

# Lung Health Community of Practice Series 1

## COPD Management



BY  
Pallium Canada

Facilitator: Diana Vincze, Pallium Canada  
Presenter: Dr. Terence Ho and Danielle Hill  
Date: 01 May 2024

# Territorial Honouring



# The Palliative Care ECHO Project

The Palliative Care ECHO Project is a 5-year national initiative to cultivate communities of practice and establish continuous professional development among health care providers across Canada who care for patients with life-limiting illness.

**Stay connected: [www.echopalliative.com](http://www.echopalliative.com)**

The Palliative Care ECHO Project is supported by a financial contribution from Health Canada. The views expressed herein do not necessarily represent the views of Health Canada.



# LEAP Lung

- Learn the essentials for providing a palliative care approach.
- Ideal for any health care professional (e.g. physician, nurse, pharmacist, social worker, etc.) who provide care to patients with advanced lung diseases.
- **Key features:**
  - Created and reviewed by Canadian experts
  - Evidence-based
  - Regularly updated and approved
  - Practical, case-based
  - Accredited



LEAP  
LUNG

Learn more about the course and topics covered by visiting

<https://www.pallium.ca/course/leap-lung/>

# Introductions

## Facilitator

**Diana Vincze**

Palliative Care ECHO Project Manager, Pallium Canada

## Panelists

**Dr. Joshua Wald, MD, FRCPC (respirologist)**

Associate Professor

**Dr. Alan Kaplan, MD CCFP(EM) FCFP CPC(HC)**

Chairperson, Family Physician Airways Group of Canada

Clinical Lecturer, Dept of Family and Community Medicine, University of Toronto

## Presenter

**Dr. Terence Ho, MD, MSc, FRCPC**

Assistant Professor, McMaster University

**Danielle Hill RRT, CRE, CSFI**

Respiratory Therapist, Arnprior And District  
Family Health Team

# Introductions

## Panelists

**Geneviève Lalumière**, BScN, RN MN

Clinical Nurse Specialist and Coordinator

Regional Palliative Consultation Team, Bruyère Continuing Care

**Jody Hamilton**, BSW, MSW

Director Community Programs & Partnerships, Lung Health Foundation

# Disclosure

Relationship with Financial Sponsors:

## **Pallium Canada**

- Not-for-profit
- Funded by Health Canada
- Boehringer Ingelheim supports Pallium Canada through an in-kind grant to expand interprofessional education in palliative care.

# Disclosure

## This program has received financial support from:

- Health Canada in the form of a contribution program
- Pallium Canada generates funds to support operations and R&D from Pallium Pocketbook sales and course registration fees
- An educational grant or in-kind resources from Boehringer Ingelheim.

## Facilitator/ Presenter/ Panelists:

- **Diana Vincze:** Palliative Care ECHO Project Manager at Pallium Canada.
- **Dr. Terence Ho:** Speaking fees and honoraria from GSK, Valeo, and AstraZeneca. Research relationship (investigator initiated) from AstraZeneca, Roche Genentech, and Fisher & Paykel Healthcare.
- **Dr. Joshua Wald:** Speaking fees and honoraria from GSK, AstraZeneca, Canadian Institute for the transfer of knowledge (CITE) and the lung health foundation.
- **Geneviève Lalumière:** Nothing to disclose
- **Dr. Alan Kaplan:** Speaking Engagements/Honoraria/Consulting fees: ALK, Astra Zeneca, Boehringer Ingelheim,, Covis, Eisai, GSK, Idorsia, Pfizer, Moderna, NovoNordisk, Sanofi, Teva, Trudell, Valeo. Educational companies: MD Briefcase, PeerView, Respiplus.
- **Jody Hamilton:** Nothing to disclose
- **Danielle Hill:** Speaker/Honoraria fees from GSK and AstraZeneca



# Disclosure

## Mitigating Potential Biases:

- The scientific planning committee had complete independent control over the development of program content

# Welcome and Reminders

- Please introduce yourself in the chat!
- Your microphones are muted. There will be time during this session for questions and discussion.
- You are also welcome to use the Q&A function to ask questions, but also feel free to raise your hand!
- This session is being recorded and will be emailed to registrants within the next week.
- Remember not to disclose any Personal Health Information (PHI) during the session.
- Each session has been approved for 1.0 CSRT CPD credit by the Canadian Society of Respiratory Therapists (CSRT).
- This event is also an Accredited Group Learning Activity through the Royal College of Physicians and Surgeons of Canada. You may claim a maximum of **5.00 hours**.

# Objectives of this Series

**After participating in this program, participants will be able to:**

- Describe what others have done to integrate palliative care services into their practice.
- Share knowledge and experience with their peers.
- Increase their knowledge and comfort around integrating a palliative care approach for their patients with advanced lung disease.

# Overview of Topics

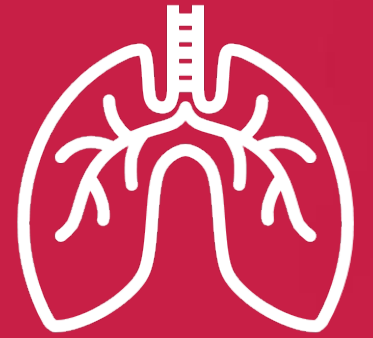
Session #	Session title	Date/ Time
Session 1	Palliative care in advanced respiratory illnesses	February 28, 2024 from 12-1pm ET
Session 2	COPD Management	May 1, 2024 from 12-1pm ET
Session 3	Pulmonary Fibrosis	June 28, 2024 from 12-1pm ET
Session 4	Symptom management in advanced respiratory illnesses	September 18, 2024 from 12-1pm ET
Session 5	Psychological distress and depression	November 27, 2024 from 12-1pm ET

# Objectives of this Session

**After participating in this session, participants will be able to:**

- Explain COPD Pathophysiology and Progression.
- Optimize Pharmacological and Non-Pharmacological Treatment Approaches.
- Integrate Palliative Care Principles into COPD Management.
- Promote Interdisciplinary Collaboration for Comprehensive Care.

