WHAT YOU SHOULD KNOW ABOUT CHRONIC OBSTRUCTIVE PULMONARY DISEASE

What is COPD?

- Chronic obstructive pulmonary disease (COPD) damages the lungs and the tubes that carry air from the nose and mouth to the lungs.
- COPD makes you cough and bring up mucus. It makes it hard to breathe and do the things you want to do.

How can you prevent COPD?

- Cigarette smoke is the most common cause of COPD. Stopping smoking can keep you from getting COPD.
- If you already have COPD, stopping smoking can keep it from getting worse.

How is COPD treated?

- Some people with COPD need medicines to open the airways. Most medicines are given by inhalers that deliver the medicine to the lungs in spray form.
- Sometimes antibiotics are needed to fight infections that make COPD worse.
- It is important to exercise and keep active.
- Some people need extra oxygen when COPD keeps them from getting enough.

How to Use an Inhaler

1. Take off the cap and shake the inhaler hard.
2. Breathe out all the way.
3. Hold the inhaler about 2 fingerwidths from your mouth.
4. Start to breath in slowly through your mouth as you press down on the inhaler once and keep breathing in slowly until you can't breathe in any more.
5. Hold your breath and count to 10 slowly.
6. Repeat steps 1 to 5 if your doctor has prescribed more than 1 puff of medicine, wait about 1 minute between puffs.

Web Sites with Good Information about COPD

MedlinePLUS
www.nlm.nih.gov/medlineplus/copdchronicobstructivepulmonarydisease.html#cat1

American Lung Association
www.lungusa.org/site/pp.asp?c=dvLUK900E&b=23050

International COPD Coalition
www.internationalcopd.org/materials/professionals/default.asp

CME Questions

MKSAP
MEDICAL KNOWLEDGE Self-Assessment Program

1. Which of the following surgeries pose the greatest risk to patients with advanced chronic obstructive pulmonary disease?

   A. Ophthalmologic procedures
   B. Upper extremity surgical procedures
   C. Upper abdominal and thoracic surgical procedures
   D. Urologic surgical procedures using local anesthesia
   E. Endoscopic sinus surgery

2. A 65-year-old man with severe COPD is evaluated for worsening shortness of breath and ankle swelling. He does not have excessive daytime sleepiness or loud snoring. He uses a long-acting β-agonist in combination with an inhaled corticosteroid on a regular basis.

   The patient's weight and vital signs are normal. There is neck vein distention at 30 degrees. Cardiac examination shows a regular rate and rhythm without murmur. The pulmonic closure sound is accentuated. An S_3 gallop was noted that varied with respiration. Examination of the lungs reveals faint wheezes bilaterally. The abdomen is nonobese without organomegaly. Examination of the legs and ankles reveals 1+ edema. Arterial blood gases with the patient breathing room air show pH 7.40, pO_2 65 mm Hg, and pCO_2 44 mm Hg. The hematocrit is 52%.

   Which of the following is the most appropriate next step in the management of this patient?

   A. Nocturnal mechanical ventilation
   B. Phlebotomy
   C. Nocturnal pulse oximetry
   D. Ipratropium bromide therapy

3. A 57-year-old man with advanced COPD and systemic hypertension is evaluated because of a 6-day history of productive cough and shortness of breath. He uses inhaled albuterol and ipratropium bromide, a long-acting theophylline preparation, and lisinopril. He uses supplemental oxygen at night and during ambulation. Ciprofloxacin is prescribed for an exacerbation of COPD.

   Three days later, having had nausea for 1 day, the man is brought to the emergency department after he is found nearly unconscious. Arterial oxygen saturation is 89%, with the patient breathing room air. Electrocardiogram shows normal sinus rhythm with nonspecific ST-T changes in the lateral chest leads.

   Which of the following is likely to have interacted with ciprofloxacin and caused the symptoms that brought the man to the emergency department?

   A. Albuterol
   B. Theophylline
   C. Ipratropium bromide
   D. Lisinopril
   E. Oxygen

4. A 59-year-old man with advanced COPD is evaluated because of a daily cough productive of white or yellow sputum, dyspnea after climbing 1 flight of stairs, and a recent 4.5-kg (10-lb) weight loss with no associated change in appetite or food intake. The patient stopped smoking 4 years ago.

   On physical examination, he has diminished breath sounds throughout all lung fields. Arterial oxygen saturation measured by pulse oximetry with the patient at rest, breathing room air, is 87%. Chest radiograph suggests hyperinflation of the lungs but shows no pulmonary infiltrates or abnormalities of the cardiac silhouette. Pulmonary function studies show a FEV_1 of 39% predicted and FVC of 78% predicted.

   Which of the following may prolong life in this patient?

   A. Albuterol
   B. Ipratropium bromide
   C. Theophylline
   D. Supplemental oxygen

5. A 68-year-old man with severe COPD (FEV_1, 32% predicted) is evaluated because of severe dyspnea and the inability to carry out his activities of daily living. He is on maximal bronchodilator and oxygen therapy.

   Which of the following might pulmonary rehabilitation improve?

   A. Exercise tolerance
   B. FEV_1
   C. Oxygenation
   D. Survival

6. A 62-year-old woman with emphysema is evaluated during a routine visit. She has chronic dyspnea on exertion, but has no cough or sputum production. She uses supplemental oxygen, 2 L/min. She uses albuterol and ipratropium 4 times per day, and salmeterol and theophylline 2 times per day. She is enrolled in a pulmonary rehabilitation program and is concerned about "catching a cold" from other members of the program.

   What is the best advice for this patient?

   A. Discontinue the rehabilitation program
   B. Obtain pneumococcal and annual influenza vaccination
   C. Take prophylactic ciprofloxacin
   D. Wear a surgical mask

Questions are largely from the ACP's Medical Knowledge Self-Assessment Program (MKSAP). Go to www.annals.org/intheclinic/ to obtain up to 1.5 CME credits, to view explanations for correct answers, or to purchase the complete MKSAP program.