The background of the slide features a repeating pattern of light green hexagons on a darker green gradient. A white rectangular box is positioned on the right side of the slide, containing the title text. The text is in a bold, green, sans-serif font. A solid green horizontal line is located at the bottom of the white box.

**COPD Education for  
Clinic RNs and MA's  
6/28/18**

# Objectives

- Define Chronic Obstructive Disease (COPD)
- Diagnosis of COPD
- Review recommended therapies for COPD.
- Teach-Back
- OSA and it's impact.

**I want to interact with you...** Please type in your questions and/or comments on the chat feature.



What was the top 8 leading causes of death in the US in 2016?



# Leading causes of death in the US in 2016:

- Heart disease: 633,842.
- Cancer: 595,930.
- Chronic lower respiratory diseases: 155,041.
- (#3-4 debatable)
- Accidents (unintentional injuries): 146,571.
- Stroke (cerebrovascular diseases): 140,323.
- Alzheimer's disease: 110,561.
- Diabetes: 79,535.
- Influenza and Pneumonia: 57,062.
- <https://www.cdc.gov/nchs/fastats/deaths.htm>

# Definition of COPD

- Chronic obstructive pulmonary disease (COPD) is a chronic inflammatory lung disease that causes obstructed airflow from the lungs. Symptoms include breathing difficulty, cough, mucus (sputum) production and wheezing. It's caused by long-term exposure to irritating gases or particulate matter, most often from cigarette

smoke. 1998-2018 Mayo Foundation for Medical Education and Research (MFMER). All rights reserved.

# What Disease states are classified as COPD?

- Chronic Bronchitis
  - Bronchiectasis
  - Cystic Fibrosis
  - Emphysema
- \*\*\*\*COPD is NOT reversible\*\*\*\*

# Diagnosis



# Diagnosis of COPD

- Symptoms:
- Dyspnea, Chronic Cough, Chronic Sputum production, history of exposure, family history of COPD
- **Spirometry** is required for diagnosis of COPD

*GOLD 2015*

# Classification of Airway Limitation

## In patients with FEV<sub>1</sub>/FVC < 0.70

COPD Stage	FEV <sub>1</sub> *	Exacerbations /yr	Hospitalizations/yr	3-yr mortality
GOLD 1, Mild	≥ 80%	Unknown	Unknown	Unknown
GOLD 2, Moderate	50-79%	0.7-0.9	0.11-0.2	11%
GOLD 3, Severe	30-50%	1.1-1.3	0.25-0.3	15%
GOLD 4, Very Severe	< 30%	1.2-2.0	0.4-0.54	24%

