Addressing COPD Education
for the Health Care Professional
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Objectives

- Describe how COPD patients can reduce their risk factors.
- Describe the recognition and treatment of exacerbations.
- Describe the strategies for minimizing complications.

Current Statistics

- COPD is the only fatal illness in which the age-adjusted mortality rate is increasing, growing by 283% between 1979 and 2007.
- In 2008, the Centers for Disease Control and Prevention reported COPD became the third leading cause of death in the USA – 12 years earlier than predicted.
- COPD is the fourth leading cause of death in the world.
In 2000, the Institute of Medicine deemed COPD a priority disease for quality improvement efforts, due to our national health care burden. Health care utilization is ~ two to three times higher for patients with COPD. Resulting from hospitalizations, and 30-day readmissions. Until recently, ~ 25% of COPD patients discharged from the hospital would return within 30 days of discharge. Representing the highest readmission rates in the nation. In 2010, the total annual cost was ~ $49.9 billion, exceeding heart failure. Also in 2010, after decades of reactive care, the passage of the Patient Protection and Affordable Care Act (PPACA) stimulated substantive interest in approaching the management of COPD differently.

At the time of the original report (2001) improvement in both symptoms and health status was a GOLD treatment objective, but symptoms assessment did not have a direct relation to the choice of management, and health status measurement was a complex process largely confined to clinical studies. “In 2011, the Global Initiative for Chronic Obstructive Lung Disease (GOLD) released a consensus report recommending a major revision in the management strategy for COPD that was presented in the original 2001 document.” Updates in January 2013 and January 2014 are based on scientific literature published since the completion of the 2011 document. http://www.goldcopd.org/
International distinguished health professionals from multiple disciplines continue to work with National Leaders.

“To bring COPD to the attention of: governments, public health officials, health care workers, and the general public to raise awareness of the burden of COPD...

to develop programs for early detection, prevention and approaches to management.”

http://www.goldcopd.org/

The updates maintain the same treatment program.”

“The original strategy was the intuitive system for classifying COPD severity...based on FEV1...because it was believed, at the time, that the majority of patients followed a path of disease progression in which the severity of the disease tracked the severity of the airflow limitation.”

http://www.goldcopd.org/

“The GOLD Report is presented as a ‘strategy document’ for health care professionals to use as a tool to implement effective management programs based on available health care systems.”

“The strategy tool is designed to be used in any clinical setting.”

http://www.goldcopd.org/
Now, there are simple and reliable questionnaires designed for use in routine daily clinical practice...in many languages...

and have enabled a new assessment system to be developed that draws together a measure of the impact of the patient’s symptoms and an assessment of the patient’s risk of having a serious adverse health event in the future.

http://www.goldcopd.org/

Revisions to the GOLD Report

The treatment objectives are organized in two groups:

- "Relieving and reducing the impact of symptoms."
  (Short-term maintenance)

- "Reduce the risk of adverse health effects in the future, such as exacerbations of COPD."
  (Long-term maintenance)

http://www.goldcopd.org/

Definition of COPD

- "A common preventable and treatable disease..."

- Characterized by persistent airflow limitation that is usually progressive...

- Associated with an enhanced chronic inflammatory response in the airways and the lungs to noxious particles or gases."

- Exacerbations and comorbidities contribute to the overall severity in individual patients."

http://www.goldcopd.org/
COPD Key Points

- "COPD is a leading cause of morbidity and mortality worldwide and results in an economic and social burden that is both substantial and increasing."
- "Inhaled cigarette smoke and other noxious particles such as biomass fuels cause lung inflammation... And may induce parenchymal tissue destruction (resulting in emphysema - air trapping), and disrupt normal repair and defense mechanisms (resulting in small airway fibrosis - progressive airflow limitation)."
- http://www.goldcopd.org/

Diagnosis & Assessment

- "A clinical diagnosis of COPD in patients presenting with dyspnea, chronic cough or sputum production, and a history of exposure to risk factors for the disease."
- "Spirometry is required to make the diagnosis... the presence of a post-bronchodilator FEV1/FVC < 0.70 confirms the presence of persistent airflow limitation and thus COPD."
- The spirometric classification of airflow limitation is divided into four Grades (GOLD 1, Mild; Gold 2, Moderate; GOLD 3, Severe; GOLD 4, Very Severe)
- "Goals of assessment: determine severity, impact on the patient's health status, and risk of future events (exacerbations, hospital admissions, or death), in order to guide therapy."
- http://www.goldcopd.org/

"Did you switch to electronic cigarettes? Your lungs have turned blue and they glow in the dark."
COPD and Comorbidities

- COPD often coexists with other diseases (comorbidities) that may have a significant impact on prognosis.
  - In general, the presence of comorbidities should not alter COPD treatment and comorbidities should be treated as if the patient did not have COPD.
  - Cardiovascular disease is a major comorbidity in COPD and probably both the most frequent and most important disease coexisting with COPD.
  - Osteoporosis and depression are also major comorbidities in COPD, are often under-diagnosed, and are associated with poor health status and prognosis.
  - Lung cancer is frequently seen in patients with COPD and has been found to be a frequent cause of death in patients with mild COPD.

