

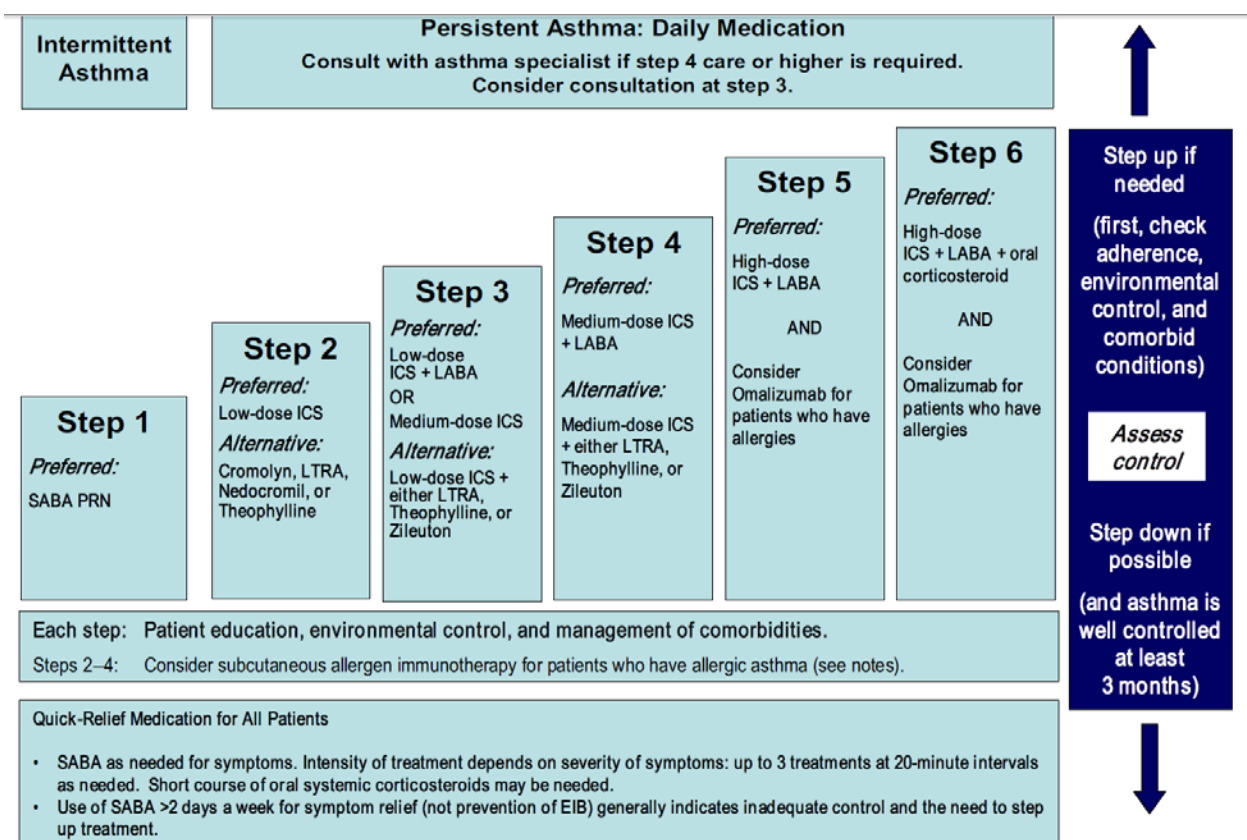
HPH Guidelines for Pulmonary Medicine Referrals
Effective June 26, 2017

The following document is intended to provide some basic guidance to assist primary care and other healthcare providers in the management of patients with several commonly encountered pulmonary conditions and to assist with identifying appropriate patients for subspecialty referral. This is not intended to supplant good clinical decision making or require a clinician to follow a certain diagnostic or treatment strategy. It is intended to merely serve as a rough guide to assist in the diagnosis and management of patients with the following conditions.

Asthma:

1. Considerations
 - a. The most common reason patient's asthma remain poorly controlled is due to either nonadherence with therapy or incorrect use of the medication delivery systems. Most patients who have a metered-dose inhalers have not been instructed on proper use and are not using them correctly.
 - b. Asthma treatment guidelines (NAEPP EPR-3) spell out the stepwise approach to pharmacotherapy for asthma.

