

Aspirus Network, Inc.

Chronic Obstructive Pulmonary Disease Care (COPD)

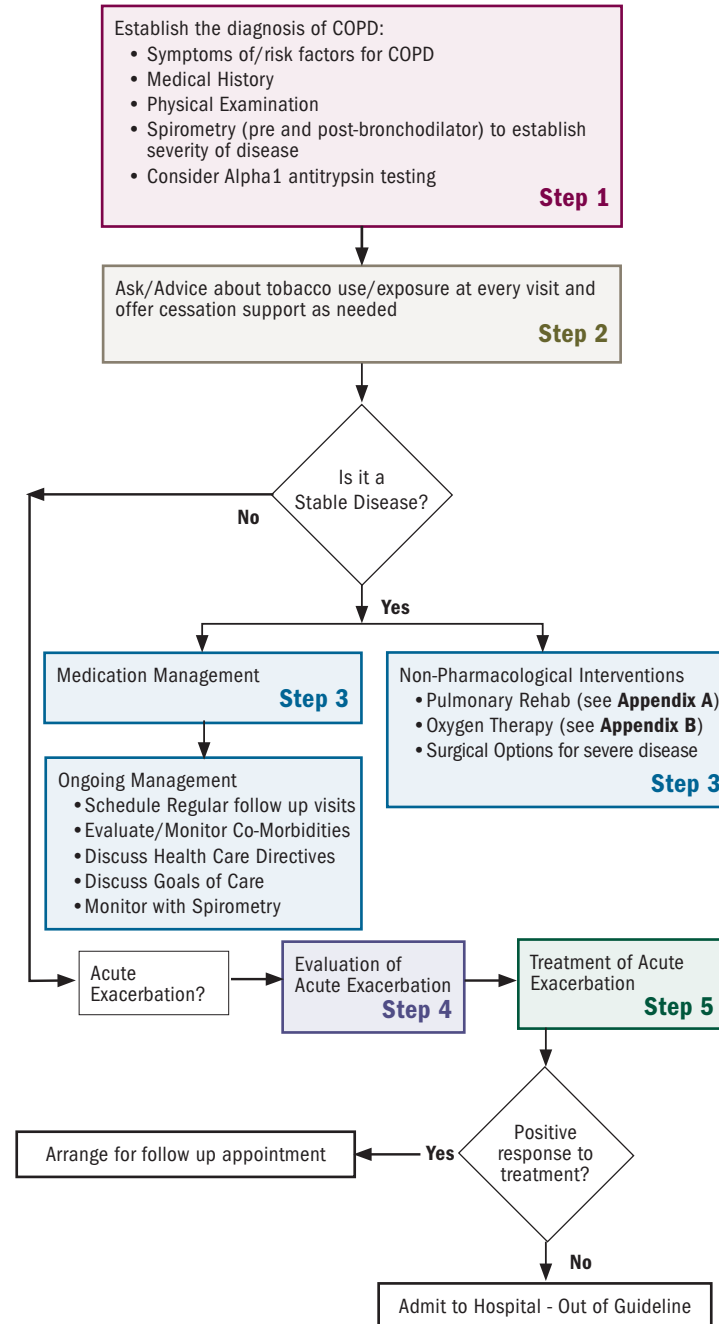
Guideline 2012

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Adopted by ANI Medical Management Committee on April 3, 2012 from the Institute for Clinical Systems Improvements (ICSI) Health Care Guideline "Chronic Obstructive Pulmonary Disease (COPD), Diagnosis and Management of" and "Global Strategy for the Diagnosis, Management and Prevention of COPD, Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2011. Available from: <http://www.goldcopd.org/>.

Aspirus Network, Inc. Chronic Obstructive Pulmonary Disease Guideline 2012 Algorithm



Clinical Highlights of COPD Guideline

- Assess patients for symptoms and risk factors for COPD, including asking about tobacco use/exposure at every visit.
- Tobacco cessation is the only known intervention that can slow progression of lung function loss.
- Establish diagnosis and severity of COPD through spirometry, pre- and post-bronchodilator, in addition to history and physical examination.
- After establishing severity, assess patient needs for pharmacologic and non-pharmacologic treatment and provide appropriate therapy as indicated.
- Inhaled steroids are warranted in patients with COPD who have recurrent exacerbations.
- Pulmonary rehabilitation is beneficial for all COPD patients in all stages.
- For patients with severe symptoms, despite maximal medical therapy, lung volume reduction surgery and transplantation may be an option.
- Physicians should discuss advance directives/health care directives and goals of care as early as possible.

Step 1 Evaluation of COPD

Establish Diagnosis of COPD

Key Points:

- The diagnosis of COPD should be suspected based on the patient's medical history and physical examination.