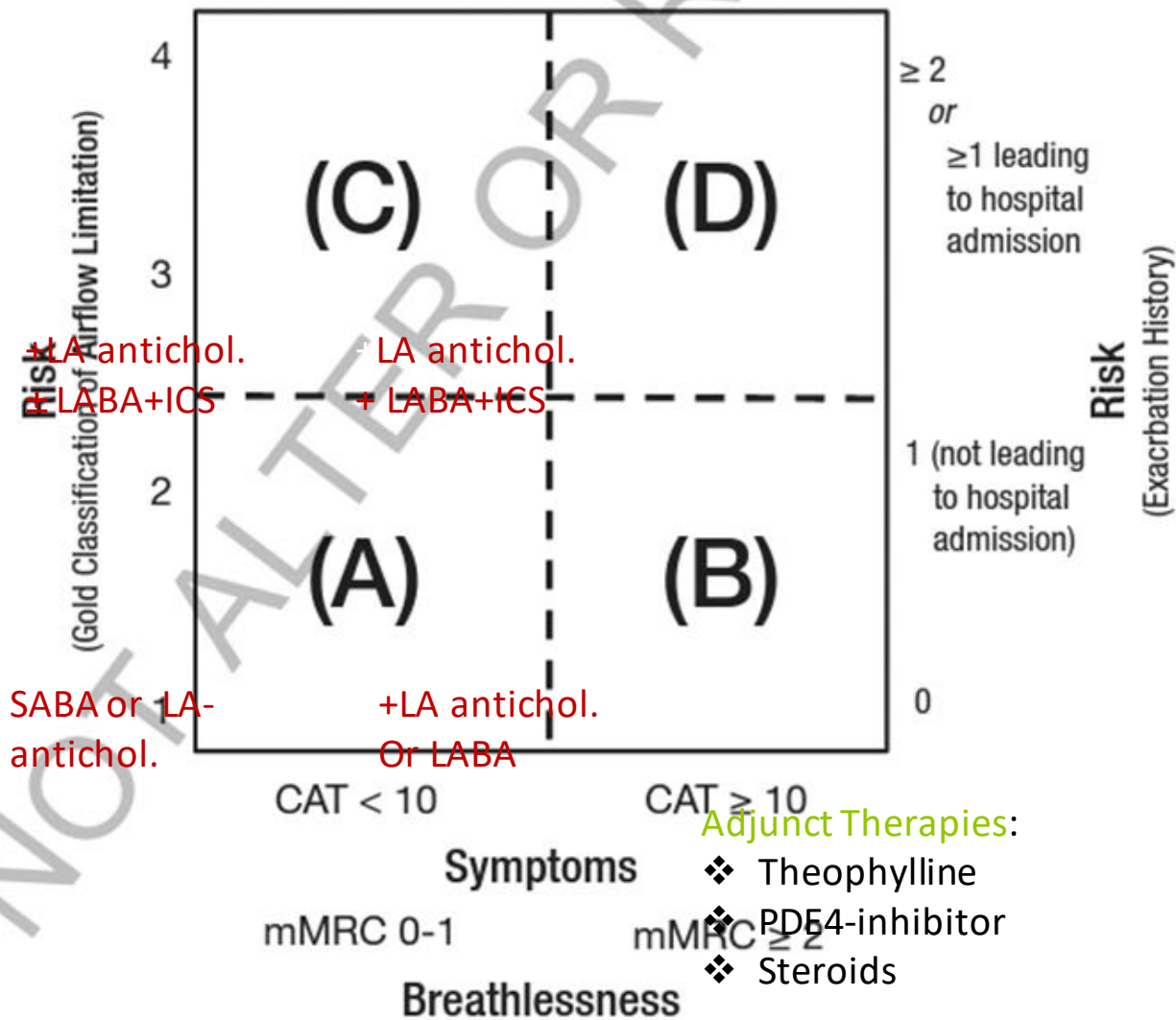
**Post bronchodilator measurement**

Global Initiative for Chronic  
Obstructive Lung Disease.  
Accessed 2 Apr 2015.



# Treatment for COPD

**Figure 2.3. Assessment Using Symptoms, Breathlessness, Spirometric Classification and Risk of Exacerbations**



## Non-pharmacologic Interventions

COPD Assessment	Essential	Recommended
Group A	Smoking Cessation ±pharmacologic assistance	Physical Activity Yearly Influenza
Group B - D	Smoking Cessation ±pharmacologic assistance Pulmonary Rehab	Vaccine Pneumococcal Vaccine

Very Severe COPD therapy options:

- ❖ Oxygen therapy (>15 hours/day)
- ❖ Surgical Interventions

# COPD Medications

## Maintenance meds

- Long-acting beta<sub>2</sub>-agonists
  - ❖ LABA
- Long-acting anticholinergic
- Inhaled Corticosteroids
  - ❖ ICS
- Combo: LABA+ICS
- Methylxanthines (theophylline)
- Systemic Steroids
- PDE4-inhibitor (roflumilast)

# Rescue meds

As needed or “Rescue”

- Short-acting beta<sub>2</sub>-agonists
  - ❖ SABA
- Short-acting anticholinergic
- Combo: SABA + SA-Anticholinergic



# Respiratory Inhalers

## At a Glance 2016

Allergy & Asthma Network is a national nonprofit organization dedicated to ending needless death and suffering due to asthma, allergies and related conditions through outreach, education, advocacy and research.

Learn More at



AllergyAsthmaNetwork.org

800.878.4403

### Short-acting beta<sub>2</sub>-agonist bronchodilators

relax tight muscles in airways and offer quick relief of symptoms such as coughing, wheezing and shortness of breath for 3-6 hours

**ProAir<sup>®</sup> HFA**  
albuterol sulfate  
112B A



**ProAir<sup>®</sup> RespiClick**  
albuterol sulfate inhalation powder  
112B A



**Proventil<sup>®</sup> HFA**  
albuterol sulfate  
A



**Ventolin<sup>®</sup> HFA**  
albuterol sulfate  
112B A



**Xopenex<sup>®</sup> HFA**  
levalbuterol tartrate  
A



### Long-acting beta<sub>2</sub>-agonist bronchodilators

offer lasting relief of symptoms such as coughing, wheezing and shortness of breath for at least 12 hours

