An Approach to Cough

Diagnostic Framework

Upper Airway	Pulmonary	GI	Miscellaneous
Upper respiratory infection* (a.k.a. "common cold") Upper airway cough syndrome* (a.k.a. "post-nasal drip") Allergic rhinitis (a.k.a. "hay fever") Non-allergic rhinitis Chronic sinusitis Post-viral cough* Laryngeal cancer	Acute bronchitis* Pneumonia* Cough-variant asthma* Chronic bronchitis (COPD)* Bronchiectasis Lung cancer Interstitial lung disease Aspiration Foreign body aspiration	Laryngopharyngeal reflux/GERD*	ACE inhibitor side effect* Heart failure Mitral valve pathology Ciliary dyskinesia Hereditary immunodeficiency Somatic cough syndrome (previously psychogenic cough) Tic cough (previously habit cough)

* Most common causes of acute cough

* Most common causes of chronic cough

How to assess a patient with cough?

History

- Duration and timing of cough
- Productive vs. non-productive
- Presence of fever, dyspnea, chest pain, hemoptysis, heartburn, rhinorrhea, nasal congestion, or weight loss
- Chronic lung disease
- Immunosuppression
- Smoking history
- Use of an ACE inhibitor

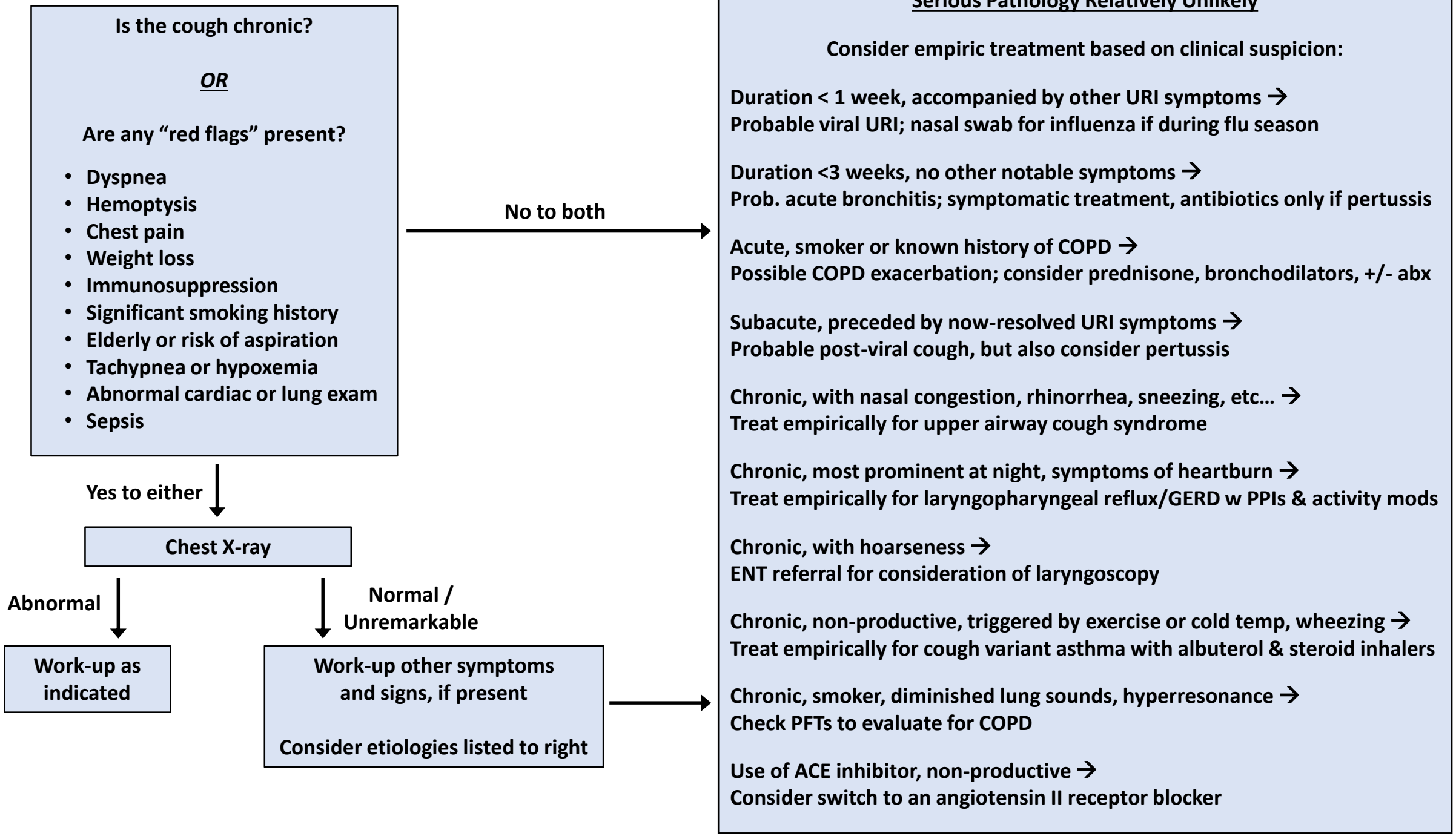
Vitals

Focused physical exam

- HEENT exam
- Pulmonary exam
- Cardiac exam (including JVP)

Key labs: CBC (if infection suspected)

Consider a chest X-ray


Is the cough chronic?
OR
Are any "red flags" present?
• Dyspnea
• Hemoptysis
• Chest pain
• Weight loss
• Immunosuppression
• Significant smoking history
• Elderly or risk of aspiration
• Tachypnea or hypoxemia
• Abnormal cardiac or lung exam
• Sepsis
No to both
Yes to either
Chest X-ray
Abnormal
Normal / Unremarkable
Work-up as indicated
Work-up other symptoms and signs, if present
Consider etiologies listed to right
Serious Pathology Relatively Unlikely
Consider empiric treatment based on clinical suspicion:
Duration < 1 week, accompanied by other URI symptoms →
Probable viral URI; nasal swab for influenza if during flu season
Duration <3 weeks, no other notable symptoms →
Prob. acute bronchitis; symptomatic treatment, antibiotics only if pertussis
Acute, smoker or known history of COPD →
Possible COPD exacerbation; consider prednisone, bronchodilators, +/- abx
Subacute, preceded by now-resolved URI symptoms →
Probable post-viral cough, but also consider pertussis
Chronic, with nasal congestion, rhinorrhea, sneezing, etc… →
Treat empirically for upper airway cough syndrome
Chronic, most prominent at night, symptoms of heartburn →
Treat empirically for laryngopharyngeal reflux/GERD w PPIs & activity mods
Chronic, with hoarseness →
ENT referral for consideration of laryngoscopy
Chronic, non-productive, triggered by exercise or cold temp, wheezing →
Treat empirically for cough variant asthma with albuterol & steroid inhalers
Chronic, smoker, diminished lung sounds, hyperresonance →
Check PFTs to evaluate for COPD
Use of ACE inhibitor, non-productive →
Consider switch to an angiotensin II receptor blocker