**Chronic Obstructive Pulmonary Disease**

In 2007 the American College of Physicians accepted the following recommendations for diagnosis and management of stable chronic obstructive pulmonary disease.

“**Recommendation 1**: In patients with respiratory symptoms, particularly dyspnea, spirometry should be performed to diagnose airflow obstruction. Spirometry should not be used to screen for airflow obstruction in asymptomatic individuals.”

Note: No good evidence supports screening spirometry in asymptomatic, at-risk individuals. Also, it has not been shown to routinely impact smoking cessation initiatives, treat asymptomatic individuals or prevent future respiratory symptoms or reduce decline in lung function. Evidence does not support periodic spirometry after initiation of therapy to monitor ongoing disease status or to modify therapy.

“**Recommendation 2**: Treatment for stable COPD should be reserved for patients who have respiratory symptoms and FEV1 less than 60% predicted as documented by spirometry.”

Note: No good evidence supports treating asymptomatic patients, because treatment does not improve outcomes in these individuals.

“**Recommendation 3**: Clinicians should prescribe 1 of the following maintenance monotherapies for symptomatic patients with COPD and FEV1 less than 60% predicted: long-acting inhaled B-agonists, long-acting inhaled anticholinergics, or inhaled corticosteroids.”

Note: Trials with both LABA’s, salmeterol and fomoterol, have demonstrated improved lung function, dyspnea and overall health status. All agents have been shown to reduce exacerbations.

“**Recommendation 4**: Clinicians may consider combination inhaled therapies for symptomatic patients with COPD and FEV1 less than 60% predicted.”

Note: In the TORCH trial, a combination of corticosteroid and LABA rpeduced exacerbations and deaths while other similar trials have improved lung function, quality of life and hospitalization rates along with exercise tolerance.

“**Recommendation 5**: Clinicians should prescribe oxygen therapy to patients with COPD and resting hypoxemia (PaO2 ≤ 55 mm Hg).”

Note: Multiple trials have shown that supplemental oxygen used at least 15 hours daily reduced deaths in individuals with severe obstructive disease (FEV1 < 30% predicted) and resting hypoxemia. Other studies showed no effect on relative risk of patients with PaO2 greater than 60 mmHg. Also, studies have shown no effect of ambulatory oxygen on respiratory health measures.

“**Recommendation 6**: Clinicians should consider prescribing pulmonary rehabilitation in symptomatic individuals with COPD who have FEV1 less than 50% predicted.”

Note: A program of rehabilitative exercise can have significant clinical benefits including reduced hospitalizations, improved dyspnea/breathlessness, fatigue exercise capacity and quality of life.

Background: Chronic Obstructive Pulmonary Disease (COPD) is a slowly progressive lung disease resulting in gradual loss of lung function. It is a preventable and treatable condition characterized by airflow limitation that is not completely reversible. Symptoms range from chronic cough, sputum production and wheezing to more severe symptoms such as dyspnea, poor exercise tolerance and symptoms of right-sided heart failure. COPD affects more than 5% of the U.S. adult population, and in 2008 it surpassed cerebrovascular disease to become the third leading cause of death in the U.S. and the only leading cause that is increasing in prevalence. Although more common among men than among women, more women die of COPD each year; and hospitalization rates for women have increased disproportionately compared to those for men. Women with COPD also tend to report more respiratory symptoms and greater impairment in quality of life.

Cigarette smoking is the major risk factor for development of COPD, although environmental and genetic risk factors such as alpha-1-antitrypsin deficiency also play a role. Air pollution, second-hand smoke, dust, fumes and gasses also appear to confer risk.

Diagnosis of COPD is established by spirometry, with obstructive defects identified by a reduction in the FEV1, relative to the FVC. (FEV1/FVC ratio). The FEV1, or forced expiratory volume in one second, is the maximal volume of air exhaled during the initial second of measurement. FVC, or forced vital capacity, is the maximal amount of air exhaled from total lung capacity. COPD is defined as airflow obstruction that is not fully reversible, in contrast to asthma. Thus, to obtain a diagnosis of COPD, spirometry testing must be repeated after a patient inhales a short-acting bronchodilator.

**References:**

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