Symptoms of and Risk Factors for COPD

COPD may be indicated by the presence of one of the following symptoms:

- Chronic cough (duration greater than three months) with or without sputum production
- Dyspnea with or without wheezing
- COPD should also be considered if the patient has one or more of the following risk factors:
 - History of tobacco use or prolonged exposure to secondhand or environmental smoke
 - Asthma
 - Occupations with exposure to dust and chemicals (e.g., firefighters, welders)
 - Alpha 1-antitrypsin deficiency
 - Chronic respiratory infections

Recommended Etiological Evaluations for the Diagnosis of COPD

- Spirometry and pre- and post-bronchodilator recommended
- Screening for Alpha 1-antitrypsin deficiency recommended in patients who develop COPD at a young age
- Resting oxygen saturation measurement suggested in moderate or severe disease
- Arterial blood gas (ABG) measurement recommended in moderate or severe disease or if oxygen saturation is less than 92%
- Spirometry is necessary for COPD diagnosis and to establish severity of disease.

Differential Diagnosis

The chest radiograph in COPD is often normal but may show signs of hyperinflation, a flattened diaphragm, or bullae. In addition to asthma, possible differential diagnoses for COPD include bronchiectasis, cystic fibrosis, obliterative bronchiolitis, congestive heart failure and upper airway lesions.

COPD Diagnosis Codes

Description	ICD-9-CM Diagnosis
Chronic bronchitis	491
Emphysema	492
COPD	496

COPD Stages - Symptoms - Signs

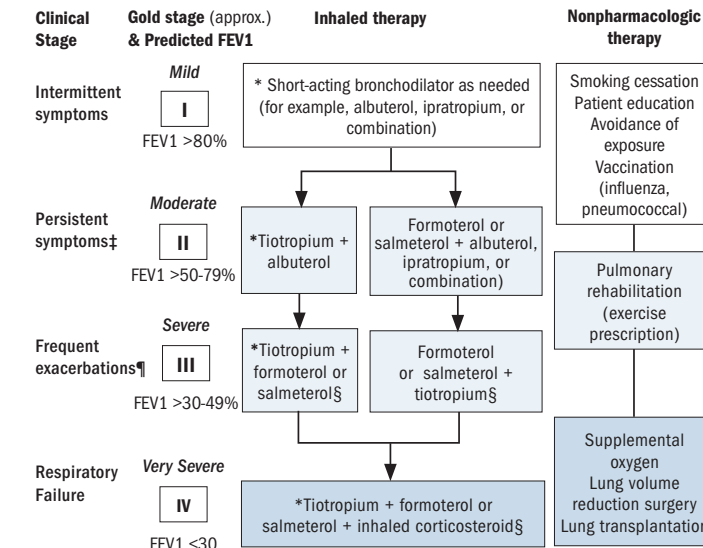
Stage of COPD	FEV1 (% predicted)	Typical Symptoms and Signs
Mild (I)	80 or greater	- Little or no dyspnea
Moderate (II)	Between 50 and 79	- Breathlessness (± wheeze on moderate exertion) - Cough (± sputum) - Variable abnormal signs (general reduction in breath sounds, presence of wheezes) - Hypoxemia may be present
Severe (III)	Between 30 and 49	- Dyspnea with any exertion or at rest - Wheeze and cough often prominent
Very severe (IV)	Less than 30	- Lung hyperinflation usual; cyanosis, peripheral edema and polycythemia in advanced disease - Hypoxemia and hypercapnia are common

Step 2 Smoking Cessation

Key Points:

- Smoking is by far the most important risk factor for COPD. Ten to fifteen percent of long-term smokers develop COPD with accelerated rates of decline in FEV1.
- According to the U.S. Surgeon General, tobacco use is one of the most important public health issues of our time. Advice and support from physicians and other health professionals are potentially powerful influences on tobacco cessation.
- Tobacco cessation and oxygen therapy for those with resting hypoxemia are the only interventions proven to prolong survival of patients with COPD.
- The most comprehensive of the guidelines prepared on smoking cessation is "Treating Tobacco Use and Dependence," an evidence-based guideline sponsored by the US Department of Health and Human Services and released in 2008. Smoking cessation resources and the guideline are available at www.surgeongeneral.gov/tobacco/default.htm.

Step 3 Therapy for COPD



* Four-step algorithm for the implementation of inhaled treatment

† Pathway on left is recommended; pathway on right is a valid alternative

‡ Defined as need for rescue medication on more than two occasions per week.

§ A short-acting bronchodilator can be used for rescue. Low-dose methylxanthines can be prescribed if the response to inhaled bronchodilator therapy is sufficient.