FIGURE 4–5. STEPWISE APPROACH FOR MANAGING ASTHMA IN YOUTHS ≥12 YEARS OF AGE AND ADULTS



2. When to refer
 - a. Persistent sx's in moderate to severe asthma despite a long-acting bronchodilator/inhaled corticosteroid combination product include long-acting anticholinergics. Severe bronchospasm suggests a need for a course of systemic corticosteroids.
 - b. Patients with moderate to severe asthma (step 4-6 below) should be comanaged with the assistance of an asthma specialist (Allergy or Pulmonology).
 - c. Novel treatments for severe asthma, such as parenteral therapies aimed at blocking the inflammatory cascade in asthma or bronchial thermoplasty (a procedure to permanently reduce airway smooth muscle) might be indicated in uncontrolled asthma.
3. Tests prior to referral
 - a. Spirometry
 - i. There should be evidence of airway obstruction or bronchial hyper responsiveness. Demonstrated either via spirometry showing obstruction and a positive bronchodilator response or bronchoprovocation testing such as a methacholine challenge.
 - ii. Peak flow meter measurements can be used but are very effort dependent often providing variable results.
 - iii. It may be reasonable to give a clinical diagnosis of asthma and a trial of therapy in mild cases. Persistent symptoms should mandate spirometry testing.

COPD:

1. Considerations
 - a. Diagnosis is made by spirometry demonstrating airways obstruction.
 - i. As risk factors of COPD are also risk factors for coronary artery disease, this needs to be considered in the differential of the smoker with dyspnea.
 - ii. In some obese patients, spirometry may reveal restriction without obstruction.
2. When to refer
 - a. Usual treatment in mild disease is a combination of short acting beta agonists and short acting anticholinergics. More severe disease long-acting beta agonists and long-acting anticholinergics are used. Patients with frequent exacerbations the addition of inhaled corticosteroids can be considered.
 - i. Patients who remain symptomatic despite the above treatment regimen should be considered for pulmonary referral.
 - b. If needs chronic daily prednisone, theophylline, or roflumilast.
 - c. If needs supplemental oxygen.
3. Tests prior to referral
 - a. Spirometry (pre and post bronchodilator if obstructed) is strongly recommended to confirm the presence of obstruction and grade the severity as symptoms do not correlate well with degree of impairment with many patients with severe obstructing minimizing symptoms.
 - b. Liberal testing for alpha 1 antitrypsin deficiency is recommended. Specifically testing for the genotype and not an alpha-1 antitrypsin level is recommended.
 - c. Consider exercise oximetry to evaluate for exertional desaturation.

Lung Cancer/Nodules and Screening:

Lung cancer screening: Lung cancer screening with an annual low dose CT is recommended for patients meeting all of the following three criteria (this is a covered benefit for all ACA participating plans).

- Age 55-80, Smoking history > 30pkyr, and either actively smoking or having quit <15 years.
- Shared decision making statement is also required confirming the patient understands the risks and benefits of screening.
- Realize 60% of screened patients have nodules, 94-97% are benign/false positives.

Lung Nodules: (Small nodules)

1. Considerations

- a. Frequently encountered on chest imaging and often are a source of great concern to the patient and a source of considerable liability for the clinician.
- b. General recommendations are for lung nodules > 4mm in size (all patients) and <4mm (smokers or patients with cancer history) to be followed with serial imaging until stable for 2-3 years.
- c. Fleischner Society Guideline outlines surveillance strategy, www.fleischnersociety.org. A mobile app is also available.

2. When to refer

- a. Pulmonary referral can be considered for any lesion. Follow up and decision making can be cumbersome for the primary physicians and some nodules require up to 5 years of surveillance.

Lung Masses/Suspicious Nodules:

1. Considerations

- a. Concerning nodules should be considered for referral for pulmonary consultation prior to referral for a biopsy procedure.
- b. Current technologies (Endobronchial Ultrasound EBUS and Electromagnetic Navigational Bronchoscopy ENB) potentially allow for a bronchoscopic diagnosis and staging procedure in one setting rather than subjecting the patient to two procedures.

2. When to refer

- a. CT guided biopsy, while high yield often does not adequately stage the patient and has a significant pneumothorax risk (20-30%).

Chronic Cough:

1. Considerations

- a. Chronic cough in adults is defined as a cough lasting more than 8 weeks.
- b. Acute cough is most likely d/t bronchitis or upper respiratory tract infections.
- c. Chronic cough in 95+% of patients is d/t to one or more of the following three diagnoses (GERD, Upper airway cough syndrome formerly called post nasal drip syndrome, and asthma) if not on an ACEI and a documented normal CXR.

