**Family and community medicine**

**Approach to the Patient with Cough
in Family Medicine**

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A **cough** :[Latin](http://en.wikipedia.org/wiki/Latin): **tussis**) is a sudden and often repetitively occurring reflex which helps to clear the large breathing passages from secretions, irritants, foreign particles and [microbes](http://en.wikipedia.org/wiki/Microbes).

**Classification of Cough By Duration**

* Acute Cough < 3 weeks
* Sub acute Cough from 3 – 8 weeks
* Chronic Cough > 8 weeks

In areas of **high TB prevalence** consider testing for active disease in any patient with a cough lasting more than two weeks (WHO recommendation).

**Evaluation of Nonsmokers Presenting With Chronic Cough**

* If on ACEI discontinue ACEI
* Consider UACS, Asthma, GERD as most common diagnoses
* Do not use the patient’s description of timing of onset or production of sputum to diagnose
* The etiology of some cough syndromes is multifactorial

**Chronic Cough Syndrome Caused By Rhinosinus Disease**

* Formerly labeled post nasal drip syndrome
* ACCP recommends calling this upper airway cough syndrome
* Ddx: Allergic rhinitis, postinfectious rhinitis, bacterial sinusitis, rhinitis due to irritants, occupational, medicamentosa, anatomic abnormalities
* Evaluation includes a combination of criteria, including symptoms, physical examination findings, radiographic findings, and, ultimately, the response to specific therapy.
* Draining into throat, need to clear throat, tickle in throat, congestion, nasal discharge, hoarseness, wheeze
* If obvious, treat with 1st generation A/D
* If not responsive, image sinuses
* Empiric therapy with 1st generation A/D
* An empiric trial of therapy aids in diagnosis
* An empiric trial of therapy should be given before considering exhaustive work-up

**Cough And Asthma**

* May be a symptom of asthma or a distinct entity, cough variant asthma
* Spirometry with bronchodilator, and methacholine challenge testing used to evaluate
* Treat with inhaled bronchodilator and inhaled corticosteroids
* Can only diagnose this as cause if syndrome is responsive to therapy
* Consider sputum eosinophil level for steroid responsiveness
* If not responsive or noncompliant, consider leukotriene receptor antagonist
* May consider oral steroids if severe

**Clinical Profile That Predicts That Chronic Cough Is Likely Due to GERD Chronic cough**

* Not exposed to environmental irritants nor a present smoker
* Not taking an angiotensin-converting enzyme inhibitor
* Chest radiograph is normal or shows nothing more than stable, inconsequential scarring
* Symptomatic asthma has been ruled out:
* Cough has not improved with asthma therapy, or Methacholine inhalation challenge is negative
* Upper airway cough syndrome due to rhinosinus diseases has been ruled out: First-generation H1 -antagonist has been used and cough failed to improve, and “Silent” sinusitis has been ruled out
* No asthmatic eosinophilic bronchitis has been ruled out: Properly performed sputum studies are negative, or
* Cough has not improved with inhaled/systemic corticosteroids

**Cough Associated With GERD**

* Suspected by clinical pics.
* Treat if suspected, even if they are otherwise asymptomatic
* Cannot rule out on clinical profile
* Cannot rule out GERD as cause of cough until it is fully treated/evaluated
* Esophageal pH probe is the most sensitive and specific test for acid reflux
* Normal esophagoscopy does not rule out GERD
* Barium esophography is the test of choice to evaluate for non-acid reflux cough complex
* Esophageal manometry may be useful
* If initial treatment fails, escalate therapy (mixed modalities)
* Evaluate for effective therapy
* Lifestyle changes
	+ Anti-reflux diet that includes no > 45 g of fat in 24 h and no coffee, tea, soda, chocolate, mints, citrus products, including tomatoes, or alcohol, no smoking, and limiting vigorous exercise that will increase intraabdominal pressure

**Spectrum of Options for Treating Chronic Cough Due to GERD**

* Anti-reflux medical therapy
* Diet
* Lifestyle changes
* Smoking
* Exercising
* Consuming alcohol
* Medications

Acid suppression - PPI, PPI/BID, H2 blockers

Prokinetic

* Address risk factors/Treat other causes of cough
* Treat comorbid conditions

Obesity

Obstructive sleep apnea

Consider changing medications for comorbid conditions

* Anti-reflux surgery

**Post-infectious Cough <8 weeks**

* CXR normal
* Resolves on its own
* Postviral airway inflammation, bronchial hyperresponsiveness, mucus hypersecretion, impaired mucociliary clearance
* Post-infectious Cough
* No antibiotics unless sinusitis or Bordetella pertussis
* Consider trial of ipratropium to attenuate cough
* If this does not work consider trial of ICS
* If severe paroxysms – prednisone 30-40mg short finite period, only when GERD, asthma, UACS ruled out
* Codeine or Dextromethorphan when other measures fail
* Paroxysms of coughing posttussive vomit and inspiratory whoop
* Order nasopharyngeal aspirate or cx for B. pertussis
* IgG/IgA for presumptive diagnosis
* Erythromycin, 5 day isolation

**Referral to a Cough Specialist**

* If no cause is found with previous algorithmic approach referral is appropriate
* Most involved evaluations involve specialists; GI, ENT, Pulmonary, Cardiology
* Consider pulmonary consult for assistance if needed .

**CASE 1**

A 47 year black male is evaluated because of a 2-month history of cough. Three months ago hypertension was diagnosed, for which he takes HTCZ and benazepril. He attributes his cough to the change of weather. He has a hx of GERD that is well controlled on PPI. No hx of asthma.

Which of the following would be the most appropriate next step?

1. CT scan of sinuses
2. pH probe
3. Methacholine challenge testing
4. Stop ACEI
5. Allergy testing

**CASE 2**

Cough productive of white sputum most days over the past 2 years Life long smoker (30 per day) Gets breathless going up the stairs What do you think he has?

1. Asthma
2. COPD
3. Lung Cancer
4. Sarcoid
5. Rhinitis

**CASE 3**

This 49-years-old lady has had a dry cough for a few months.

Her BMI is 36 She doesn’t smoke She takes Gaviscon plus a tablet for her blood pressure which she can’t recall Which of the following blood pressure tablets might be relevant in her symptoms?

1. Ramipril
2. Bendrofluazide
3. Nifedipine
4. Atenolol
5. None of them!