# COPD Pathophysiology and Progression

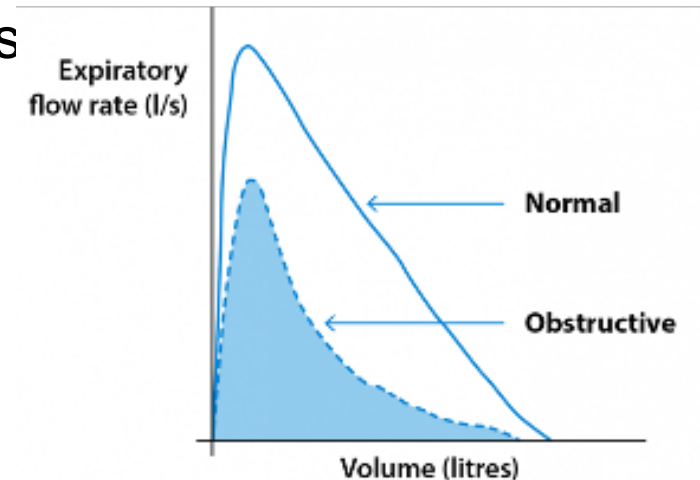


# COPD

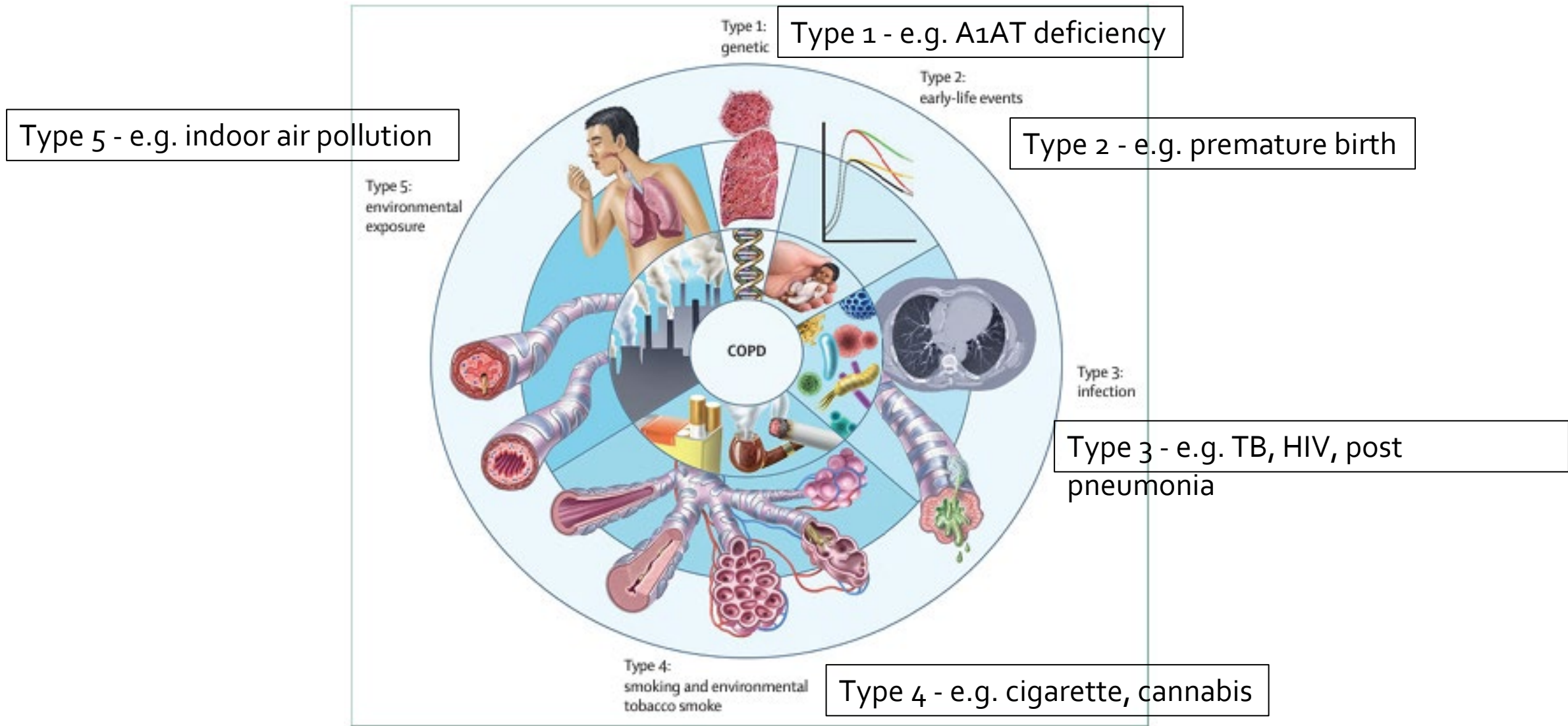
- Definition: progressive, partially reversible airflow obstruction
- Common – Prevalence 4.5%
  - >50% of chronic respiratory disease prevalence
- Disabling – 6th leading cause of DALYs (4.7% of global DALYs)
- Punctuated by Acute Exacerbations (AECOPD)
  - Most common reason for admission in Canada
  - Recurrent exacerbations as high as 22%



Created by Robert Kyriskis  
from Noun Project

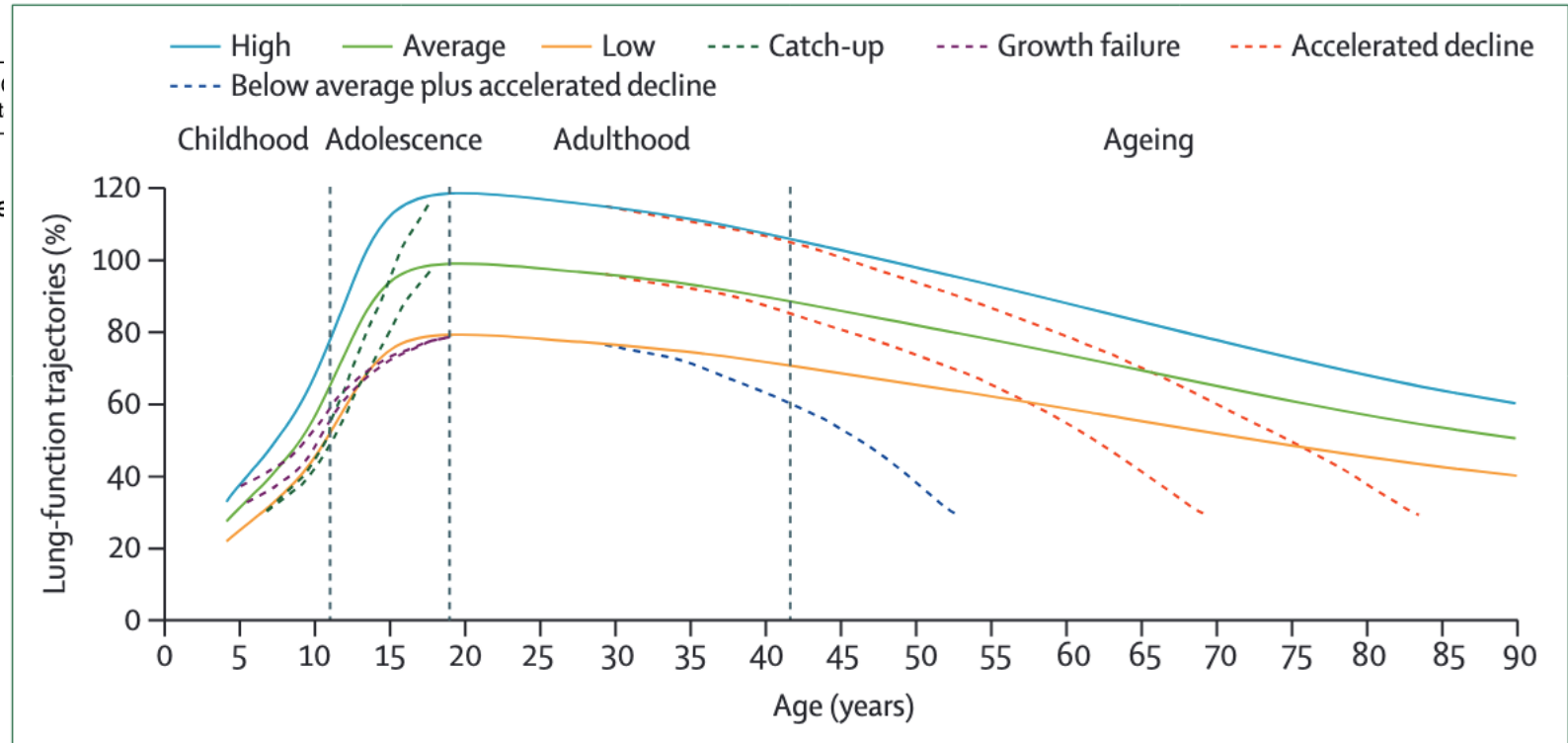
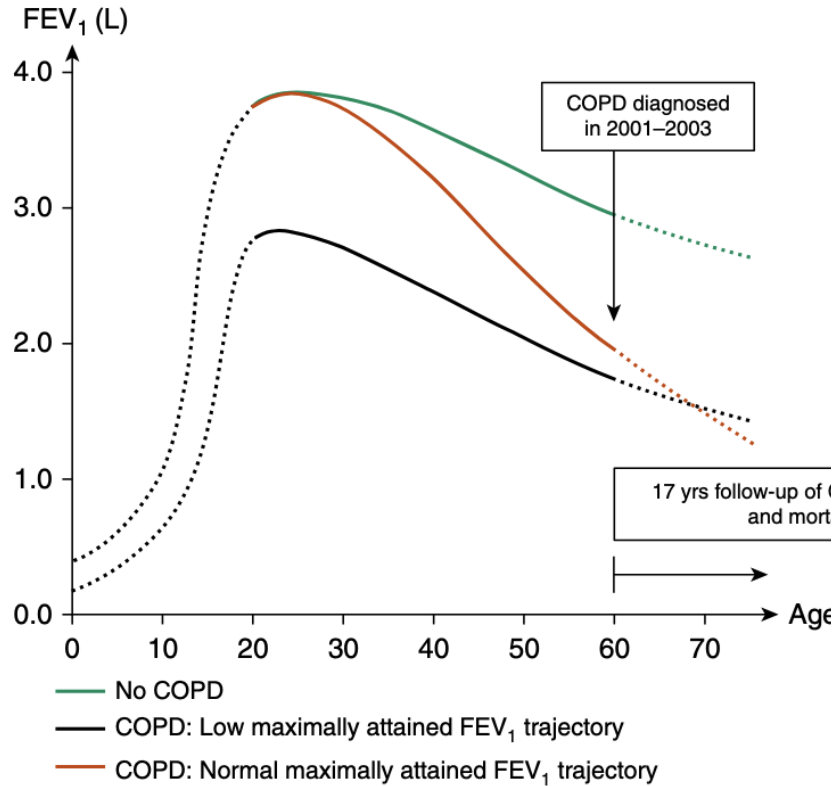


