Practice Guidelines

Treatment of Chronic Obstructive Pulmonary Disease: Guidelines from the VA/DoD

Key Points for Practice

- For stable COPD, LAMAs are the most effective monotherapy.
- For continued symptoms despite LAMA monotherapy, consider adding a LABA, followed by an ICS.
- In COPD exacerbations, adding antibiotics to oral corticosteroids reduces treatment failure but does not reduce repeat exacerbations or mortality.
- Supplemental oxygen is only beneficial for patients with severe resting hypoxemia.

From the *AFP* Editors

Chronic obstructive pulmonary disease (COPD) is a devastating disease affecting more than 16 million Americans, and the third leading cause of death globally. Mortality from COPD has increased over the past 50 years, and mortality in women has surpassed that in men. The U.S. Department of Veterans Affairs and U.S. Department of Defense (VA/DoD) published guidelines for the primary care management of COPD.

Diagnosis

Treatment for COPD can be started based on symptoms. Spirometry can be used later for confirmation of the diagnosis.

Stable COPD Treatment

Long-acting bronchodilators are the primary maintenance therapy for stable COPD because they decrease dyspnea and exacerbations while improving quality of life. Long-acting muscarinic antagonists (LAMAs) reduce exacerbations and hospitalizations more than long-acting beta agonists (LABAs), with fewer adverse events, and are the most effective monotherapy. No LAMA formulation appears to be more effective than any other. Monotherapy with an inhaled corticosteroid (ICS) is less effective than either LABA or LAMA monotherapy and increases the risk of candidiasis, hoarseness, and pneumonia.

With continued symptoms despite treatment with a LAMA, consider adding a second medication. This is an individual decision due to a lack of criteria for adding medications. Individuals on LAMA monotherapy with continued symptoms may benefit from adding a LABA without increased harms, although improvements may not be clinically significant. In contrast, ICS/LABA combination therapy is less effective than LAMA monotherapy and increases the risk of pneumonia with a number needed to harm of 50 over one year.

Adding an ICS to LABA/LAMA combination therapy further reduces exacerbations, with a number needed to treat of 38, but increases pneumonia risk with an number needed to harm of 195. After two years of triple therapy without exacerbations, consider withdrawing the ICS if the peripheral eosinophil count is less than 300 cells per μL (0.30×10^9 per L).

Treating Exacerbations

Oral corticosteroids are standard for treating COPD exacerbations, but the benefit of antibiotic therapy is less clear. Although antibiotic therapy reduces treatment failure during the exacerbation, there is no improvement in mortality or reduction of repeat exacerbations. Antibiotic treatment increases the risks of diarrhea and antimicrobial resistance. Using C-reactive protein to guide antibiotic therapy does not improve outcomes.

Coverage of guidelines from other organizations does not imply endorsement by *AFP* or the AAFP.

This series is coordinated by Michael J. Arnold, MD, contributing editor.

A collection of Practice Guidelines published in *AFP* is available at https://www.aafp.org/afp/practguide.

CME **This clinical content** conforms to AAFP criteria for CME. See CME Quiz on page 20.

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Supplemental Oxygen

Supplemental oxygen reduces mortality in patients with chronic stable resting severe hypoxemia, which is defined as an oxygen saturation of 88% or less or partial pressure of oxygen (Pao_2) less than 55 mm Hg. Although effects of supplemental oxygen are less clear in moderate hypoxemia, defined as an oxygen saturation of 89% to 90% or Pao_2 between 56 and 59 mm Hg, supplemental oxygen is recommended if signs of hypoxia such as polycythemia, pulmonary hypertension, or cor pulmonale are present. Supplementary oxygen does not appear to be effective for hypoxemia that only occurs with exertion.

Editors Note: Dr. Buelt is a member of the 2021 VA/DoD Management of COPD Guideline Working Group.

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Guideline source: Department of Veterans Affairs and Department of Defense

Evidence rating system used? Yes

Systematic literature search described? Yes

Guideline developed by participants without relevant financial ties to industry? Yes

Recommendations based on patient-oriented outcomes? Yes

Available at: https://www.healthquality.va.gov/guidelines/CD/copd/

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