

COPD Assessment Test (CAT)

Also referred to as the
Chronic Airways Assessment Test (CAAT)



Statement	Score (0-5)	Statement	Score (0-5)
I never cough	0 1 2 3 4 5	I cough all the time	
I have no phlegm (mucus) in my chest	0 1 2 3 4 5	My chest is completely full of phlegm (mucus)	
My chest does not feel tight at all	0 1 2 3 4 5	My chest feels very tight	
When I walk up a hill or one flight of stairs I am not breathless	0 1 2 3 4 5	When I walk up a hill or one flight of stairs I am very breathless	
I am not limited doing any activities at home	0 1 2 3 4 5	I am very limited doing any activities at home	
I am confident leaving my home despite my condition	0 1 2 3 4 5	I am not at all confident leaving my home because of my lung condition	
I sleep soundly	0 1 2 3 4 5	I don't sleep soundly because of my lung condition	
I have lots of energy	0 1 2 3 4 5	I have no energy at all	

TOTAL SCORE

- A CAT score of 10 or more suggests significant symptoms.
- A change in CAT score of 2 or more suggests a possible change in health status.
- A worsening CAT score could be explained by an exacerbation, poor medication adherence, poor inhaler technique, or progression of COPD or comorbid conditions. An adjustment in therapy may be needed.
- Download the form at <https://copdf.co/CAAT>.

The COPD Assessment Test was developed by a multi-disciplinary group of international experts in COPD supported by GSK. GSK activities with respect to the COPD Assessment Test are overseen by a Governance Board that includes independent external experts, one of whom chairs the Board.
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mMRC Breathlessness Scale

Grade	Description of Breathlessness
0	I only get breathless with strenuous exercise
1	I get short of breath when hurrying on level ground or walking up a slight hill
2	On level ground, I walk slower than people of the same age because of breathlessness, or have to stop for breath when walking at my own pace
3	I stop for breath after walking about 100 yards or after a few minutes on level ground
4	I am too breathless to leave the house or I am breathless when dressing

A mMRC score of 2 or more suggests significant symptoms.
Chris Stenton. The mMRC breathlessness scale. *Occup Med (Lond)*(2008)58(3): 226-227 doi:10.1093/occmed/kqm162, Table 1. By permission of Oxford University Press on behalf of the Society of Occupational Medicine.

Vaccinations for people with COPD

- Influenza vaccination—Annual for all ages.** High dose, adjuvanted, or recombinant for those 65 years or older
- SarS-CoV-2 (Covid-19) vaccination—All adults.** One dose bivalent vaccine plus additional dose for those 65 years or older, or who are immunocompromised.
- Pneumococcal Vaccines—All adults with COPD.** One dose of 20-valent pneumococcal conjugate vaccine (PCV-20); or one dose of 15-valent pneumococcal conjugate vaccine (PCV15) followed in 2 to 12 months by 23-valent pneumococcal polysaccharide vaccine (PPSV23)
- Tetanus and Pertussis—All adults booster every 10 years.** Tdap (dTaP/dTPa) for pertussis (whooping cough) prevention
- Herpes Zoster (Shingles)—All adults with COPD, 2 dose series.** Recombinant vaccine with doses 2 to 6 months apart
- RSV vaccination—Recommended for those 60 years or older.** See CDC guidelines for dosing schedule and availability.

For the most current information on vaccines, consult the Centers for Disease Control and Prevention: www.cdc.gov/vaccines/schedules/hcp/schedule-app.html
National Quit Smoking Line: 1-800-Quit NOW (784-8669)
COPD Foundation Information Line: 1-866-316-COPD (2673)
COPD 360: <http://copd360social.org>
Inhaler instruction videos available: <https://copdf.co/videos>

