Putting COPD Guidelines into Practice for MNACVPR

by
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• I have no financial conflict of interest that relates to this presentation. Any use of brand names is not in any way meant to be an endorsement of a specific product, but to merely illustrate a point of emphasis.

• I am an employee of the COPD Foundation. The COPD Pocket Consultant Guide lists all medications commonly used to treat COPD, including off-label use medications, which are clearly marked. I will not be describing meds.
OBJECTIVES

1. Discuss current literature and research that warrants the need to change COPD guidelines

2. Describe new features of the GOLD Guidelines and the COPD Foundation Guide to Diagnosis and Treatment

3. Introduce the seven severity domains and implications for treatment

4. Identify how these changes will impact future research, diagnosis and treatment recommendations
NHLBI DEFINITION

- **Chronic Obstructive Pulmonary Disease**
- Serious lung disease that over time makes it hard to breathe
  - Emphysema
  - Chronic Bronchitis
- Blocked (obstructed) airways make it hard to get air in and out
• **Chronic Obstructive Pulmonary Disease**

• Serious lung disease that over time makes it hard to breathe
  • Emphysema
  • Chronic Bronchitis
  • Refractory Asthma and
  • Some forms of bronchiectasis

• Blocked (obstructed) airways make it hard to get air in and out
COPD, a common preventable and treatable disease, is characterized by persistent airflow limitation that is usually progressive and associated with an enhanced chronic inflammatory response in the airways and the lung to noxious particles or gases.

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

Alpha-1 testing for young and/or low tobacco use or environmental exposures
Chronic Obstructive Pulmonary Disease (COPD) is a preventable and treatable disease state characterised by airflow limitation that is not fully reversible.

The airflow limitation is usually progressive and associated with an abnormal inflammatory response of the lungs to noxious particles or gases, primarily caused by cigarette smoking.

Alpha-1 testing for all with diagnosed COPD
Recommendation 1. Use spirometry to diagnose airflow obstruction in patients with respiratory symptoms
  • Spirometry – Strong recommendation, moderate evidence

Recommendation 2. COPD w/symptoms and FEV1 60%-80%
  • BD use – weak recommendation, low evidence

Recommendation 3. COPD w/symptoms and FEV1 <60%
  • BD use – strong recommendation, moderate evidence

Recommendation 4. COPD w/symptoms and FEV1 <60%
  • Mono LAMA or LABA – strong recommendation, moderate evidence
Recommendation 5*. COPD w/symptoms and FEV1 <60%
  • Combo LAMA or LABA or ICS – weak recommendation, moderate evidence

Recommendation 6. COPD w/symptoms and FEV1 <50%
  • Pulmonary Rehab – strong recommendation, moderate evidence

Recommendation 7. Prescribe continuous oxygen therapy for resting hypoxemia (PaO₂ ≤55 mm Hg or SpO₂≤88%)
  • Oxygen – Strong recommendation, moderate evidence
COPD: DEFINITIONS OF 21ST CENTURY

• Preventable and treatable
• Airflow limitation that is not fully reversible
• Progressive disease
• Abnormal inflammatory response of the lungs
• Subsets of patients

Chronic bronchitis
Emphysema


download manual: http://www.thoracic.org/sections/copd
How Your Lung Function Changes as You Age

- **Mild COPD**
  - 50 y/o
  - FEV1 65%p
  - Normal-Small vs. Abnormal
  - Faster decrease in lung function with COPD because of flare-ups

- **Early COPD**
  - 55 y/o
  - FEV1 40%p

- **Inactive Disease**
  - 40-80ml/yr

- **Active Disease**
  - 10-15ml/yr

- **Non-smoker**
  - 15-25ml/yr

4L, 3L, 2L, 1L

Lung Function (% Predicted)

Lung Function (Forced Expiratory Volume in one second)

Age (Years)

FEV1: Forced Expiratory Volume in 1 second


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# GOLD TREATMENT OF COPD

<table>
<thead>
<tr>
<th>FEV₁ / FVC &lt; 70%</th>
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| **I: Mild**  
FEV₁ ≥80% pred  
FEV₁ 50-80% pred | **II: Moderate**  
FEV₁ 50-80% pred | **III: Severe**  
FEV₁ 30-50% pred | **IV: Very Severe**  
FEV₁ < 30% pred or FEV₁ <50% predicted plus respiratory failure |

**Active Reduction of risk factor(s); influenza vaccination**

**Add** short-acting bronchodilator when needed

- Add regular treatment with one or more long-acting bronchodilators: β₂ agonists and anticholinergics
- Add rehabilitation

**Add ICS for repeated exacerbations**

**Add LTOT**

**Surgical interventions**

COPD ASSESSMENT: A NEW MODEL

GOLD classification of airflow limitation

Increasing Risk

mMRC < 2
CAT < 10

mMRC ≥ 2
CAT ≥ 10

Increasing Symptoms

Increasing Risk

Exacerbation history

0 1 2 or more
SEVERITY DOMAIN: SPIROMETRY GRADES

Spirometry Grades:

**SG 0** Normal spirometry does not rule out emphysema, chronic bronchitis, asthma, or risk of developing either exacerbations or COPD.