**Arcapta<sup>™</sup> Neohaler<sup>™</sup>**  
indacaterol inhalation powder  
C



**Serevent<sup>®</sup> Diskus<sup>®</sup>**  
salmeterol xinafoate inhalation powder  
112B A C



**Striverdi<sup>®</sup> Respimat<sup>®</sup>**  
olodaterol hydrochloride  
112B C



### Inhaled corticosteroids

reduce and prevent swelling of airway tissue; they do not relieve sudden symptoms of coughing, wheezing or shortness of breath

**Aerospan<sup>®</sup>**  
80 mcg flunisolide  
★ A



**Alvesco<sup>®</sup> HFA**  
80 mcg, 160 mcg ciclesonide  
112B A



**Arnuity<sup>®</sup> Ellipta<sup>®</sup>**  
100 mcg, 200 mcg fluticasone furoate inhalation powder  
112B A



**Asmanex<sup>®</sup> HFA**  
mometasone furoate  
112B A



**Asmanex<sup>®</sup> Twisthaler<sup>®</sup>**  
110 mcg, 220 mcg mometasone furoate inhalation powder  
112B A



**Flovent<sup>®</sup> Diskus<sup>®</sup>**  
50 mcg, 100 mcg, 250 mcg fluticasone propionate inhalation powder  
112B A



**Flovent<sup>®</sup> HFA**  
44 mcg, 110 mcg, 220 mcg fluticasone propionate  
112B A



**Pulmicort Flexhaler<sup>®</sup>**  
90 mcg, 180 mcg budesonide inhalation powder  
112B A



**QVAR<sup>®</sup> (HFA)**  
40 mcg, 80 mcg beclomethasone dipropionate  
112B A



### Combination medications

contain both inhaled corticosteroid and long-acting beta<sub>2</sub>-agonist (LABA)

**Advair Diskus<sup>®</sup>**  
100/50, 250/50, 500/50 fluticasone propionate and salmeterol inhalation powder  
112B A C



**Advair<sup>®</sup> HFA**  
45/21, 115/21, 230/21 fluticasone propionate and salmeterol xinafoate  
112B A



**Breo<sup>®</sup> Ellipta<sup>®</sup>**  
100/25 mcg, 200/25 mcg fluticasone furoate and vilanterol inhalation powder  
112B A C



**Dulera<sup>®</sup>**  
100/5, 200/5 mometasone furoate and formoterol fumarate dihydrate  
112B A



**Symbicort<sup>®</sup> (HFA)**  
80/4.5, 160/4.5 budesonide and formoterol fumarate dihydrate  
112B A C



### Combination medications

contain both long-acting muscarinic antagonist (LAMA) and long-acting beta<sub>2</sub>-agonist (LABA)

**Anoro<sup>®</sup> Ellipta<sup>®</sup>**  
umeclidinium and vilanterol inhalation powder  
112B C



**Stiolto<sup>™</sup> Respimat<sup>®</sup>**  
tiotropium bromide and olodaterol  
112B C



**Utibron<sup>™</sup> Neohaler<sup>®</sup>**  
glycopyrrolate and indacaterol inhalation powder  
112B C



### Muscarinic antagonist (anticholinergic) bronchodilators

relieve cough, sputum production, wheeze and chest tightness associated with chronic lung diseases

Short-acting

**Atrovent<sup>®</sup> HFA**  
ipratropium bromide  
112B C



Long-acting

**Seebri<sup>™</sup> Neohaler<sup>®</sup>**  
glycopyrrolate inhalation powder  
C



**Incruse<sup>®</sup> Ellipta<sup>®</sup>**  
umeclidinium inhalation powder  
112B C



**Spiriva<sup>®</sup> HandiHaler<sup>®</sup>**  
tiotropium bromide inhalation powder  
C



**Spiriva<sup>®</sup> Respimat<sup>®</sup>**  
1.25, 2.5 mcg tiotropium bromide  
112B A C



**Tudorza<sup>™</sup> Pressair<sup>™</sup>**  
acclidinium bromide inhalation powder  
112B C



### Combination muscarinic antagonist and beta<sub>2</sub>-agonist

Short-acting

**Combivent<sup>®</sup> Respimat<sup>®</sup>**  
ipratropium bromide and albuterol  
112B C



# Use of Valved Holding Chambers

- Unless you've got the reflexes of a NASCAR driver or compulsive video gamer, catching that fleeting premeasured dose in a slow, deep inhalation is almost impossible.



