

CHRONIC COUGH IN ADULTS

Introduction

The ability to cough is an important part of normal lung function. Coughing from time to time helps clear particles and secretions from the lungs and helps to prevent infection. However, sometimes a cough can become a chronic condition that requires a medical evaluation. Chronic cough is usually defined as a cough that lasts for eight weeks or longer. It is a very common problem, and is one of the most common symptom for which patients see a healthcare provider. Although chronic cough is usually not serious, it can be associated with a variety of unpleasant effects, including physical exhaustion, self-consciousness, insomnia, headache, dizziness, muscle strain, hoarseness, excessive perspiration, and leakage of urine during coughing. In addition, many patients worry that coughing is a sign of a more serious condition. In most cases, an underlying cause for chronic cough can be found and treated.

Causes

The most common causes of chronic cough are postnasal drip (also called upper airway cough syndrome), asthma, and gastroesophageal reflux disease (GERD). These three causes are responsible for up to 90 percent of all cases of chronic cough. Less common causes include infections, medications, and chronic lung diseases. Another common cause of chronic cough is non-asthmatic eosinophilic bronchitis, also called eosinophilic bronchitis.

Postnasal drip

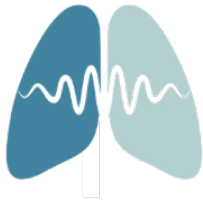
Postnasal drip is a condition that develops when secretions from the nose chronically drip into the back of the throat. These secretions can cause throat inflammation and trigger a cough. Underlying causes of postnasal drip include allergies, colds, and sinusitis. In addition, some people have chronic inflammation of the nasal passages and a runny nose, which can also cause postnasal drip. People with postnasal drip may complain of symptoms including stuffy or runny nose, a sensation of liquid in the back of the throat, or frequently having to clear their throat. However, some people have so-called "silent" postnasal drip; they have postnasal drip but do not realize it. A healthcare provider may suspect postnasal drip in a person with a chronic cough based on the appearance of the patient's throat. Postnasal drip is usually treated in a patient with chronic cough when no other apparent cause is present.

Asthma

Asthma is the second most frequent cause of chronic cough in adults, and is the leading cause in children. Coughing may be accompanied by wheezing and shortness of breath. However, some people have a condition known as cough variant asthma, in which cough is the only symptom of asthma. Asthma is suspected as the cause of the cough if a person has a history of multiple allergies or has a family history of asthma. Asthma-related cough may be seasonal, may follow an upper respiratory infection, or may get worse on exposure to cold, dry air, or certain fumes or fragrances.

Gastroesophageal reflux disease

Gastroesophageal reflux disease, or GERD, develops when acid from the stomach flows back (refluxes) into the tube connecting the stomach and the throat (the esophagus). The presence of this acidic material in the esophagus, throat, or even the lungs can lead to chronic irritation and coughing. GERD is the third most common cause of chronic cough. Many patients with cough due to GERD complain of heartburn or a sour taste in the mouth. However, these symptoms are absent in more than 40 percent of patients with cough due to reflux.



Other causes

A number of other conditions can lead to chronic cough. These include:

Respiratory tract infection — An upper respiratory infection such as a cold can sometimes cause a cough that lasts more than eight weeks. This may be due to postnasal drip (as described above), or to sensitivity or inflammation of the airways that developed as a result of the infection. Some studies have suggested that adults with chronic cough following an upper respiratory infection may have pertussis (whooping cough).

Use of ACE inhibitors — Medications known as angiotensin converting enzyme (ACE) inhibitors cause a chronic cough in up to 20 percent of patients who take them. ACE inhibitors are used in the treatment of heart disease, high blood pressure, and kidney disease. The reason these medicines cause cough is not entirely clear, but may be related to chemical changes that lead to stimulation of cough receptors in the airways.

Chronic bronchitis — Chronic bronchitis is a condition in which there is long-standing inflammation of the airways, with coughing and the production of sputum. Most patients with chronic bronchitis are smokers or have a history of smoking. The sputum produced with chronic bronchitis is typically clear or white.

Bronchiectasis — Bronchiectasis refers to airway damage that results from severe, repeated, or ongoing airway infection and inflammation. The air sacs become dilated, secretions pool in the airways, and chronic cough with sputum production results.

Lung cancer — Although lung cancer can cause coughing, very few patients who seek treatment for chronic cough have lung cancer as a cause. Cancer is often suspected in a smoker whose chronic cough changes suddenly, or who continues to cough more than one month after quitting smoking. Coughing up blood can sometimes be seen with lung cancer.

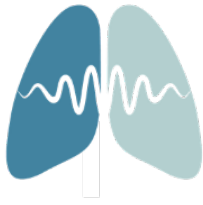
Eosinophilic bronchitis — Eosinophilic bronchitis is a condition in which a patient has many features of asthma, including cells called eosinophils in the sputum, but does not have the abnormal lung function typical of asthmatic disease. Eosinophilic bronchitis is an increasingly recognized cause of chronic, dry cough in adults, particularly in patients for whom no other cause can be found.