**SG 1** Mild: Post bronchodilator $\text{FEV}_1/\text{FVC}$ ratio $<0.7$, $\text{FEV}_1 \geq 60\%$ predicted.

**SG 2** Moderate: Post bronchodilator $\text{FEV}_1/\text{FVC}$ ratio $<0.7$, $30\% \leq \text{FEV}_1 < 60\%$ predicted.

**SG 3** Severe: Post bronchodilator $\text{FEV}_1/\text{FVC}$ ratio $<0.7$, $\text{FEV}_1 < 30\%$ predicted. This is consistent with restriction, muscle weakness, and other pathologies.

**SG U** Undefined: $\text{FEV}_1/\text{FVC}$ ratio $\geq 0.7$, $\text{FEV}_1 < 80\%$ predicted.
All patients should receive:
Smoking cessation; vaccination for influenza, pneumococcus, pertussis, alpha-1 testing

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• Best application
• 4x6, 6 panel
• Limit 1000 / pdf
• UOM: PKG/50
• Easy to use guide for diagnosis and treatment
• Generic Name
• Trade Name
• 2 panel
• Smart-phone app
• Online Community
GUIDE TO DIAGNOSIS
COPD DEFINITION

• Defined by post bronchodilator FEV1/FVC ratio<0.7 on spirometry

• This helps differentiate from asthma

• A significant bronchodilator response (increase in FEV1>12% and >200 cc) can be seen in both COPD and asthma
GUIDE TO DIAGNOSIS: SPIROMETRY

- Indicated if symptoms present: dyspnea, chronic cough/sputum

- Should be considered if:
  - Risk factors are present - smoking, other exposures, asthma history, childhood infections, prematurity, family history
  - AND with one or more comorbidities present - heart disease, metabolic syndrome, osteoporosis, depression, lung cancer, premature skin wrinkling
**Guide to COPD Treatment**

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* Evaluate and treat identified comorbid conditions
A CAT score 10 or more suggests significant symptoms.

A change in CAT score of 2 or more suggests a possible change in health status.

A worsening of CAT score could be explained by an exacerbation, poor medication adherence, poor inhaler technique, or progression of COPD or comorbid condition. An adjustment in therapy may be needed.
## MMRC BREATHLESSNESS SCALE

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description of Breathlessness</th>
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<tbody>
<tr>
<td>0</td>
<td>I only get breathless with strenuous exercise</td>
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<tr>
<td>1</td>
<td>I get short of breath when hurrying on level ground or walking up a slight hill</td>
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<tr>
<td>2</td>
<td>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</td>
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<tr>
<td>3</td>
<td>I stop for breath after walking about 100 yards or after a few minutes on level ground</td>
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<tr>
<td>4</td>
<td>I am too breathless to leave the house or I am breathless when dressing</td>
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By permission of Oxford University Press on behalf of the Society of Occupational Medicine.
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SEVERITY DOMAIN: 3. EXACERBATIONS

- High Risk for ???:
  - Two or more exacerbations in past year
  - Especially if FEV1<50% predicted

- Tease out exacerbation history
  - Mild – Increased rescue inhaler
  - Moderate – antibiotic or steroid added
  - Severe – hospital admission (2 points)
**Guide to COPD Treatment**

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Evaluate and treat identified comorbid conditions.
EMPHYSEMA

Guide to COPD Treatment

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Comorbidities
- Evaluate and treat identified comorbid conditions.
CHRONIC BRONCHITIS

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Comorbidities

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Evaluate and treat identified comorbid conditions.
Comorbidities are extremely common in COPD and impact morbidity, hospitalization and re-hospitalization rates and mortality.

Evidence suggests that COPD may be an independent risk factor for the development of cardiovascular disease, lung cancer, depression, osteoporosis.

Defining and treating comorbid conditions, particularly cardiovascular, are critical components of COPD care and should be evaluated in every patient at every visit.
FREE IPHONE APP NOW AVAILABLE!