## Why is it important to use a spacer or valved holding chamber with your inhaler?

- **Helps reduce the risk of inhaler side effects**<sup>1, 2, 3, 4, 5, 6, 7</sup>. Aerosol medicine comes out of the inhaler very quickly so it is often very difficult to use an inhaler correctly because the canister needs to be pressed at the same time as you breathe in<sup>8, 9</sup>
- **Enhances your treatment.** Medicine often ends up in your mouth, throat and stomach when using an inhaler on its own. A valved holding chamber may improve drug delivery to the lungs where it is needed by as much as up to 4 times<sup>10</sup>

Why does the hospital change the patient's meds while they are in the hospital??



# Answer for Previous Slide:

- GOLD Standards
- Patient affordability
- Patient ability to inhale meds
- Patient's cognitive ability to do the prescribed meds.



## In-check Dial

The DIAL can be adjusted to accurately simulate the resistance of popular inhaler devices which include MDI's and DPI's such as Turbuhaler®, Flexhaler®, Twisthaler®, Aerolizer®, Handihaler® and Diskus® among others. The In Check DIAL enables clinicians to train patients to the proper inspiratory technique considering force and flow rate to achieve optimal deposition of the medication being inhaled into the lungs.

2015  
Alliance Tech Medical, Inc

# Teach Back

*“The main problem with communication is the assumption that it has occurred.”*

George Bernard Shaw

# Health Literacy Strategies

- Are you speaking clearly and listening carefully?
- Is the information appropriate for the user?
- Is the information easy to use?
- Use a medically trained interpreter for language barriers
- Adapt for learning ability
- Check for understanding frequently



# Oxygen Therapy

- It is important that the patients understand the significance of leaving their Oxygen on the prescribed amount due to the **potential** for CO<sub>2</sub> retention and hypoxia.
- Oxygen is a drug and is prescribed in precise dosing.



# Obstructive Sleep Apnea

# Consequences of /diseases associated with OSA

- **Diabetes**
- **High Blood Pressure**
- **Heart Attack**
- Heart Failure/Enlarged Heart
- Pulmonary Hypertension
- Irregular Heart Beats
- Cardiac Death

# Continued Consequences

- **Stroke**
  - Auto Accidents
  - Memory Deficits
  - Impaired Concentration
  - Depression
- "Divorce"* 😊

# Clinical Intelligence 30 Day Condition Specific Readmission for COPD 2016 & 2017

COPD	Total Readmissions	COPD Readmissions	% Readmissions
2016	440	65	14.77%
2017	449	50	11.14%

On closer inspection many readmissions were coded as COPD when patients did not have a PFT on file, PFT showed Restrictive Lungs Disease, the patient had never had a COPD diagnosis (even had a 2 year old was coded under COPD readmissions)

## A Path to Success to Improve COPD Outcomes by Charlene Raley

“Reducing COPD readmissions is not the sole responsibility of inpatient care providers. To be successful, it must involve all providers across the entire continuum of care — from the hospital to the home. Furthermore, efforts must be patient-centric; and sustained patient engagement is vital for continued success. For these reasons, follow-up care and continued education on the fundamentals of COPD and continued adherence with evidence-based maintenance therapy must be provided and encouraged by home care RTs, personnel in skilled nursing and residential care facilities, and all clinic staff. “

# Case Scenario #1

You are walking through the waiting room of your clinic and you see a 70 year old male patient that has a barrel chest, who is bent over trying to get his breath. What is his most probable diagnosis?

How would you confirm this diagnosis?

How would you treat him immediately? And long term?

## Case Scenario #2

You are at your child's baseball game and the 35 year old mom sitting beside you tells you that she is having increased shortness of breath (SOB) with exertion. She is smoking a cigarette as she talks to you.

Does she have COPD?

What more information would you need to determine her diagnosis?



## Case Scenario #3

You are instructing a patient in the clinic to do his Ventolin Inhaler PRN as the doctor has ordered. He tells you that it probably won't work, so he is not going to fill the prescription. What should you do?

# Questions??

- Char Raley

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605-322-8612

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