



Chronic Cough

One of the commonest reasons anyone comes to clinic · and one of the most reliably mishandled

Check the drug list first
then give each trial its full course

⚠ THE THREE THINGS THAT FIX MOST OF IT

⚠ STOP THE ACE INHIBITOR BEFORE INVESTIGATING

Three features make this easy to miss. **Onset ranges from HOURS after the first dose to MONTHS into therapy** -so "he has been on lisinopril for a year" does **not** exclude it. **It is a CLASS effect**, so switching between ACE inhibitors is pointless: switch to an **ARB**. And **resolution usually takes 1-4 weeks but can linger up to ~3 months**, which means a **one-week trial off the drug is NOT an adequate test** and gives a false negative. There is no blood test -you stop the drug and wait.

EVERYONE GETS A CHEST RADIOGRAPH

The branch point: a **normal film** continues the algorithm, an **abnormal one redirects entirely**. Add a full **medication, occupational and smoking history (including vaping)**. **Duration frames it**: acute < 3 weeks (viral), subacute 3-8 weeks (usually post-infectious; consider pertussis), chronic > 8 weeks.

⚠ THE CAUSES COEXIST

This changes management more than anything else here. **A partial response usually means a SECOND cause is also present, not that the first diagnosis was wrong**. Treat sequentially and **ADD rather than substitute**. A 60% improvement is a signal to add the next treatment, not to start again from scratch.

THE BIG THREE, PLUS THE FOURTH WORTH KNOWING *non-smoker · off ACE inhibitors · normal film*

Cause	Clues and empiric approach
Upper airway cough syndrome formerly postnasal drip	The commonest cause . Throat clearing, sensation of drainage, nasal symptoms, cobblestoned posterior pharynx -but ⚠ it can be entirely SILENT , so a clean history does not exclude it. FIRST-generation antihistamine-decongestant or intranasal steroid; newer non-sedating antihistamines are less effective here
Asthma including cough-variant	Cough may be the ONLY symptom -no wheeze, no dyspnea. Suspect with nocturnal or exercise-triggered cough, seasonality, atopy. ⚠ Spirometry is often NORMAL , so a normal test does not exclude it; bronchoprovocation has a high negative predictive value
Gastroesophageal reflux	⚠ Frequently causes cough with NO heartburn at all , which is why it is missed. Worse supine, after meals, on waking. Slow to respond -see the 8-12 week step below
Non-asthmatic eosinophilic bronchitis the fourth one	Airway eosinophilia WITHOUT the variable obstruction of asthma -so spirometry and bronchoprovocation are both normal and the standard workup misses it. Diagnosed on induced sputum eosinophils . Responds well to inhaled corticosteroids , which is what makes it worth remembering

THE SEQUENCE, AND HOW LONG EACH STEP GETS

Step	Action	How long, and how to read it
1-2	Stop the ACE inhibitor (switch to an ARB) and get a chest radiograph with a red-flag review	Allow up to 3 months off the ACE inhibitor before calling it negative. An abnormal film or any red flag EXITS the algorithm to imaging and referral; a normal film continues below
3	Treat upper airway cough syndrome -first-generation antihistamine-decongestant or intranasal steroid	A few weeks . Commonest cause and cheapest trial, so it goes first. Partial response = keep it and move to step 4
4	Treat asthma -inhaled corticosteroid (spirometry first if not done)	Several weeks . Remember a normal spirometry does not exclude cough-variant asthma, so a negative test is not a reason to skip this step
5	Treat reflux -acid suppression plus lifestyle measures	⚠ 8-12 WEEKS, not 4 . The step most often cut short, and cutting it short is what manufactures "refractory" cough
6	Reconsider -induced sputum for eosinophils, CT chest, bronchoscopy or specialist referral	Before escalating, audit steps 1-5 : was each actually completed, at dose, for the full duration? That audit resolves more cases than the CT does

⚠ RED FLAGS: IMAGE AND REFER, DO NOT TREAT EMPIRICALLY

⚠ STOP THE ALGORITHM FOR THESE

Hemoptysis. Weight loss. **A current or former smoker with a new or CHANGED cough**. Dyspnea. Fever or night sweats. Dysphonia. Dysphagia. Recurrent pneumonia in the **SAME** location. Abnormal film or exam. Immunosuppression. **A changed cough in a smoker is lung cancer until proven otherwise**, and treating it empirically for reflux is how months are lost.

OTHER CAUSES NOT TO FORGET

Bronchiectasis -daily purulent sputum, recurrent same-lobe infection, or a never-smoker labeled COPD; **a normal film does not exclude it**. Also **smoking and chronic bronchitis**, **OSA**, **heart failure**, obstructive and interstitial lung disease, **occupational exposure**, **aspiration**, and **TB** where the epidemiology fits.

WHEN IT LOOKS REFRACTORY

Step	Detail
The reframe	True refractory cough is a COUGH HYPERSENSITIVITY SYNDROME -triggered by things that should not provoke one (talking, laughing, aerosols, temperature change), reflecting neuronal hypersensitivity of the cough reflex rather than airway disease. This moves treatment toward neuromodulation and behavioral therapy , and lets you tell the patient there is a mechanism
What helps	Speech and language therapy (cough-suppression training -real evidence, no drug toxicity, rarely offered because clinicians do not know it exists). Gabapentin or pregabalin -counsel on sedation, titrate slowly, reassess in older adults given falls risk. Low-dose morphine in specialist hands
⚠ Gefapixant P2X3 antagonist	Know the regulatory position, because it differs by country . Approved in Japan, Switzerland and the EU . The FDA REJECTED it , concluding evidence of effectiveness was not substantial -a judgment about efficacy, not safety . So it is not available in the US , and a patient who has read about it deserves that explanation rather than a vague deferral. Taste disturbance is its characteristic effect
⚠ Do NOT	No repeated antibiotic courses without an infective cause -common, ineffective, drives resistance. OTC cough preparations have little evidence and cost patients real money. Do not escalate acid suppression indefinitely after a proper trial fails. Ask about impact -incontinence, rib fractures, syncope, exhaustion, social withdrawal- and say that you believe them , because patients arrive expecting to be dismissed

References: CHEST evidence-based clinical practice guidelines on chronic cough and on ACE inhibitor-induced cough · published data on the incidence, onset and resolution of ACE inhibitor cough · FDA regulatory decision on gefapixant and its approvals in Japan, Switzerland and the European Union · trial evidence for speech therapy and neuromodulators in refractory chronic cough.

Educational aid; verify against current guidance, local formulary and patient factors.

