

Guideline for Chronic Obstructive Pulmonary Disease 2015

Eligible Population Adults ≥ 18 years of age with diagnosis of COPD

| <u>Key Components</u> | <u>Recommendation and Level of Evidence</u> | | | <u>Frequency</u> | |
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| Risk Assessment and Diagnosis | <ul style="list-style-type: none"> - Diagnosis is based on exposure to risk factors and presence of airflow limitation that is not fully reversible, with or without symptoms - Key indicators for considering a diagnosis of COPD: <ul style="list-style-type: none"> • Chronic cough- May be intermittent and unproductive. • Dyspnea that is progressive, persistent, and worse with exercise • Chronic sputum production • Wheezing, prolonged expiratory phase of respiration, rhonchi, cough • Hyperinflation of the chest with increased anterior-posterior (A-P) diameter • Use of accessory muscles of respiration • Pursed lip breathing • History of exposure to risk factors: tobacco smoke*, occupational dusts and chemicals, smoke from home cooking, heating fuels, and air pollution, or Family history of COPD, or Alpha-1 Antitrypsin deficiency - Rule out asthma, heart failure, cystic fibrosis, bronchiectasis, and other lung diseases | | | Assess adults for risk factors at routine preventive visits <i>Advise smokers to quit at every visit</i> Refer patients to MI Tobacco Quitline 1-800-480-7848 | |
| Diagnostic Testing FVC = forced vital capacity; FEV1 = forced expiratory volume in one second | <ul style="list-style-type: none"> • Spirometry is necessary to confirm the diagnosis of COPD and determine degree of airflow limitation • Bronchodilator Reversibility Testing (to rule out asthma) • CXR (to rule out other diagnosis e.g. TB, Lung Cancer, and CHF) • Consider Alpha-1 Antitrypsin Deficiency Screening when early onset of COPD, little or no history of smoking, family history of COPD, predominance of basilar emphysema. | | | To establish diagnosis; then as needed if an increase in symptoms or complications | |
| Classification of COPD by severity In patients with FEV1/FVC < 0.70 based on post bronchodilator FEV1 | | | | | |
| Stage I: Mild | | Stage II: Moderate | | Stage III: Severe | Stage IV: Very Severe |
| FEV1 $\geq 80\%$ predicted No abnormal signs Cough (sputum) \pm Little or no dyspnea | | $50\% \leq$ FEV1 <80% predicted Breathlessness (\pm wheeze on moderate exertion) Cough (\pm sputum) Variable abnormal signs (general reduction in breath sounds, presence of wheezes) Hypoxemia may be present | | $30\% \leq$ FEV1 <50% predicted Dyspnea with an exertion or at rest Wheeze and cough often prominent Lung hyperinfiltration usual cyanosis, peripheral edema and polycythemia in advanced disease Hypoxemia and hypercapnia are common | FEV1/FVC <30% predicted or FEV1 <50% with chronic respiratory failure ($O_2 < 60$ or $CO_2 > 50$) Dyspnea with an exertion or at rest Wheeze and cough often prominent Lung hyperinfiltration usual; cyanosis, peripheral edema and polycythemia in advanced disease Hypoxemia and hypercapnia are common |

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| Therapy at Each Stage of COPD | <p>Smoking cessation support Oxygen supplementation -when indicated Trigger avoidance Inhaler technique training COPD education Caretaker support Assess current vaccine schedule influenza, Tdap and pneumococcal vaccination Assessment and treatment of co morbidities Patient education to address disease, treatment, compliance, advance directives, etc. Pulmonary rehabilitation/regular exercise to improve exercise tolerance, reduce symptoms, improve quality of life, and increase participation in everyday activities Use a stepwise increase in therapy, depending on the severity of the disease; pharmacotherapy decreases symptoms and/or complications Bronchodilators are central to symptomatic management of COPD. Inhaled corticosteroids are appropriate for COPD patients with FEV1 <60% predicted. Long term monotherapy with inhaled corticosteroids is not recommended. Regular treatment with long-acting bronchodilators is more effective and convenient than with short-acting bronchodilators, but more costly. Obtaining the opinion of a pulmonary specialist may be beneficial at any stage of the disease.</p> | | | |
| | Stage I: Mild | Stage II: Moderate | Stage III: Severe | Stage IV: Very Severe |
| | <p>Short acting bronchodilators as needed. Yearly follow up visit schedule (I, II, III, IV) <i>Add</i> daily long-acting bronchodilator, inhaled corticosteroids are indicated if hospitalized for frequent COPD exacerbations, consider adding a PDE4 inhibitor. Follow up every three to six months</p> <p style="text-align: right;"><i>Add</i> inhaled corticosteroids to reduce exacerbations oral steroid bursts for exacerbations. Follow up every two to four months or more frequently as needed.</p> <p style="text-align: right;"><i>Add</i> long term oxygen supplementation in those with chronic respiratory failure; consider surgical treatment. Oral steroids as needed</p> | | | |
| Exacerbation Management/Treatment Options | <p>Supplemental oxygen Short-acting bronchodilator Systemic corticosteroids-40mg of prednisone per day for 5 days. Antibiotics should be given</p> <ul style="list-style-type: none"> • With 3 cardinal symptoms: increased dyspnea, sputum volume, increased sputum purulence • Sputum purulence + increased dyspnea or sputum volume • Patients who require mechanical ventilation. Hospitalization if severe | | | <p>Follow-up visit after an acute inpatient discharge, ED visit, or home exacerbation</p> |

Worldwide cigarette smoking is the most common risk factor, but up to 10% have never smoked