¶ Defined as two or more exacerbations per year

Step 3 Therapy for COPD (continued)

Key Points:

- Drug therapy is determined by severity of symptoms.
- Pulmonary rehabilitation programs are effective in improving exercise capacity, quality of life and perception of symptoms, regardless of age (Di Meo, 2008 [C]). (See Appendix A)
- Long-term oxygen therapy (more than 15 hours per day) improves survival and quality of life in hypoxemic patients.

Therapy for all severities of COPD

- Pulmonary rehabilitation
- Annual influenza immunization
- Pneumococcal vaccine
- Smoking cessation support
- Trigger avoidance
- Inhaler technique training
- COPD education
- Caretaker support

Step 4 Evaluation of Acute Exacerbation

When a patient with known COPD presents with a moderate to severe exacerbation, the following key elements of the history, physical examination and laboratory/radiology evaluation should be considered:

History

- Baseline respiratory status
- Present treatment regimen and recent medication use
- Signs of airway infection, e.g., fever and/or change in volume and/or color of sputum
- Duration of worsening symptoms
- Limitation of activities
- History of previous exacerbations
- Increased cough
- Decrease in exercise tolerance
- Chest tightness
- Change in alertness
- Other non-specific symptoms including malaise, difficulty sleeping and fatigue
- Symptoms associated with comorbid acute and chronic conditions
- Although rarely used, non-selective beta-blockers may contribute to bronchospasm

Physical Examination

- Measurement of vital signs and pulse oximetry
- Respiratory distress
- Accessory respiratory muscle use
- Peripheral edema
- Somnolence and/or hyperactivity
- Acute comorbid conditions
- Increased pulmonary findings (e.g., wheezing, decreased air entry, prolonged expiratory phase)

Step 4 Evaluation of Acute Exacerbation (continued)

Laboratory/Radiology

- Chest radiograph (in patients with suspected pneumonia)
- Arterial blood gas (in patients with an oxygen saturation less than 88%, positive history of hypercapnia, questionable accuracy of oximetry, somnolence or other evidence of impending respiratory failure [e.g., respiratory rate greater than 40 breaths per minute])
- Theophylline level (if theophylline is being utilized)
- A sputum culture with susceptibilities, if available, should be performed when an infectious exacerbation does not respond to initial antibiotic treatment (Global Initiative for Chronic Obstructive Lung Disease, 2009 [R]). It is important that the sputum specimen is of good quality.
- Brain natriuretic peptide (BNP), a simple blood lab test, can be of some use in evaluating a patient presenting with dyspnea, although its interpretation needs to be carefully applied along with clinical and other lab data such as chest radiograph and echocardiogram. Its sensitivity and specificity in this setting increase at levels above 400 but do not differentiate between acute left ventricular (LV) failure, cor pulmonale or pulmonary embolism (McCullough, 2002 [B]).

Step 5 Treatment of Acute COPD Exacerbation

Treatment

Key Points:

- Albuterol is the preferred bronchodilator in the setting of an acute exacerbation of COPD because of its rapid onset of action.
- Ipratropium may be added to produce additive bronchodilation and allow the use of lower doses of albuterol.
- Steroids should be used in acute exacerbations, 30-40 mg daily for 7-14 days.
- In the presence of an exacerbation with purulent sputum, an antibiotic is warranted. Trimethoprim/sulfamethoxazole (TMP/SMX) and doxycycline are considered adequate “first-line” agents. The use of “second-line” agents can be considered when there is concern about antibiotic resistance, either from previous culture information or known local antibiogram, or if the patient is considered to have a more severe exacerbation.
- It is mandatory to check oxygen saturation or arterial blood gas measurement.

Appendix A – Medicare Standards for Pulmonary Rehab Coverage

Effective January 1, 2010, Medicare will pay for up to two (2) one-hour sessions per day, for up to 36 lifetime sessions (in some cases, up to 72 lifetime sessions) of a physician-supervised, comprehensive Pulmonary Rehabilitation (PR) program. PR is generally provided for 4-6 hours per week for an 8-12 week period.

The PR program must include the following mandatory components:

1. Physician-prescribed exercise;
2. Education or training;
3. Psychosocial assessment;
4. Outcomes assessment; and
5. An individualized treatment plan.

Patient Selection

Patients appropriate for PR must have a diagnosis of a chronic, stable respiratory disorder with disabling symptoms that impair the patient’s function. Pulmonary function tests (PFTs) need to show FVC, FEV1 and/or DLCO of <65% predicted on PFT within 1 year of PR. Source: www.thoracic.org/clinical/pulmonary-rehabilitation/professional-information/reimbursement-for-pulmonary-rehabilitation.php

Impediments to the pulmonary rehabilitation intervention fall into two broad categories: 1) conditions which would interfere with the patient’s ability to participate in the rehabilitative process (such as disabling arthritis); and 2) conditions which might place the patient at undue risk during exercise training (such as unstable angina).