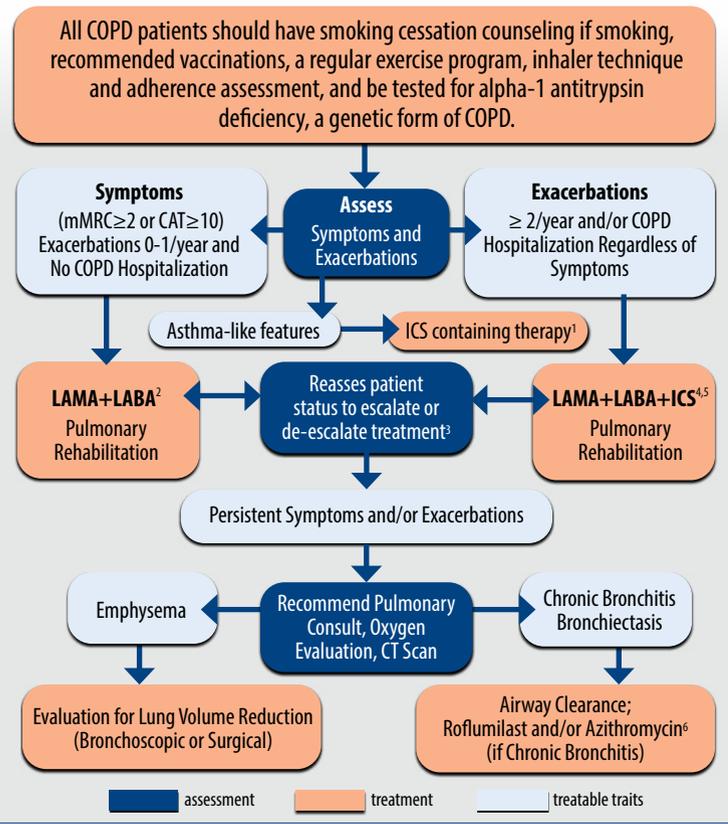


Free app: search “COPD Pocket Consultant Guide” in app store or Google Play.

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THE COPD POCKET CONSULTANT 2023

COPD Foundation Guide A Simplified Approach to COPD Care



1. If symptoms persist despite ICS containing regimen, check eosinophil level and consider adding leukotriene receptor antagonist and/or biologic.
2. LAMA or LABA is a reasonable alternative but data suggests dual bronchodilators are more effective with no greater risk or additional side effects.
3. Before considering any escalation of therapy be sure inhaler is being used correctly. Consider de-escalation from an ICS containing regimen to LAMA + LABA if 0-1 exacerbation and NO COPD hospitalizations over last year, especially if history of recurrent pneumonia, osteoporosis, cataracts, and eosinophil count <300.
4. The major role for ICS in COPD care is exacerbation prevention. The higher the eosinophil count, the more effective ICS may be. Avoid ICS in COPD if eosinophil count is persistently <100 unless ICS is needed to control COPD with asthmatic features.
5. ICS/LABA only indicated in COPD care in those with features of asthma or if LAMA not tolerated.
6. Roflumilast and Azithromycin in COPD setting are add-on therapies to an inhaler regimen.

Definitions

COPD is a heterogeneous lung condition characterized by chronic respiratory symptoms (dyspnea, cough, expectoration) due to persistent abnormalities of the airways (bronchitis, bronchiolitis), alveoli (emphysema), and/or pulmonary vessels, confirmed by spirometrically determined airflow limitation and/or objective evidence of structural or physiological pulmonary dysfunction.

Spirometry--Airflow obstruction: FEV₁/FVC ratio <0.7

Chronic respiratory symptoms may precede the development of airflow limitations and may be associated with the development of acute respiratory events.

A significant proportion have structural evidence of lung disease manifested by the varying presence of emphysema, airway wall thickening and gas trapping.

Celli, B, Fabbri, L, Criner, G, et al. "Definition and Nomenclature of Chronic Obstructive Pulmonary Disease: Time for Its Revision." Am. J. Respir. Crit. 2022;206(11):1317-1325.
2023 GOLD Reports. Global Initiative for Chronic Obstructive Lung Disease. Accessed February 7, 2023. <https://goldcopd.org/2023-gold-report-2/>

Assess Treatable Traits

Regular symptoms: dyspnea at rest or exertion, cough, sputum. Use COPD Assessment Test (CAT) or mMRC Breathlessness Scale to follow course of disease.

Exacerbations: in COPD, an event characterized by dyspnea and/or cough and sputum that worsens over ≤14 days; two or more in the past year, especially if FEV₁<50% predicted suggests high risk.

Oxygenation: severe hypoxemia: resting O₂ sat ≤ 88% or arterial pO₂<55 mmHg
episodic hypoxemia: exercise or nocturnal desaturation.

Emphysema: reduced density on CT scan, can be localized, abnormal high lung volumes, abnormal low diffusion capacity.

Chronic bronchitis: cough, sputum most days for at least 3 months in at least 2 years.

COPD with features of asthma: role of ICS/LABA (otherwise not indicated in COPD).

Comorbidities: defining and treating comorbid conditions, particularly cardiovascular, anxiety and depression, are critical components of COPD care.

Alpha-1 Antitrypsin Deficiency (Genetic COPD): consider referral for replacement therapy.

- Adverse effects of treatment may require treatment modification: LABA-Anxiety, tremor, palpitations, hypokalemia; LAMA-Dry mouth, obstructive uropathy, narrow-angle glaucoma; ICS-Voice changes, thrush, pneumonias.
- The higher the CAT score, the greater the exacerbation risk.
- COPD patients with FEV₁<60% should have O₂ saturation assessed.
 - a. Resting O₂ sats ≤ 88% merit assessment for Oxygen therapy.
 - b. COPD patients with O₂ sats ≤ 88% should have arterial blood gas tested and if significant hypercapnea consider for sleep study and potential noninvasive ventilation.
- COPD patients with FEV₁ ≤ 45% persistently symptomatic despite maximal medical regimen should undergo evaluation for lung volume reduction—bronchoscopic or surgical—and potential evaluation for lung transplantation.
- Annual low-dose CT scan for lung cancer screening-ages 50-80 years with 20 packyears and cigarette smoking in last 15 years.