# Proposed COPD Types





# Lung Function Trajectories



# Mortality in COPD

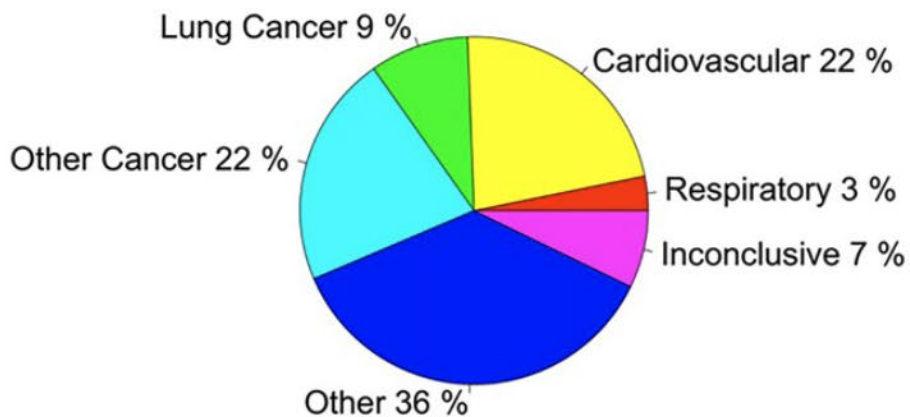
- 3<sup>rd</sup> leading cause of death in the US; 4<sup>th</sup> in Canada
- COPD accounts for 82% of deaths due to chronic resp disease
- # deaths projected to rise 3 million/yr  $\square$  5.4 million/yr by 2060
  - Expanding smoking epidemic
  - Aging population
  - Limited options for disease modifying therapy

# Prognosis

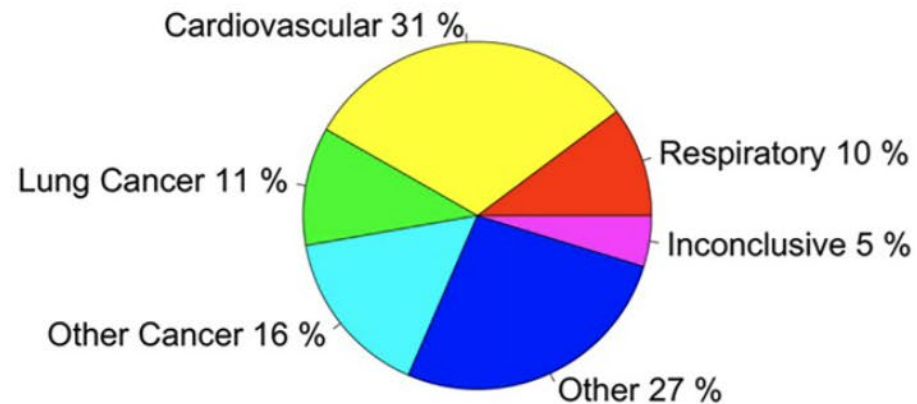
- Mortality in COPD predicted by:
  - Lung function
  - AECOPD  $\geq 2$ /year
  - Dyspnea score (mMRC  $\geq 2$ )
  - QOL scores (SGRQ  $\geq 25$ )
  - Chronic bronchitis
  - BODE index
- However, accurate prognosis remains challenging
  - Often a prolonged functional decline prior to death
  - Event leading to death can still be sudden and unexpected
- Discussion of EOL should not wait for a life-threatening event