Documentation Requirements

- Physician order and referral and recertification every 30 days
- Physical examination by referring physician within 90 days of program
- Physician evaluation/assessment by facility MD/DO or MD/DO overseeing program; initial evaluation and ongoing assessments
- Treatment plan
- Daily progress notes and attendance records
- Physician signed and dated progress reports
- Documentation to support all related services (i.e., pulmonary function tests)
- ABN (if issued): The written notice issued to the beneficiary by the provider of services when they believe that Medicare will not pay for the services on the basis that the services are not reasonable or necessary
- Itemized bill

Source:www.ngsmedicare.com/wps/poc/ngsmedicare?urlile=wcm:path:/NGSMedicareContent/NGSMedicare/Review%20Process/Appeals/Documentation%20Requirements%20by%20Type%20of%20Service&LOB=Part+A

Please see the Medicare Learning Network Matters® Number: MM6823 available: www.cms.gov/MLNNetworkMattersArticles/downloads/MM6823.pdf and/or the Medicare

Benefit Policy Manual, Chapter 15, section 231, as revised by CR 6823, and the Medicare Claims Processing Manual, Chapter 32, Section 140, as revised by CR 6823. These revised documents are attached to CR 6823, which is available at www.cms.gov/Transmittals/downloads/R124BP.pdf (Benefit Policy Manual) and www.cms.gov/Transmittals/downloads/R1966CP.pdf (Claims Processing Manual) on the CMS website.

Appendix B – Medicare Standards for Oxygen Coverage

Oxygen Therapy - Medicare Standards for Oxygen Coverage include the following parameters:

Diagnosis

- Severe primary lung disease (includes COPD, emphysema, chronic bronchitis)

Description	ICD-9-CM Diagnosis
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Emphysema	492
COPD	496

- Secondary conditions related to lung disease
- Significant hypoxemia in the chronic stable state

Additional medical documentation: other forms of treatment have been tried and have not been successful and oxygen therapy is still required.

Start of therapy: within one month of last visit.

Laboratory Evidence

- Testing **must have been performed in the past 30 days** either with the patient in a chronic stable state as an outpatient, or within two days prior to discharge from an inpatient facility to home.
- If the test is not taken under these conditions, additional documentation must be obtained from the physician.
- The CMS Certification of Medical Necessity (CMN) form (Form CMS-484) is available at: www.cms.gov/cmsforms/downloads/cms484.pdf

	PaO2	SaO2	Additional Documentation	Recertification
Group I	55 mm Hg or less	88% or less	None	Required 12 months after Initial Certification; that is, with the 13th month’s claim
Group II	56-59 mm Hg	89%	Congestive Heart Failure/Edema EKG evidence of “P” pulmonale with P wave greater than 3 mm in lead I, II, III or AVF. Hematocrit greater than 56%.	Required 3 months after Initial Certification; that is, with the fourth month’s claim.
	60 mm Hg	90% or greater	Coverage rare or unlikely; requires extensive physician documentation for approval.	

Portable Oxygen

- May qualify as a system by itself or as a complement to stationary oxygen system.
- If the patient qualifies for reimbursement under the oxygen coverage guidelines noted previously, and the patient is mobile within the home.

Oxygen Prescription

Oxygen for patients with COPD is covered under Medicare. The prescription for home oxygen therapy must include:

- Flow rate: liters per minute (LPM)– oxygen must be titrated to the least flow rate needed to correct SaO2;
- Duration of need: specific number of months or indefinitely;
- Laboratory evidence (blood gas), or oximetry while:
 - at rest on room air (RA)
 - with exertion on RA
 - with exertion on 1 LPM
 - with exertion on 2 LPM
 - with exertion on 3 LPM, etc.
 - during sleep on RA (overnight oximetry or polysomnography (PSG) data), and
 - the amount of oxygen needed to correct SaO2;

Sample documentation: Patient’s SaO2 at rest is 88% on RA and dropped to 82% with ambulation on RA. Supplemental oxygen started @ 2 LPM at rest and improves to 94%. With ambulation @ 2 LPM SaO2 fell to 87%, O2 increased to 3 LPM and SaO2 improved to 92%.

- Acceptable PaO2 or SaO2 level.

Source: www.cms.gov/MLNProducts/downloads/OxgnThrpy_DocCvg_FactSheet_ICN904883.pdf