Includes:
- 7 Severity Domains
- Spirometry Grades Chart
- COPD Assessment Test (CAT)
- Breathlessness Scale (mMRC)
- Therapy Chart
- COPD Medications
- Spirometry Results
- And Much More

http://www.copdfoundation.org/Learn-More/For-Medical-Professionals/Treatment.aspx
1. Acute Care vs. Maintenance Therapy
2. Other Considerations – cessation, vaccines, exercise, alpha-1 testing
3. Evaluate all 7 severity domains
   • Document and monitor: spirometry, symptoms, exacerbations, rehab

• Your job is to coordinate care for the missing pieces!
• PR Coordinators know best and can be integral members of the acute care team
TOOLS - THE SSRG SERIES

- Coping with Chronic Lung Disease
- End of Life
- Exacerbations
- Exercise
- Hospital & Transition Back Home
- Lung Disease Tests
- Medicines
- Nutrition Tips
- Oxygen Therapy
- Travelling with COPD
- Understanding Lung Disease

Tips for Healthy Living with COPD
- Avoid people who are sick
- Avoid unnecessary hand shaking
- Avoid touching your face when in public
- Wash your hands often
- Use alcohol hand gel when you cannot wash your hands
- Avoid going outside on windy days. If you have to go out, wear a mask.
- Use your own pen at the bank, doctor's office, etc.
- Use coughing techniques to keep your airways clear of mucus
- Use pursed-lip breathing techniques during activity
- Monitor your health status with a COPD Assessment Test (CAT)
- Develop a COPD Action Plan with your doctor

Make sure your friends and family members are aware of these early warning signs.

Report Warning Signs of Exacerbations
Notify your health care provider of these early warning signs:
1. Low grade fever that doesn't go away
2. Increased use of rescue medications
3. Change in color, thickness, odor or amount of mucus
4. Tiredness that lasts more than one day
5. New or increased ankle swelling
Call 911 for dangerous warning signs:
1. Disorientation, confusion or slurring of speech
2. Severe shortness of breath or chest pain
3. Blue color in lips or fingers
Optimal Care for COPD
1. If you smoke, quit.
2. Get a flu shot every year and a pneumonia shot as required.
3. Keep up regular exercise.
4. Eat right to maintain a healthy weight.
5. Use proper breathing techniques.
6. Watch for early warning signs of lung infection and exacerbation.
7. Take medications as prescribed. Some medications are proven to help people with COPD have fewer exacerbations.
8. Use supplemental oxygen as prescribed.
9. See your doctor regularly, even when you feel well.
10. Communicate with loved ones about COPD and ask for help when you need it.
12. Discuss end-of-life care and write it down.

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My Name: __________________________ DOB: __________________________ Allergies: __________________________
Physician Name: __________________________ Phone: __________________________
Lung Specialist Name: __________________________ Phone: __________________________
Emergency Contact Name: __________________________ Phone: __________________________
• How to avoid infections and report early warning signs of COPD exacerbation.

• Pursed-lips breathing is illustrated along with easy-to-perform steps.

• Medications section describes the differences between rescue inhalers and controller inhalers with simple to understand analogies.

• A section on inhaled medications covers the potential benefits and drawbacks of using nebulizers and hand held inhalers.

• Quick Reference Medication List. This includes all the medications commonly used for treatment of COPD.
COPD EDUCATOR PROGRAM

• Live course at your institution

• Learn best practices for COPD dx & tx

• Custom courses for your needs

• 8 hour full CEU and CME
READMISSION SUMMIT

• Watch archives

• Learn about current best practice models

• See innovators for COPD care delivery models

• See experts for COPD transitions of care programs
ONLINE ORDERS
HTTP://COPD.OIONDEMAND.COM

INSTITUTIONAL PACK

The COPD Pocket Consultant Guide Institutional Pack includes:
- Published manuscript on COPD Foundation Guidelines
- PowerPoint Presentation for Grand Rounds presentation
- Dissemination Plan for your institution
- Flyer for mobile app download and website blog

ONLINE CATALOGUE

In our online catalogue you'll find attractive, up-to-date and easy to understand educational materials including the Big Fat Reference Guide (BF RG), the most comprehensive educational tool available for persons with COPD and much more. All materials are free of charge.

You only pay for shipping to your location!

Please visit our online catalogue at: http://copedemand.com

You will need to register as a REGISTRANT for healthcare professionals or as a PEP Coordinator for PRC centers that are formally enrolled in the PEP program.

FOR ADDITIONAL INFORMATION PLEASE VISIT OUR WEBSITE AT
WWW.COPDFOUNDATION.ORG, CALL US AT 1-866-316-COPD (2673),
OR PLACE AN ONLINE ORDER AT COPD.OIONDEMAND.COM/

Register
your Guide at:
http://www.copdfoundation.org/
PocketGuideRegistration.aspx
Empowering Patients through Research

“You might have lost your breath, but you haven’t lost your voice”
YOU CAN HELP!

- Request postcards to share at support groups, clinics, respirator care departments, etc

- Posters and paper surveys available for some locations.

- www.copdpprn.org
SUMMARY

• Implications for treatment of COPD requires consideration for seven severity domains.

• COPD Foundation’s Pocket Consultant Guide is a tool derived from existing guidelines that is simple, convenient and portable.

• PR Coordinators should be part of the acute care discharge planning process. Use PCG to coordinate spirometry, symptom and exacerbation assessment and determine appropriate Maintenance Therapy.

• Other COPDF tools and programs are available to support your projects

• All COPD patients should join the COPD PPRN

scerreta@copdfoundation.org