For questions regarding these guidelines, contact Bennett Loui, MD: (808) 522-4322; bloui@straub.net
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2. Tests prior to referral
 - a. CXR and spirometry.
 - b. Empiric therapy for GERD, UACS, asthma is recommended but must be a prolonged course (several months, not several weeks).

Hemoptysis:

1. Considerations
 - a. Acute, small volume hemoptysis in a nonsmoker is mostly likely due to acute bronchitis and will generally resolve with a course of antimicrobials and time.
 - b. If the CXR reveals findings concerning for tuberculosis, the patient should be given a simple mask and asked to remain at home until tuberculosis is excluded with serial sputum analysis. Consider a referral to Lanakila for testing or Pulmonary or ID consultation.
 - c. Hemoptysis should not be ascribed to use of anticoagulant therapy (warfarin, clopidogrel, aspirin etc.) therapy with these agents should not be associated with hemoptysis.
2. When to refer
 - a. Small volume hemoptysis which recurs after a trial of antimicrobial therapy (If bronchitis is suspected), or for which there is no clear etiology.
 - b. Large volume hemoptysis should prompt referral to the Emergency Department.
3. Tests prior to referral
 - a. Minimum, CXR PA/LAT.
 - b. If the hemoptysis persists and CXR is unrevealing, noncontrast CT Chest is recommended.

Obstructive Sleep Apnea:

1. Considerations
 - a. OSA so prevalent that management can be reasonably done by the primary care physician. CPAP device settings and masks are generally outlined in the sleep study report.
 - b. OSA should be considered in patients with symptoms such as loud snoring, witnessed apnea/gasping, daytime sleepiness/fatigue, frequent nocturia, morning headaches. There also is a high association with the metabolic syndrome (HTN, DM, HLP, centripetal obesity).
 - c. Physical exam findings suggestive of OSA include a narrowed airway (Mallampati grades III and IV, visualization of only the base on the uvula or soft palate on tongue protrusion), micrognathia or “overbite”, thick neck (circumference > 17 inches, conjunctival injection, large “kissing tonsils”, and morbid obesity. Morbid obesity alone is not sufficient reason to pursue sleep testing. Patients with a normal BMI may have OSA.
 - d. All patients who report excessive sleepiness should be counselled not to drive or operate heavy machinery until their sleepiness is resolved.
 - e. The majority of patients (90%+) will tolerate CPAP if they understand the rationale for therapy and they understand that with changes to settings and mask interfaces most problems tolerating CPAP can be resolved.
2. When to Refer
 - a. Complicated sleep patients (those with severe apnea or intolerance of CPAP therapy should be referred to Sleep or Pulmonary Medicine).

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- b. Surgical options are not first line and have a disappointing efficacy. Surgery is appropriate for selected patients who understand the success may be 50% or less.
- 3. Tests prior to Referral
 - a. A screening tool STOP-BANG (<http://www.stopbang.ca/osa/screening.php>) can help identify patients who might be appropriate for polysomnography testing, as well as an Epworth Sleepiness Scale which is a measure of daytime sleepiness (<http://sleepapnea.org/wp-content/uploads/2017/02/ESS-PDF-1990-97.pdf>). Patients with severe OSA often do not perceive the severity of their impairment and may report a normal Epworth score.
 - b. We recommend that the PCP order a polysomnogram (Split night study), or Home Sleep Test (HST) prior to referral.
 - Home sleep testing is required by most insurers as a first diagnostic step.
 - Patients who qualify for an in-lab test, a “split night study” is recommended, allows the lab to diagnosis and titrate CPAP at the same setting.

Dyspnea:

- 1. Considerations
 - a. Can be d/t a myriad of conditions – Correct diagnosis hinges on a detailed history, physical and limited diagnostic testing if needed.
 - b. History is critical, timing, duration of sx, alleviating factors, triggers, and the overall symptom complex (wheezing, coughing, chest pressure, palpitations, neurological, throat/voice symptoms etc.).
- 2. When to Refer
 - a. Dyspnea which remains unexplained despite a basic evaluation and/or trial of empiric therapy.
- 3. Tests prior to Referral
 - a. Basic evaluation, spirometry and diffusion capacity, hemoglobin, CXR.
 - b. Additional tests based on clinical suspicion, echo, ECG, stress tests, TSH.