available that do not require medication?

Cough control therapy is a form of speech and language therapy/physiotherapy. It teaches ways to suppress the urge to cough and how to avoid certain cough triggers. It can be effective at reducing the frequency of coughing and there are no known side effects of this therapy. It is important to find someone who has had



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previous experience in treating patients with chronic cough.

There is currently a lot of research taking place that is looking into how to understand and treat chronic cough. We have a lot to learn, but we are making good progress. Due to new research, your doctor may recommend something that has not been covered in this booklet. There may be the opportunity to volunteer to take part in one of several clinical trials that are testing new drugs for chronic cough. If you are interested in this, your doctor will be able to advise you of the details.

Types of chronic cough

Asthmatic cough

Asthma may cause chronic cough. To determine whether your cough is caused by asthma your doctor may recommend testing for eosinophilic inflammation, often revealed by a simple blood test called a full blood count.

Eosinophils are white blood cells. They help your body fight off infections, but they can also cause inflammation. Eosinophilic inflammation can be measured. Measuring this inflammation can help your doctor to know if your cough is caused by asthma and how to treat it.

There are different ways of measuring eosinophilic inflammation:

Sputum eosinophilia- this can be the most accurate test, but it requires specialist knowledge to interpret the test and this may not be available, except in specialist centres.

Exhaled nitric oxide- this measures the amount of nitric oxide you exhale, which can be an indicator of levels of inflammation. You breathe into a plastic or cardboard tube attached to a monitor which displays the reading.

Blood test- this is an easy test that measures the eosinophilic inflammation in your blood. This can be affected by seasonal variation, for example, due to hay fever and should be repeated throughout the year for the most accurate results. You may well have had the test done previously and your doctor can look back on your records to get the results immediately.

There are three types of asthmatic cough: classic asthma, cough variant asthma and eosinophilic bronchitis without wheezing. Your doctor will discuss these with you.

Upper airways cough syndrome/ Postnasal drip syndrome

Upper airways cough syndrome (UACS) may be used to describe a variety of signs and symptoms. It may be referred to as postnasal drip syndrome, rhinitis and rhinosinusitis. It is not known whether these symptoms are caused by inflammation resulting in asthma or perhaps airway reflux, sometimes known as silent reflux. First generation sedating antihistamines may help to relieve the chronic cough.

Iatrogenic cough

Iatrogenic means that it may be a side-effect of another medical treatment you are receiving.

Cough can be a side effect of several medications, but particularly heart medications called ACE inhibitors, and you should discuss any medications that you are taking with your doctor. The cough provoking effects can take a long time to wear off.

Chronic refractory cough

This is a cough where the cause has not been found. There is some evidence that certain drugs that affect the nervous system may have a positive effect on this type of cough. This means that it may be caused by underlying abnormalities in the nervous system.

Chronic cough in other diseases

Most long-term respiratory diseases cause cough. This might be due to a number of reasons, such as changes to the structure of the airways in lung cancer or damage to the cells in some other conditions. People with interstitial lung disease (ILD), for example, are very likely to experience cough and may not respond well to treatment.

Chronic cough, tobacco, and nicotine

Smoking is a major cause of chronic cough. Studies have shown that the likelihood of developing a chronic cough is linked to the amount of time and total amount that a person has been exposed to smoking. Cigarette smoking is directly linked to the amount that a person may cough.

You should try to quit smoking, and your doctor will be able to advise a treatment plan. Some people may find that cough increases for the first month or so after quitting. This is normal and should subside after a month or two.