# Causes of Death in COPD

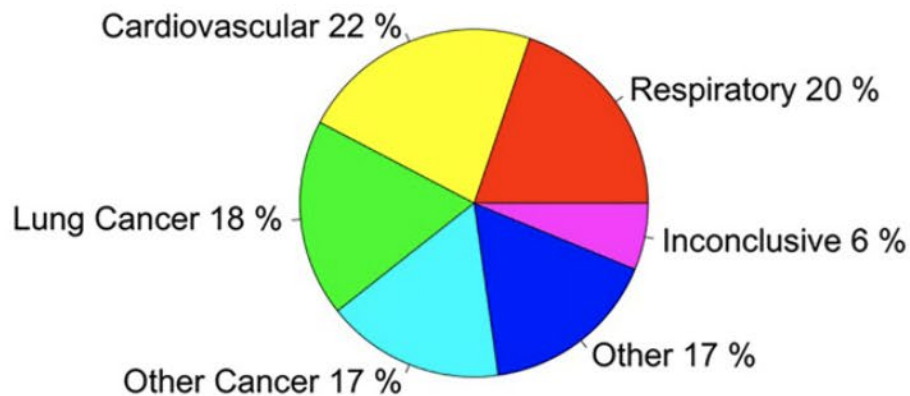
### Normal spirometry



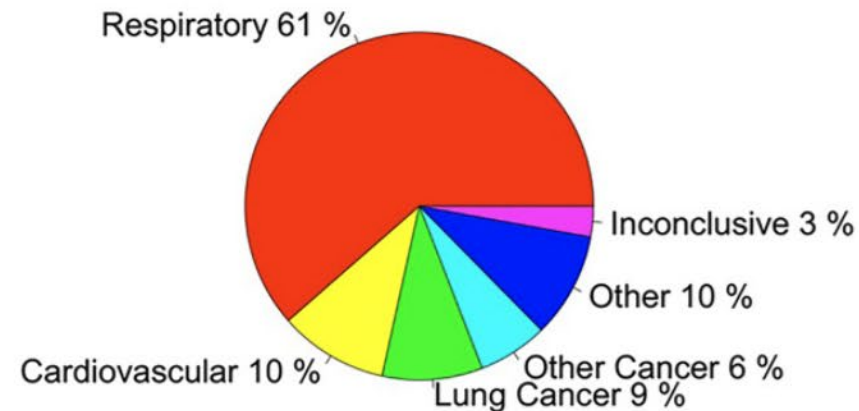
### PRISm



### GOLD 1-2

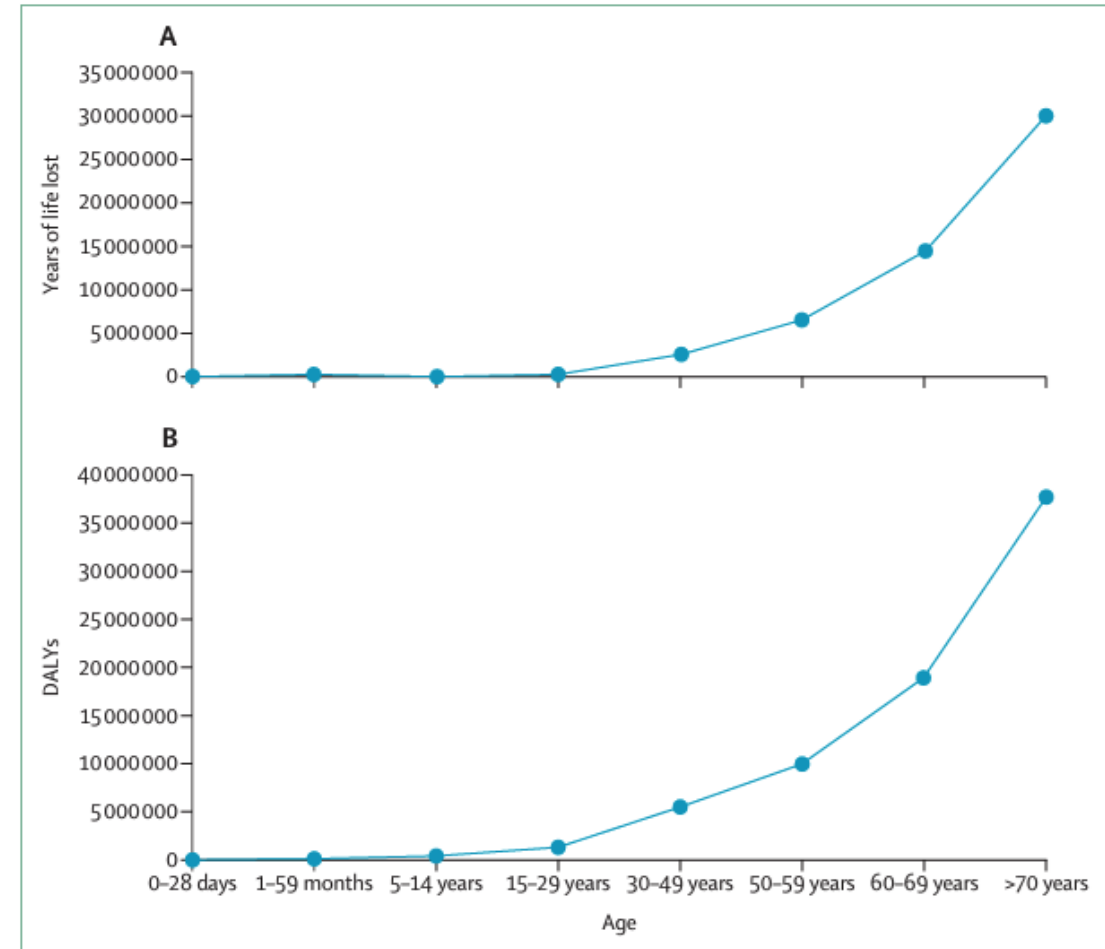


### GOLD 3-4



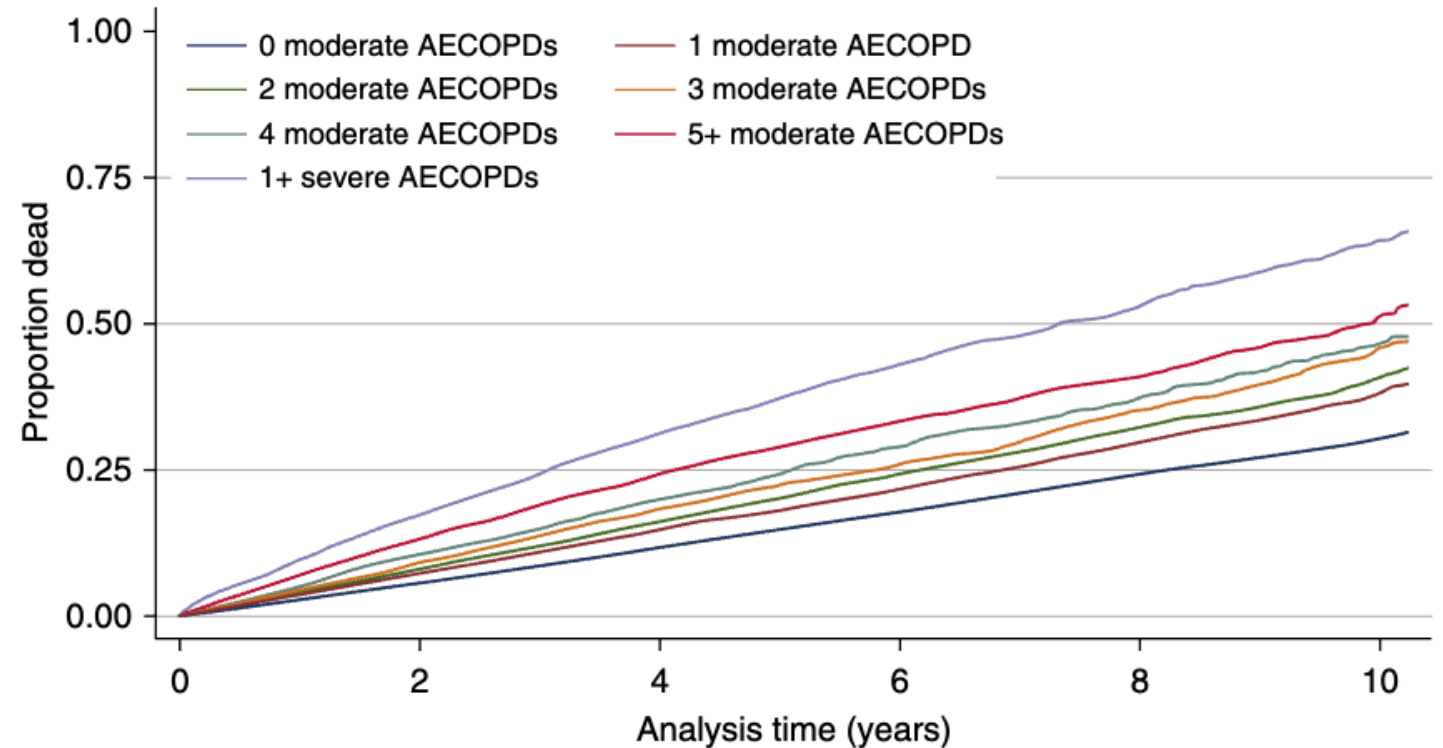
# Effect on QOL

- Breathlessness has psychological implications for:
  - Social life
  - Family life
  - Overall QOL
- Leads to fear, anxiety, social isolation



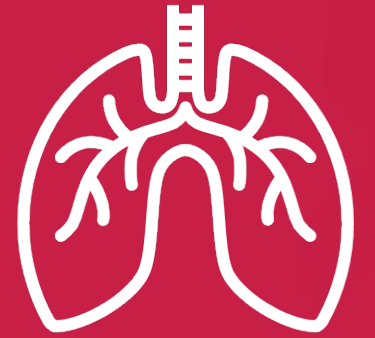
# Exacerbations

- Associated with:
  - Death
  - Worsened QOL
  - ↑FEV1 decline
  - Further exacerbations
- Importance of prevention



**Figure 3.** Time to death by baseline AECOPD frequency and severity, all patients. AECOPDs = acute exacerbations of chronic obstructive pulmonary disease.

# Treatment: Pharmacologic and Non-Pharmacologic



# Before that...More on what I do

- Academic Respirologist at McMaster University
- Clinical and Research interest in COPD
- Focus on recurrent exacerbations and their etiologies
- Use of sputum biomarkers