Drug	Inhaler (mcg)	Solution for nebulizer (mg)	Oral (Pill)	Typical Dosing
Beta 2 Agonists - Short Acting (SABA)				
Albuterol	90 (MDI)	0.63/3 ml 1.25/3 ml 2.5/3 ml		q4-6 hrs
Levalbuterol	45 (MDI)	0.63/3 ml 1.25/3 ml		q4-6 hrs
Beta 2 Agonists - Long Acting (LABA)				
Salmeterol	50 (DPI)			1 puff BID
Arformoterol		15 mcg/2ml		BID
Formoterol Fumarate		20 mcg/2ml		BID
Olodaterol	5 (SMI)			2 puffs daily
Anticholinergics - Short-Acting (SAMA)				
Ipratropium Bromide	17 (MDI)	0.5/2ml		q4-6 hrs
Anticholinergics - Long-Acting (LAMA)				
Tiotropium	18 (DPI)			2 puffs daily (1 capsule)
Tiotropium	5 (SMI)			2 puffs daily
Acclidinium Bromide	400 (DPI)			1 puff BID
Umeclidinum	62.5 (DPI)			1 puff daily
Glycopyrrolate		25 mcg/1ml		BID
Revefenacin		175 mcg/3ml		daily
Long-Acting Anticholinergic plus Long-Acting B2-Agonist (LAMA/LABA)				
Umeclidinium / Vilanterol	62.5/25 (DPI)			1 puff daily
Tiotropium / Olodaterol	5/5 (SMI)			2 puffs daily
Glycopyrrolate / Formoterol Fumarate	18/9.6 (MDI)			2 puffs BID
Acclidinium Bromide/ Formoterol Fumarte	400/12 (DPI)			1 puff BID
Short-Acting Anticholinergic plus B2-Agonist (SAMA/SABA)				
Ipratropium Bromide / Albuterol	20/100 (SMI)	0.5/2.5/3 ml		q4-6 hrs
Mucolytics/Expectorants				
NAC			600 mg	BID
Guaifenesin			600-1200mg	BID
Methylxanthines				
Theophylline (SR)			100-600 mg	daily

Drug	Inhaler (mcg)	Solution for nebulizer (mg)	Oral (Pill)	Typical Dosing
Inhaled Glucocorticosteroids (ICS)				
Beclomethasone Dipropionate*	40, 80 (MDI)			2 puffs BID
Budesonide*	90, 180 (DPI)	0.25/2 ml 0.5/2 ml		BID
Fluticasone Propionate*	44-220 (MDI) 100, 250 (DPI)			2 puffs BID
Fluticasone Furoate*	100, 200 (DPI)			1 puff daily
Mometasone*	220 (DPI) 100/200 (MDI)			1-2 puffs BID 2 puffs BID
Ciclesonide*	80, 160 (MDI)			1-2 puffs BID
Inhaled Glucocorticosteroid plus Long-Acting B2-Agonists (ICS/LABA)				
Budesonide / Formoterol	80/4.5* 160/4.5 (MDI)			2 puffs BID 2 puffs BID
Fluticasone / Salmeterol	100/50* 250/50 500/50* (DPI)			1 puff BID 1 puff BID 1 puff BID
Fluticasone / Salmeterol MDI*	45/21 115/21 230/21			2 puffs BID 2 puffs BID 2 puffs BID
Fluticasone / Salmeterol*	113/14 (DPI)			1 puff BID
Mometasone Furoate / Formoterol Fumarate Dihydrate*	100/5 200/5 (MDI)			2 puffs BID
Fluticasone Furoate / Vilanterol	100/25 (DPI) 200/25* (DPI)			1 puff daily 1 puff daily
Fluticasone Propionate/ Salmeterol	250/50 (DPI)			1 puff BID
Inhaled Glucocorticosteroid plus Long-Acting Anticholinergic plus Long Acting B2-Agonist (ICS/LAMA/LABA)				
Fluticasone /Umeclidinium/ Vilanterol	100/62.5/25 (DPI)			1 puff daily
Budesonide/Glycopyrrolate/ Formoterol Fumarate	160/9/4.8 (MDI)			2 puffs BID
Phosphodiesterase 4 (PDE4) Inhibitor				
Roflumilast			250 mcg 500 mcg	daily

*FDA only approved for Asthma

MDI: Metered Dose Inhaler DPI: Dry Powder Inhaler SMI: Soft Mist Inhaler

CAT=COPD Assessment Test; mMRC=Dyspnea assessment test; LAMA=Long-acting muscarinic antagonist; LABA=Long-acting beta-2 agonist; ICS=Inhaled corticosteroid; NTM=Nontuberculous mycobacterial