



CHRONIC OBSTRUCTIVE PULMONARY DISEASE CLINICAL PRACTICE GUIDELINES

Risk Intervention	Recommendations
Definition	COPD is a disease state characterized by airflow limitation that is not fully reversible. The airflow limitation is usually both progressive and associated with an abnormal inflammatory response of the lungs to noxious particles or gases
Components of COPD Management	<ul style="list-style-type: none"> ▪ Assess and monitor disease ▪ Reduce risk factors ▪ Manage Stable COPD ▪ Manage Exacerbations
Goals	<ul style="list-style-type: none"> ▪ Prevent disease progression ▪ Relieve symptoms ▪ Improve exercise tolerance ▪ Improve health status ▪ Prevent and treat complications ▪ Prevent and treat exacerbations ▪ Reduce mortality ▪ Prevent or minimize side effects from treatment
Medication Reconciliation	Accurately and completely reconcile all medications patient is taking across the continuum. <i>(National Patient Safety Goal)</i>
Diagnosis	A diagnosis of COPD should be considered in any patient who has cough, sputum production, or dyspnea, and/or a history of exposure to risk factors objective for disease.
Determining Etiology and Objective Measures	<p>Medical History: A detailed medical history of a new patient known or thought to have COPD should assess:</p> <ul style="list-style-type: none"> ▪ Exposure to risk factors. ▪ Past medical history, including asthma, allergy, sinusitis or nasal polyps, respiratory infections in childhood, and other respiratory diseases.

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	<ul style="list-style-type: none"> ▪ Family history of COPD or other chronic respiratory disease (such as asthma or CF). ▪ Pattern of symptom development. ▪ History of exacerbations or previous hospitalizations for respiratory disorder. ▪ Presence of comorbidities, such as heart disease and rheumatic disease that may also contribute to restriction of activity. ▪ Appropriateness of current medical treatments. ▪ Impact of disease on patient's life, including limitation of activity; missed work and economic impact; effect on family routines; and feelings of depression or anxiety. ▪ Social and family support available to the patient. ▪ Possibilities for reducing risk factors, especially smoking cessation. <p>Physical: Though an important part of patient care, a physical examination is rarely diagnostic in COPD. Physical signs of airflow limitation are rarely present until significant impairment of lung function has occurred.</p> <ul style="list-style-type: none"> ▪ Evidence of airflow obstruction (wheezes, prolonged expiratory time). ▪ Signs of emphysema (over distension of lungs in stable state, low diaphragmatic position, hyper-resonance to percussion). ▪ Characteristics that suggest severe disease (pursed-lip breathing, use of accessory respiratory muscles, in drawing of lower interspaces). ▪ Unusual positions to relieve dyspnea at rest, dependent edema, digital clubbing.
<p>Testing and Additional Investigations</p>	<p>The following tests should be undertaken for the assessment of a patient with moderate (Stage II), Severe (Stage III), and very severe (Stage IV):</p> <ul style="list-style-type: none"> ▪ Spirometry should be done IN ALL CASES once COPD is considered (including mild (Stage I) COPD). ▪ Chest x-ray to diagnose emphysema and rule out other disease. Repeat x-ray to rule out malignancy, based on clinical judgment. ▪ Arterial blood gases in patients with more severe disease with FEV₁ <40% predicted or with clinical signs suggestive of respiratory failure or right heart failure. ▪ Bronchodilator reversibility testing: once at the time of diagnosis to help rule out a diagnosis of asthma, to establish a patient's best attainable lung function, to gauge a patient's prognosis, and to guide treatment decisions. ▪ Alpha-1 antitrypsin deficiency screening: In patients who develop COPD at a young age (<45 years) or who have a strong family history of the disease to identify coexisting alpha-1 antitrypsin deficiency.
<p>Risk Factor</p>	<ul style="list-style-type: none"> ▪ Smoking Prevention <ul style="list-style-type: none"> ○ Strongly encourage patient and family to stop smoking. ○ Provide counseling, nicotine replacement, and formal cessation

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Reduction	<p>programs as appropriate.</p> <ul style="list-style-type: none"> ▪ Eliminate Occupation Exposures ▪ Reduce indoor and outdoor pollution
Member Education	<ul style="list-style-type: none"> ▪ Diagnosis ▪ Prognosis ▪ Symptoms of exacerbation ▪ Exercise training/physical activity/pulmonary rehabilitation ▪ Smoking cessation ▪ Medication management including use of oxygen therapy, aerosols, PFM, spacers ▪ Influenza vaccine, annually.
Pharmacologic Treatment	<ul style="list-style-type: none"> ▪ Bronchodilators are central to symptom management given on an as-needed basis or on a regular basis to prevent or reduce symptoms: inhaled therapy is preferred; type and dose depends on availability and individual response. ▪ Influenza vaccine can reduce serious illness and death in COPD by about 50%. ▪ Alpha-1 Antitrypsin Augmentation Therapy may benefit young patients with severe hereditary alpha-1 antitrypsin deficiency and established emphysema. ▪ Add long-term oxygen if chronic respiratory failure, RA pO₂ ≤ 55, or RA pO₂ ≤ 88%. ▪ Antibiotics +/- oral glucocorticoid for AECEB.