# COPD Care Pathway

## Inpatient

Respirology service

COPD Care Team

## Transitional

Integrated comprehensive care

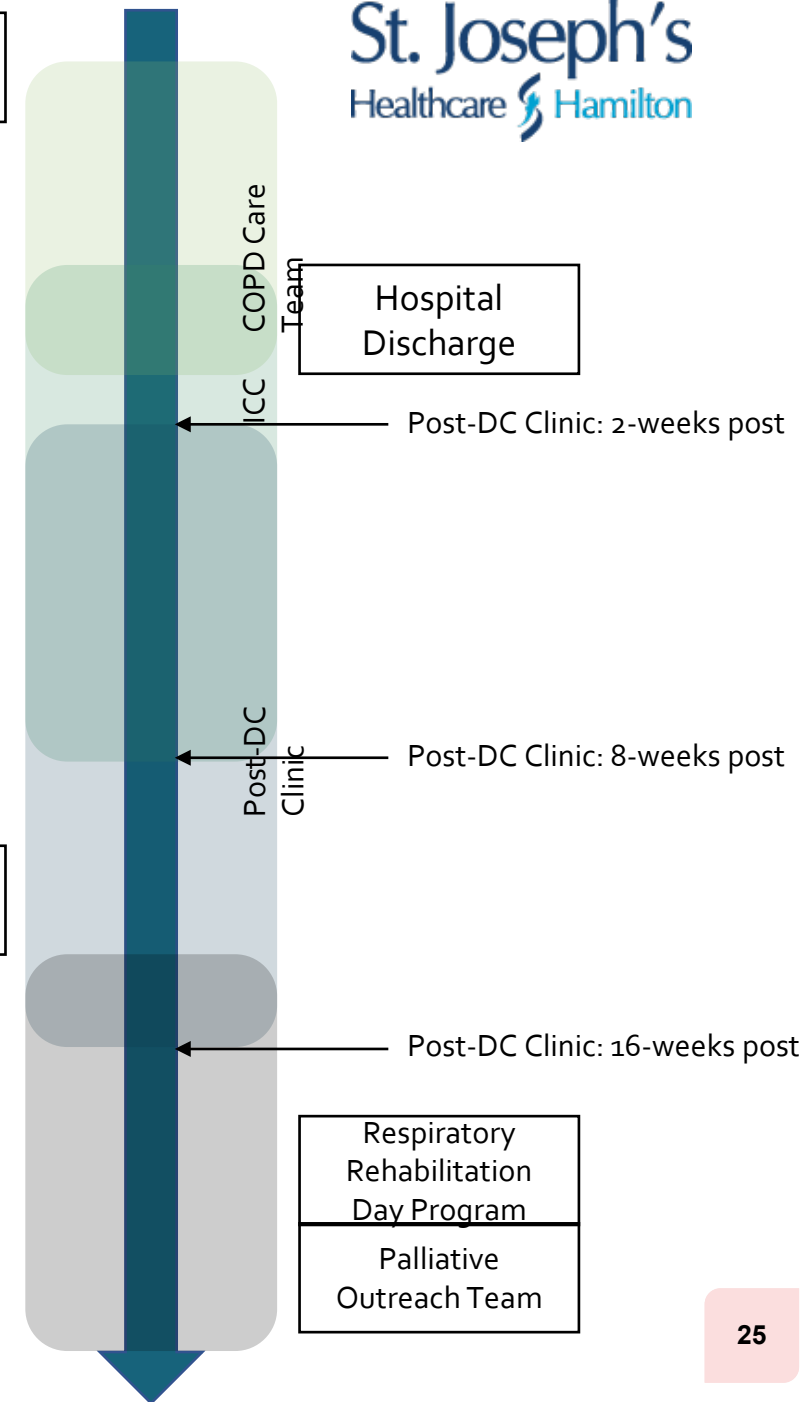
## Outpatient

COPD post-discharge clinic

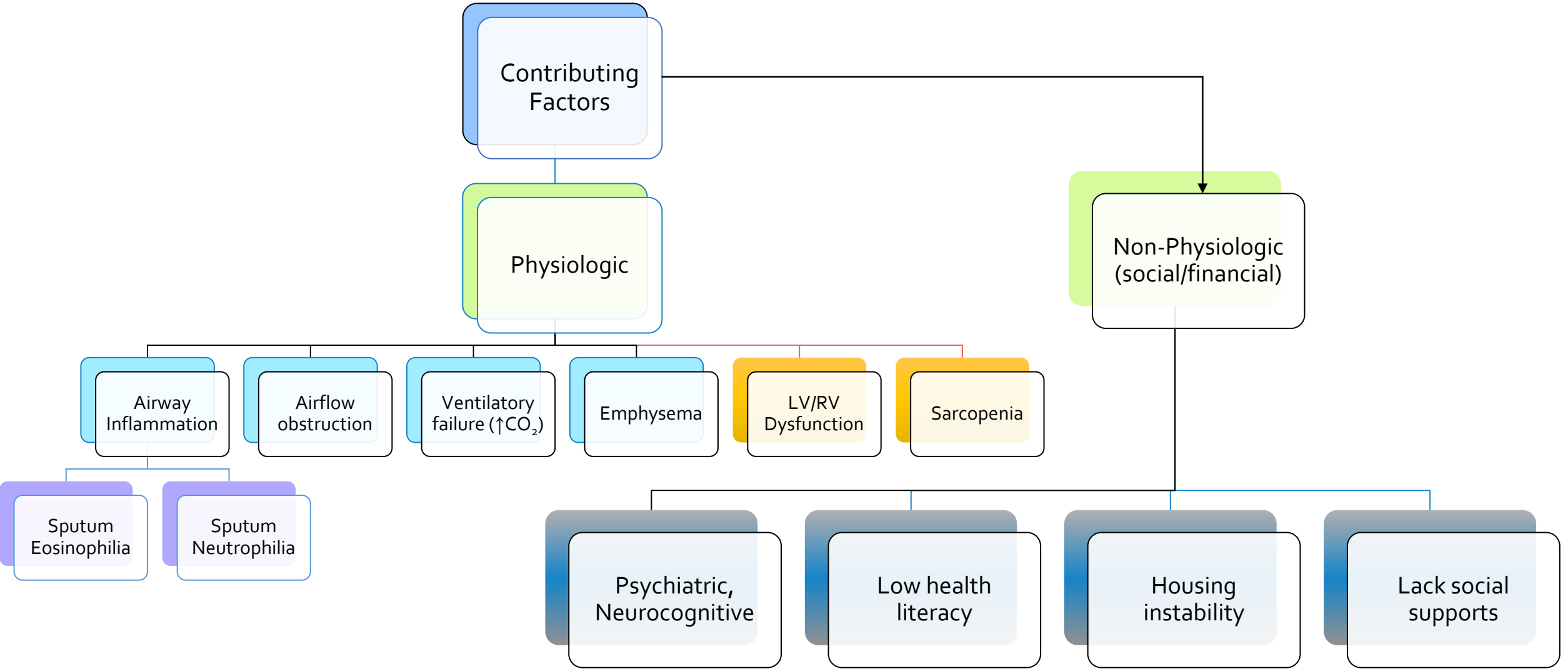
Respiratory Rehabilitation Day Program

Admission for  
AECOPD

Post-DC (in  
Community)