Therapeutic Options

- Pharmacotherapies for Smoking Cessation
- Pharmacologic Therapy for Stable COPD: Bronchodilators, Corticosteroids, Phosphodiesterase-4 Inhibitors, Other Pharmacologic Treatments
- Non-Pharmacologic Therapies, and Components of Pulmonary Rehabilitation Programs
- Other Treatments: Oxygen Therapy, Ventilatory Support, Surgical Treatments, Palliative Care, End-of-Life Care, Hospice Care.

Severe End Stage COPD

Scenario: Patient wants acute aggressive care, and presents with impending respiratory failure.

- Consider intubation prior to transporting to the ICU, because of potential neurological worsening.
- Indications for intubation:
  - Impaired airway protection.
  - Dysphagia – high risk for aspiration.
  - Sign of brain stem dysfunction.
  - Hypoxia – PaO2 < 60mmhg on arterial blood gas analysis.
  - Hypercarbia – PaCO2 > 50mmhg on arterial blood gas analysis.
  - Indications for intubation:
    - In patients with documented chronic CO2 retention, and require mechanical ventilation:
      - Maintain the pH > 7.36 on arterial blood gas analysis.
      - The goal is to normalize the pH and not the PaCO2.
      - If you normalize PaCO2 to 40 torr, the outcome will be a pH > 7.50
Factors to Consider in Advance Care Planning

+ Quality of life, prior to an intervention.
+ The intervention – prognosis, costs, and burden.
+ Quality of life, after the intervention.
+ Common patient considerations: family burden, costs, maintaining dignity, responsibilities, prefer others make the decisions, and concerns about how death occurs versus death itself.

Management of Stable COPD

- Monitoring And Follow-Up
- Monitor Disease Progression and Development of Complications
- Monitor Pharmacotherapy and Other Medical Treatment
- Monitor Exacerbation History
- Monitor Comorbidities
- Surgery in the COPD Patient

- http://www.goldcopd.org/

Prevention of COPD Exacerbations

All therapies that reduce the number of exacerbations and hospitalizations:

+ Smoking cessation.
+ Influenza and pneumococcal vaccines.
+ Knowledge of current therapy including inhaler technique.
+ Treatment with long-acting inhaled bronchodilators, with or without inhaled corticosteroids.
+ Possibly phosphodiesterase-4 inhibitors.
+ http://www.goldcopd.org/
Population Health Management (PHM)

- PHM programs are emerging in response to the challenges.
- PHM programs document measurable improvements in patient quality of life.
- PHM programs illustrate measurable value of utilizing pulmonary rehabilitation, education, and action plans for the COPD population.
- Metrics include, but are not limited to:
  - Reduced hospitalizations.
  - Reduced 30-day readmissions.
  - Reduced total time spent in the hospital, from eight days for severe COPD patients.

Comprehensive Respiratory Outcome Management

- Patients, after discharge from the hospital, are partnered with Respiratory Therapists, who are:
  - Performing thorough clinical assessments.
  - Measuring each patient’s level of readiness for engagement in the self-management of their COPD.
  - Customizing and implementing patient care plans that address each patient’s unique therapy, education, social and rehabilitation needs, and tobacco status.
The Current Approach

Topics for Education

- For all patients:
  - Information and advice about reducing risk factors.

- Stage I: Mild COPD through Stage III: Severe COPD
  - Above topics, plus:
    - Information about the nature of COPD
    - Instruction on how to use inhalers and other treatments
    - Recognition and treatment of exacerbations
    - Strategies for minimizing dyspnea.

- Stage IV: Very Severe COPD
  - Above topics, plus:
    - Information about complications
    - Information about oxygen treatment
    - Advance directives and end-of-life decisions

Respiratory Care Scope of Practice

- “The American Association for Respiratory Care’s scope of practice states that Respiratory Therapists are health care professionals whose responsibilities include the diagnostic evaluation, management, education, rehabilitation, and care of patients.”

- “The respiratory care community is positioned to make a significant contribution.”

  - Thomas J. Kallstrom, MBA, RRT, FAARC, Executive Director and CEO
  - American Association for Respiratory Care
  - AARC Times, December 2013

References


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- Kenneth Rosenfeld, MD, Associate Clinical Professor of Medicine, Director, Veterans Integrated Palliative Program. Geriatric Research, Education and Clinical Center (GRECC), VA Greater Los Angeles Healthcare System, West Los Angeles.