Therapy at Each Stage of COPD					
Old	0: At Risk	I: Mild	II: Moderate		III: Severe
New	0: At Risk	I: Mild	IIA	IIB	IV: Very Severe
Characteristics	Chronic symptoms Exposure to risk factors Normal spirometry	FEV ₁ /FVC<70% FEV ₁ ≥80% With or without symptoms	FEV ₁ /FVC<70% 50%≤FEV ₁ <80% With or without symptoms	FEV ₁ /FVC<70% 30%≤FEV ₁ <50% With or without symptoms	FEV ₁ /FVC<70%FEV ₁ <30% or FEV ₁ <50% predicted plus chronic respiratory failure
	Avoidance of risk factor(s); influenza vaccination				
	Add short-acting bronchodilator when needed				
	Add regular treatment with one or more long-acting bronchodilators				
	Add inhaled glucocorticosteroids if repeated exacerbations				
	Add long-term oxygen if chronic respiratory failure Consider surgical treatments				

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Pulmonary Rehab Candidates	Suggested for Stage II COPD, which is defined as an 50% ≤ FEV ₁ < 80% predicted with evidence of air flow obstruction on spirometry. Although the minimum length of an effective program is two months, the longer the program continues the more effective are the results. However, no mechanism has been developed to maintain the effects over time.
Oxygen Management	The long term administration of oxygen (>15 hours per day) to patients with chronic respiratory failure has been shown to increase survival. Long term oxygen therapy is introduced in very severe COPD patients who have PaO ₂ at 55 mm Hg or SaO ₂ at 88% or patients with pulmonary hypertension, peripheral edema suggesting congestive heart failure, or polycythemia with PaO ₂ between 55 and 60 mmHg or a PaO ₂ of 89% with a goal to increase the PaO ₂ to 90%.
Management of Exacerbations	<p>Characterized by a change in the patient's baseline dyspnea, cough, and/or sputum production.</p> <p>Home Management</p> <ul style="list-style-type: none"> ▪ Increase dose and/or frequency of existing short-acting bronchodilator therapy, preferably with β₂-agonists. If not already used, anticholinergics until symptoms improve. ▪ If baseline FEV₁ <50% predicted, add 30-40 mg oral prednisolone daily for

	<p>7-10 days.</p> <p>Hospitalizations Indications for Exacerbations</p> <ul style="list-style-type: none"> ▪ Marked increase in intensity of symptoms ▪ Severe background of COPD ▪ Onset of new physical findings ▪ Failure to respond to medical management ▪ Frequent exacerbations ▪ New arrhythmias ▪ Diagnostic uncertainty ▪ Insufficient Home Support <p>Antibiotics should be given to patients:</p> <ul style="list-style-type: none"> ▪ With all three of cardinal symptoms of increased dyspnea, increased sputum volume and increased sputum purulence ▪ With increased sputum purulence and one other cardinal symptom ▪ Who require mechanical ventilation
Surgical Treatment	<p>Bulectomy and lung transplantation may be considered in carefully selected patients with Stage IV COPD, but there is current insufficient evidence to support the widespread use of lung volume reduction surgery.</p>
Self Management Education	<ul style="list-style-type: none"> ▪ Assess educational needs and provide self-management education. ▪ Provide access to an interdisciplinary team (RN, Pulmonary Rehab therapist, PCP) ▪ Develop individualized educational plans
Psychosocial assessment	<p>Screening completed at every office visit.</p> <p>Should include but is not limited to:</p> <ul style="list-style-type: none"> ▪ Attitudes about the illness ▪ Expectations for medical management ▪ General quality of life <p>Reassess periodically during assessment contacts to mental health specialist should occur when the patient exhibits any of the following:</p> <ul style="list-style-type: none"> ▪ Gross noncompliance with medical regimen (due to self or others) ▪ Depression ▪ Cognitive functioning that significantly impairs judgment.

Source:

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