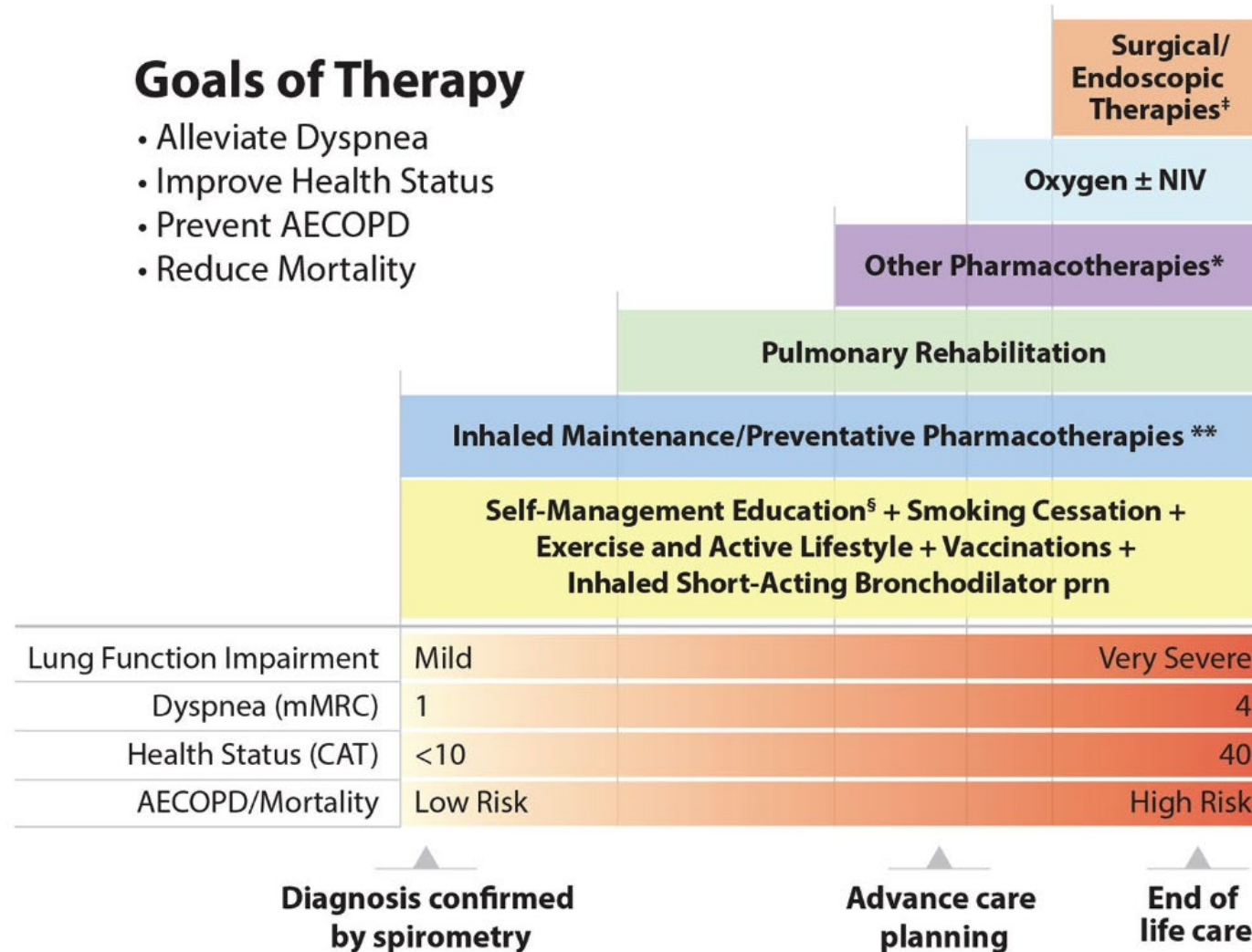
# Heterogeneity of COPD



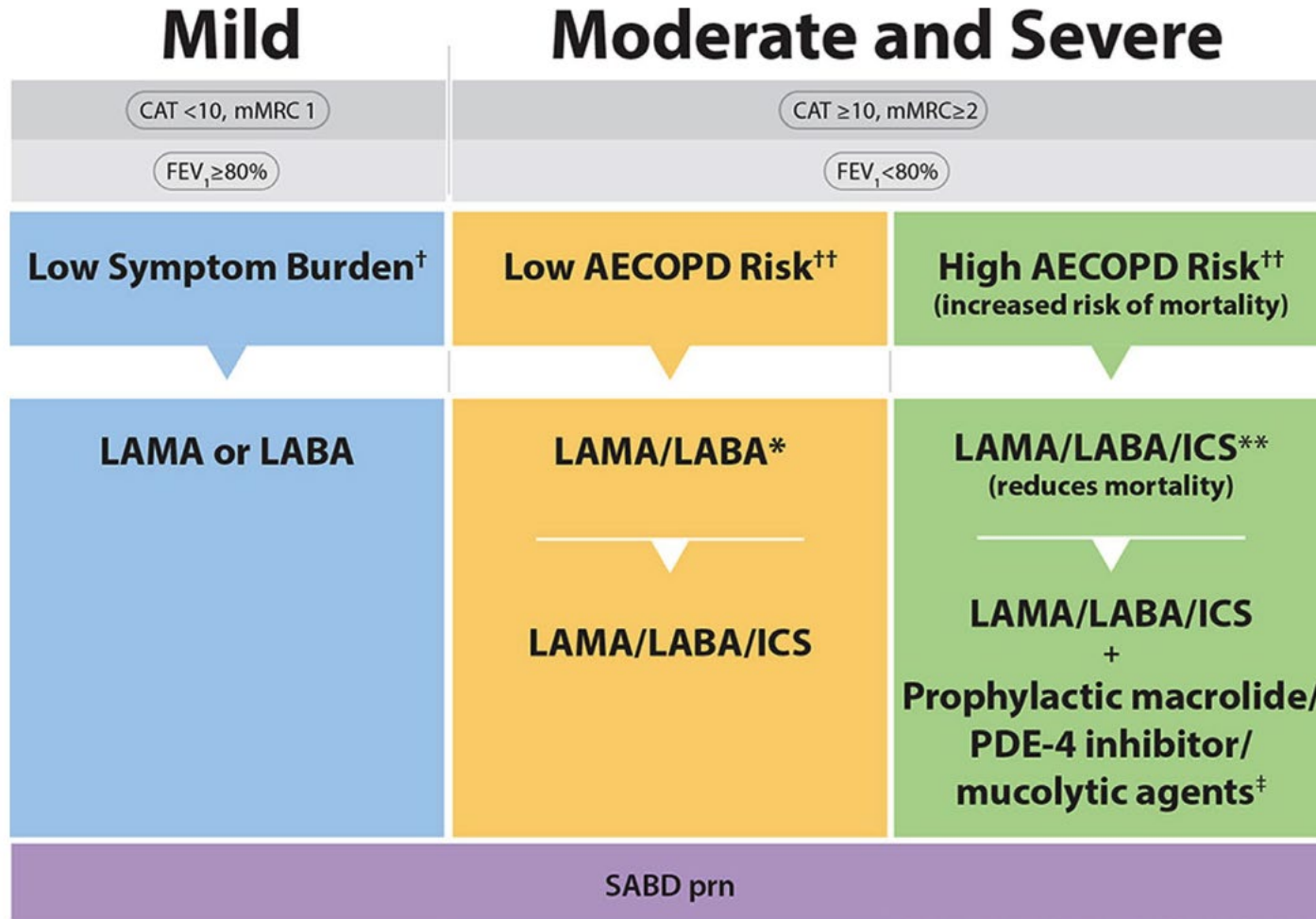
# Integrated Comprehensive Management

## Goals of Therapy

- Alleviate Dyspnea
- Improve Health Status
- Prevent AECOPD
- Reduce Mortality



# Pharmacologic Treatment



MODIFIED MRC DYSPNEA SCALE*		
PLEASE TICK IN THE BOX THAT APPLIES TO YOU   ONE BOX ONLY   Grades 0 - 4		
mMRC Grade 0.	I only get breathless with strenuous exercise.	<input type="checkbox"/>
mMRC Grade 1.	I get short of breath when hurrying on the level or walking up a slight hill.	<input type="checkbox"/>
mMRC Grade 2.	I walk slower than people of the same age on the level because of breathlessness, or I have to stop for breath when walking on my own pace on the level.	<input type="checkbox"/>
mMRC Grade 3.	I stop for breath after walking about 100 meters or after a few minutes on the level.	<input type="checkbox"/>
mMRC Grade 4.	I am too breathless to leave the house or I am breathless when dressing or undressing.	<input type="checkbox"/>

\* Fletcher CM. BMJ 1960; 2: 1662.

## How is your COPD? Take the COPD Assessment Test™ (CAT™)

This questionnaire will help you and your healthcare professional measure the impact COPD (Chronic Obstructive Pulmonary Disease) is having on your wellbeing and daily life. Your answers, and test score, can be used by you and your healthcare professional to help improve the management of your COPD and get the greatest benefit from treatment.

For each item below, place a mark (X) in the box that best describes you currently. Be sure to only select one response for each question.

Example: I am very happy (0)  (1) (2) (3) (4) (5) I am very sad

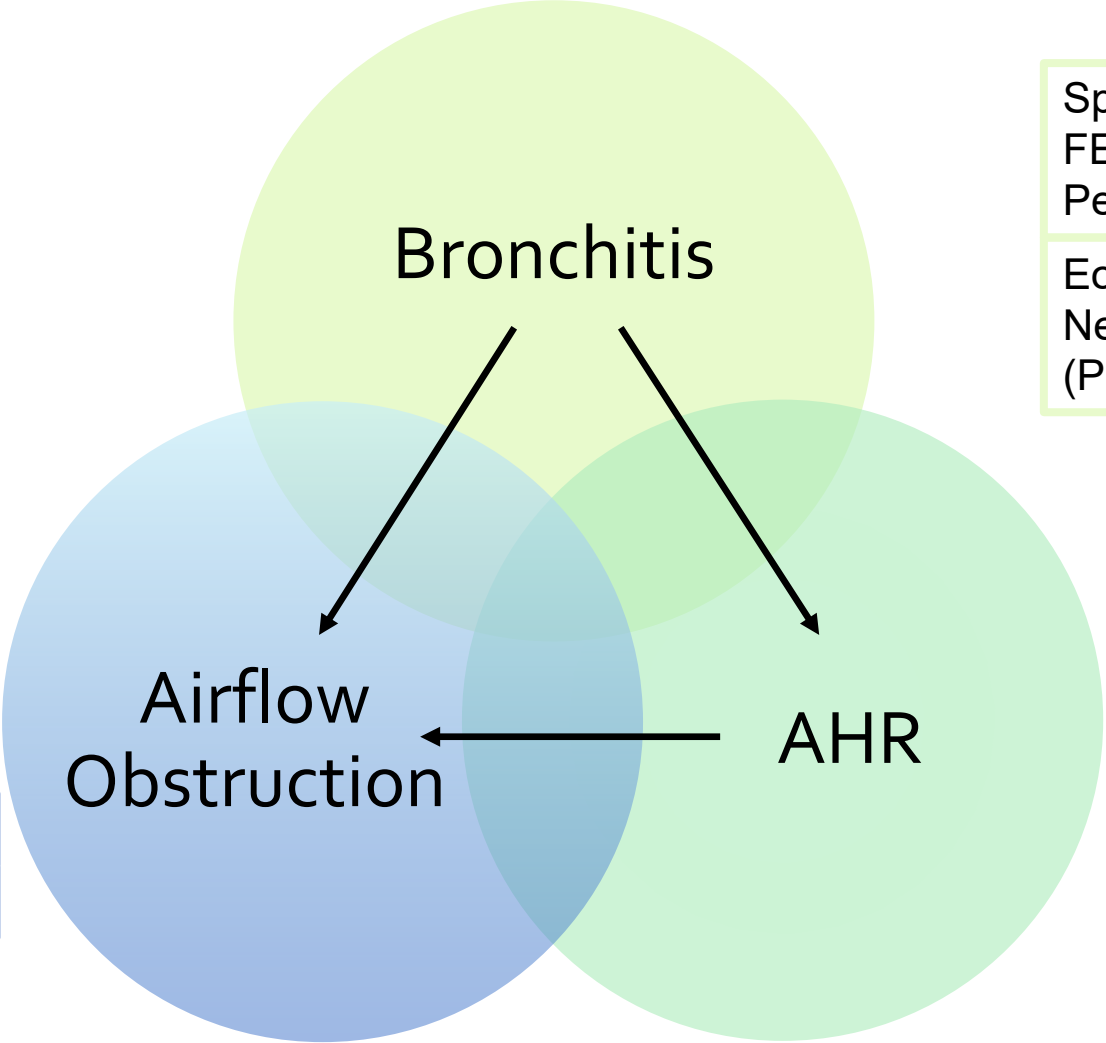
Item	Scale (0-5)	Item	Scale (0-5)	SCORE
I never cough	(0) (1) (2) (3) (4) (5)	I cough all the time	(0) (1) (2) (3) (4) (5)	<input type="text"/>
I have no phlegm (mucus) in my chest at all	(0) (1) (2) (3) (4) (5)	My chest is completely full of phlegm (mucus)	(0) (1) (2) (3) (4) (5)	<input type="text"/>
My chest does not feel tight at all	(0) (1) (2) (3) (4) (5)	My chest feels very tight	(0) (1) (2) (3) (4) (5)	<input type="text"/>
When I walk up a hill or one flight of stairs I am not breathless	(0) (1) (2) (3) (4) (5)	When I walk up a hill or one flight of stairs I am very breathless	(0) (1) (2) (3) (4) (5)	<input type="text"/>
I am not limited doing any activities at home	(0) (1) (2) (3) (4) (5)	I am very limited doing activities at home	(0) (1) (2) (3) (4) (5)	<input type="text"/>
I am confident leaving my home despite my lung condition	(0) (1) (2) (3) (4) (5)	I am not at all confident leaving my home because of my lung condition	(0) (1) (2) (3) (4) (5)	<input type="text"/>
I sleep soundly	(0) (1) (2) (3) (4) (5)	I don't sleep soundly because of my lung condition	(0) (1) (2) (3) (4) (5)	<input type="text"/>
I have lots of energy	(0) (1) (2) (3) (4) (5)	I have no energy at all	(0) (1) (2) (3) (4) (5)	<input type="text"/>
				<b>TOTAL SCORE</b> <input type="text"/>