Diagnosis

Patients should give a careful, detailed description of the duration and description of their cough, and of other symptoms that may be related (if the cough is dry or productive, if the phlegm is colored, if the cough only occurs in certain locations or times). In particular, a healthcare provider will be interested in symptoms suggesting postnasal drip, asthma, or GERD. In most cases, the history and response to treatment give enough information to determine the probable cause of the cough. The clinician may obtain a chest x-ray as part of the initial evaluation.

Lung function tests

If asthma is suspected but cannot be confirmed, the clinician may perform lung function tests. These measure the pattern of air flow into and out of the lungs. A test called a methacholine challenge may be used to help diagnose asthma. In this test, lung function is measured before and after a patient inhales methacholine; a patient with asthma will have decreased lung function before and after a patient inhales methacholine; a patient with asthma will have



decreased lung function after methacholine. The effect is short-lived, easily reversed with additional medication, and generally not noticeable to the patient. It is a safe test, though is generally reserved for patients in whom the diagnosis of asthma is unclear.

To confirm a diagnosis of GERD, a test may be done to measure the acid level of fluid in the esophagus using a small probe that the patient swallows. Prolonged periods of high acidity suggest the presence of GERD. The diagnosis of eosinophilic bronchitis may be made by examining sputum under the microscope and identifying an increased number of eosinophils in the sputum. If lung disease such as bronchiectasis or lung cancer is suspected, additional tests and referral to a lung specialist may be required.

Treatment

Treatment of chronic cough aims to treat the underlying cause. Treatment of the most common causes of chronic cough is discussed here. Patients with lung disease or less common causes of cough may be treated differently. If the cause of a cough cannot be found, a medication that treats the symptom (rather than the problem) may be tried. Cough medicines that contain dextromethorphan may help suppress the cough reflex. Inhaled ipratropium (Atrovent®) may also be helpful. Codeine is a narcotic that can be added to cough syrup; it may be tried if other medicines have not been effective. However, codeine can cause a person to feel sleepy and should not be used while working or driving.

Postnasal drip

Patients with or without symptoms of postnasal drip may be treated for this condition to see if the cough improves. Runny nose and congestion may improve with the use of decongestants. Pseudoephedrine (Sudafed®) is a decongestant that can improve nasal congestion. Antihistamines such as diphenhydramine (Benadryl®) may also help, but can cause side effects such as drowsiness and drying of the eyes, nose, and mouth. Nasal inhalers, including ipratropium bromide (Atrovent®, available by prescription) can relieve runny nose and sneezing. If sinusitis is suspected as the cause of the postnasal drip, antibiotics may be helpful.

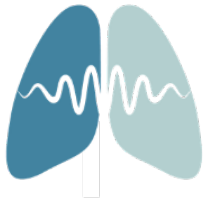
Cough variant asthma

Patients whose cough is due to asthma will receive standard treatment for asthma, which includes inhaled bronchodilators and inhaled steroids. These inhaled medicines act to decrease inflammation (swelling) of the airways. In some cases, oral steroids are given for a limited period of time.

Gastroesophageal reflux

Cough due to GERD may respond to a regimen that includes one or more of the following:

- Avoid substances that increase reflux, such as foods with high fat content, chocolate, and excessive alcohol
- Stop smoking
- Eat three meals a day without snacking
- Avoid meals for two to three hours before lying down
- Elevate the head of the bed while sleeping
- Take medication to decrease acidity in the stomach



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Eosinophilic bronchitis

Patients with eosinophilic bronchitis are treated with inhaled steroids, which decrease airway inflammation and therefore decrease or eliminate the cough.

Other

Many patients with a chronic cough after a respiratory infection respond to treatment for postnasal drip or cough variant asthma. Patients who develop a cough while on ACE inhibitors may switch to another medication to see if the cough improves.

Where To Get More Information

Your healthcare provider is the best source of information for questions and concerns related to your medical problem. Because no two patients are exactly alike and recommendations can vary from one person to another, it is important to seek guidance from a provider who is familiar with your individual situation. This discussion will be updated as needed every four months on our web site (www.uptodate.com/patients). Additional topics as well as selected discussions written for healthcare professionals are also available for those who would like more detailed information. A number of web sites have information about medical problems and treatments, although it can be difficult to know which sites are reputable. Information provided by the National Institutes of Health, national medical societies and some other well-established organizations are often reliable sources of information, although the frequency with which they are updated is variable. National Library of Medicine (www.nlm.nih.gov/medlineplus/healthtopics.html); The American Academy of Family Physicians (www.familydoctor.org); American College of Chest Physicians 800-343-2227 or 847-498-1400 (www.chestnet.org/patients/guides/cough/index.php)

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