MLT\_GIBCFD0006/14 Date of preparation: December 2014  
If you experience any side effects with GSK products, please report the case to GSK (Malta) Limited, 1, De la Cruz Avenue, Gormi GRM 2458, Malta (Tel: +356 21238131).  
If you have questions about a specific medical condition, please consult a healthcare professional.

# More importantly – What is driving symptoms and exacerbations?

Components of Airway Disease

- Spirometry
- Bronchodilators



- Sputum cell count
- FENO
- Peripheral eosinophils

- Eosinophilic – ICS/OCS
- Neutrophilic – Antibiotics (PO/IV/inh), HT saline

- PostBD response
- Saline-induced bronchoconstriction

- Long-acting bronchodilator
- Bronchial thermoplasty
- Mast-cell stabilizer

# Pulmonary Rehabilitation

- Goals:
  - ↑ function and
  - ↓ progression of disease
- Core components:
  - Education
  - Supervised exercise
- Can be valuable regardless of disease severity



Program Base	Method of Delivery	Implementation
Academic centre	In-person	3-4 weeks post-discharge
Community (Caring for My COPD)	Virtual	During admission
	Hybrid	Stable with problematic symptoms

# Evidence for PR

- Cochrane: Meta-analysis of 65 RCT (n=3822)
- Statistically and clinically significant improvements in:
  - QOL
  - Functional capacity
  - Exercise tolerance
- Cohort study demonstrating association with improved mortality

# Supplemental O2

- Prescribed for:
  - Hypoxemia/hypoxia at rest → Oximetry or ABG
  - Exertional hypoxemia → Independent Exercise Assessment
  
- Advantages
  - Mortality benefit in chronic hypoxemia
  - May improve exercise tolerance
  
- Barriers/Downsides
  - Stigma
  - Confusing prescriptions (rest, exertion, sleep)
  - Overuse of oxygen (hypercapnia, safety risk with smoking)



# Supplemental O<sub>2</sub> (LTOT)

- Guidelines recommend:
  - CTS: ↓ mortality and may reduce dyspnea for hypoxemic patients
    - May ↑ exercise performance, enhance exercise training
  - ATS:
    - Strong recommendation in severe chronic resting hypoxemia
    - Conditional recommendation with severe exertional hypoxemia
- LTOT for severe, daytime resting hypoxemia
  - Use for 15-18h/d improves survival
  - BMRC and NOTT trials
- LTOT for moderate daytime hypoxemia
  - LOTT: No  $\Delta$  time to death/AECOPD, admissions, # AECOPD, or QOL
  - Recent meta-analysis echoes these findings
    - Only 2 studies included QOL measures

# Smoking Cessation

- Pharmacologic options include:
  - Varenicline
  - Bupropion
  - Nicotine replacement
- Varenicline/Bupropion accessible through LU Codes
- Can be limited by side-effects (and concern for them), comorbid conditions
- Combined strategies
  - Psychoeducational courses (e.g. TARP)
  - STOP Programs and STOP on the Net

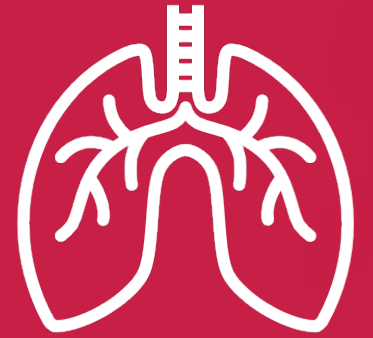
# Smoking Cessation Evidence

- ATS guideline 2020 recommends:
  - Varenicline > NRT
  - Varenicline > NRT in setting of SUD, psychiatric illness
  - Varenicline > Bupropion
  - Start Varenicline in those “not ready to quit”
  - Varenicline >12 weeks > Varenicline 6-12 weeks
- Effect on QOL unclear – smoking cessation program  $\propto$   $\downarrow$ SGRQ

# Managing Comorbidities

- Comorbidities of note
  - GERD
  - Chronic or allergic rhinosinusitis
  - CHF and PH
  - Anxiety/Depression
  - Malnutrition
  
- Mimic vs. Contributor to Exacerbation

# Integrating Palliative Care Principles



# Palliative Care Approach

- Holistic, multidisciplinary, and person-centered
- Goals include:
  - Control symptoms
  - Enhance QOL
  - Support patients to live as actively as possible
  - Support informal caregivers
- Extend beyond very EOL; based on needs of patient & caregiver
- Evidence – Palliative care for non-malignant disease
  - ↓ symptoms, ER visits, and hospitalizations

# COPD & Palliative Care

- Chronic symptoms and ↓QOL are common in COPD
  - Burden and care needs similar to malignancy
- Barriers to access & uptake include:
  - Uncertain prognosis
  - Confusion with EOL care
  - When to initiate palliative care?
- PC often only in last few weeks of life for severe COPD

# Common Criteria for Initiating PC in COPD

**TABLE 3** Categories of palliative care referral criteria across literature for people with serious illness due to COPD or interstitial lung disease (ILD) (with examples) [52, 62]

Needs-based criteria	Disease-based/health service utilisation criteria
Physical or emotional symptoms (e.g. poor symptom control, breathlessness, pain, weight loss, cachexia)	Hospital use (e.g. admission, frequency of admission, admission for exacerbation)
Functional decline (e.g. increasing care dependency, low 6-min walk test or gait speed, unable to meet ADLs)	Respiratory status (e.g. FEV <sub>1</sub> <30% pred, respiratory insufficiency, GOLD stage 3–4)
Psychosocial (e.g. social needs, supportive counselling, spiritual or existential concerns)	Advanced respiratory therapies (e.g. invasive/noninvasive ventilation, home oxygen use)
Decision support (e.g. ACP, hospice referral, care coordination)	Disease progression (e.g. deteriorating lung function, heart failure, low albumin, multimorbidity)
Person with illness or informal caregiver request for palliative care	Prognosis (e.g. “surprise question” [70], life expectancy <6–12 months)
Informal caregiver distress or need for support	Comorbidities (e.g. cancer, renal failure, diabetes)
Other (e.g. ethical concerns)	New diagnosis (ILD specific)
	End-stage care (e.g. terminal care, lack of treatment options)
	Other (e.g. frailty)

ADLs: activities of daily living; FEV<sub>1</sub>: forced expiratory volume in 1 s; GOLD: Global Initiative for Chronic Obstructive Lung Disease; ACP: advance care planning.

Recent ERS Task Force recommend more standardized criteria to enhance decision making



# Managing Episodic Breathlessness

- Principles taught in Pulmonary Rehabilitation:
  1. Proper use of rescue inhalers and/or supplemental O2
  2. Trigger identification and avoidance
  3. Modification of activities or environment
  4. SOS for SOB: strategies for managing acute breathlessness

# Modify Activities/Environment

- ADLs commonly trigger breathlessness
- Mobility aid can ↓ dyspnea and ↑ exercise tolerance
- Equipment can also ↑ function (e.g. shower chair)
- Pacing during exercise

# SOS for SOB

Anxiety/Panic

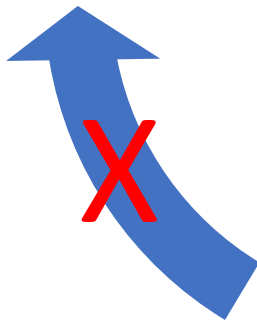


Tachypnea

Dyspnea Trigger



Dynamic hyperinflation

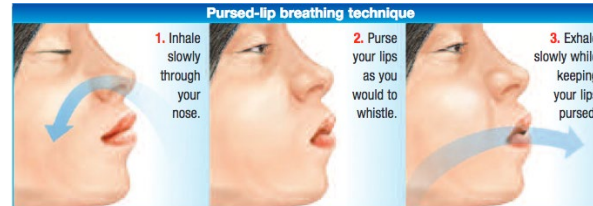


Teaching Patients to :

- Identify this cycle
- Use techniques to control breathing



Providing patients a sense of control



### Steps

1. Inhale slowly through your nose until you feel that your lungs are filled with air.
2. Purse your lips as you would if you were whistling or about to kiss someone.
3. Exhale slowly while keeping your lips pursed. Make sure to take longer to breathe out than you would to breathe in. Remember to keep your lips pursed.
4. Do not force your lungs to empty.

### Sitting

#### Sitting position A

- Place both feet on the ground
- Lean your chest forward slightly
- Rest your elbows on your knees
- Rest your chin on your hands

#### Sitting position B

- Place both feet on the ground
- Lean your chest forward slightly
- Rest your arms on a table
- Rest your head on a pillow

### Standing

#### Standing position A

- Lean your chest forward slightly
- Rest your hands on your thighs

#### Standing position B

- Rest your elbows on a piece of furniture
- Rest your head on your forearms
- Relax your neck and shoulders

#### Standing position C

- Rest your hands on a piece of furniture
- Avoid "grabbing the table" while using these positions. This can overwork some of your accessory breathing muscles, and cause breathlessness if you hold the position too long.



# SOS for SOB: Putting it Together

## Steps:

1. **Stop** and find a comfortable position.
2. **Stay as calm as possible**; relax your shoulders.
3. Introduce the pursed-lip breathing technique: inhale through your mouth if you cannot through your nose; **purse your lips to exhale**.
4. **Slow down your breathing** by taking more time to breathe out than you would to breathe in. Do not force your lungs to empty.
5. Continue to exhale slowly while keeping your lips pursed; start to inhale through your nose if you have not been able to do it so far.
6. Continue to pursed-lip breathe for at least 5 minutes.

# Refractory Continuous SOB

- Dyspnea refractory to conventional Rx in ~50% of advanced COPD
- Therapeutic options:
  - Oral opioids
  - Nocturnal or PRN Non-invasive ventilation
  - Non-pharmacologic (e.g. handheld fans, chest wall vibration, NMES)

# Opioids for Refractory SOB

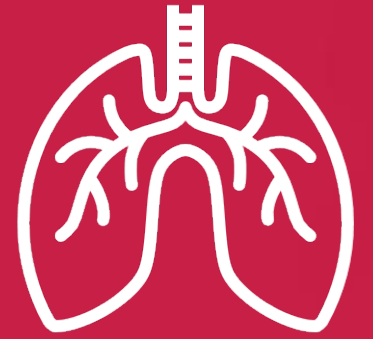
- Opioids affect perception of dyspnea and can improve function
- Opioids should not be reserved for patients actively dying
- Safety of Opioids
  - Retrospective population-based cohort studies show higher hospitalization risk and mortality  $\propto$  opioid prescription
  - Vast majority were for pain not dyspnea
  - No increased risk for doses <30mg Morphine eq per day
- What the Guidelines recommend:
  - ATS 2020: conditional recommendation (very low certainty)
  - CTS 2011: oral opioids (2C recommendation - very weak)

# Evidence: Fixed-dose long-acting Morphine

	BEAMS (2022)	MORDYC (2020)
Population	COPD with: <ul style="list-style-type: none"> <li>• mMRC <math>\geq 3</math> despite optimized treatment</li> <li>• <math>\geq 3/10</math> for intensity of worst SOB 24h prior to enrollment</li> </ul> n=160	COPD with: <ul style="list-style-type: none"> <li>• mMRC <math>\geq 2</math> despite optimized treatment <b>including completion of a pulmonary rehabilitation program</b></li> </ul> n=124
Intervention	8 or 16 mg oral slow release morphine daily vs. Placebo x 3/52  *Second randomization for uptitration of morphine	10 mg Sust. Release PO morphine BID vs. Placebo x4/52  *Option to increase to TID in non-responders after 1-2 weeks
Primary Outcome	$\Delta$ in intensity of worst breathlessness on a scale of 10 after 1 week.	CAT score at 4 weeks
Result:	No change in intensity of worst dyspnea for either morphine dose compared to placebo	Greater improvement in CAT at 4 weeks by 2.18 points compared to placebo group (95% CI -2.5 to -0.16 p=0.03)

Meta-analyses suggest that dyspnea and exercise endurance can be improved with opioids

# Interdisciplinary Collaboration for Comprehensive Care





# FIRH COPD Post-Discharge clinic

- Provides combination of:

- Multidisciplinary case management
- Personalized medicine approach (incl sputum-guided Rx)

Typical Components of Comprehensive Care Management

- Self-management Education
- Inhaler technique
- Smoking cessation counselling
- Case management (urgent visits & telephone check-in)
- Individualized action plan
- Coordination of community/hospital resources

- Key personnel

- COPD Clinic RN
- Respiriologist
- Via referral:

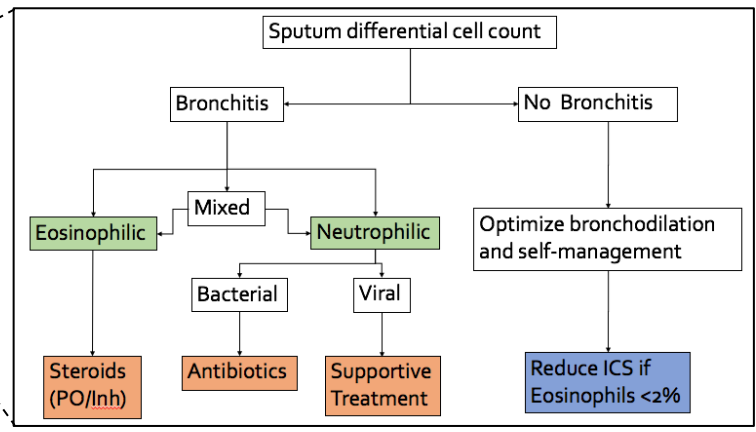
- Social worker
- Pulmonary Rehabilitation (PT, RRT, OT, RD, psychologist)
- Psychiatry

Physiologic Contributors to AECOPD

1. Airflow obstruction
2. Bronchitis
3. Acidosis
4. Cardiac dysfunction

Interventions

1. Optimized bronchodilators
2. Sputum-guided treatment
3. Non-invasive ventilation
4. Afterload reduction



Visit 1 (2-weeks) with  
-bloodwork  
-spirometry  
-spont sputum

Visit 2 (8-weeks) with  
Spontaneous sputum

Visit 3 (16-weeks) with  
Spontaneous sputum

AECOPD

↓ Re-exacerbation Risk



Non-Physiologic Contributors to AECOPD

- Non-adherence
- Poor health literacy
- Psychiatric comorbidity
- Poor social supports

Interventions

- Scheduled telephone follow-up ☎
- Education 🧑
- Joint COPD/Psychiatry clinic
- Referral to social work and other HCPs
- Case management

# Respiratory Rehabilitation Day Program

- Team Members (with examples of their function)
  - RT: Titrate O2 and update prescription; BiPAP care
  - PT: Assess balance and falls risk, identifying post PR exercise options
  - OT: Assess for assistive devices; screening for cognitive impairment
  - SW: Find PCP, drug coverage; help with organizing transportation
  - RD: Suggest diet and assess need for supplements
  - Psychologist: Counseling

# Case-Based Discussion



# Meet Jim



- age 57yrs
- transport driver
- current smoker, start age 16, max 2 pk/d
- 1 joint/d for 20 yrs to relax

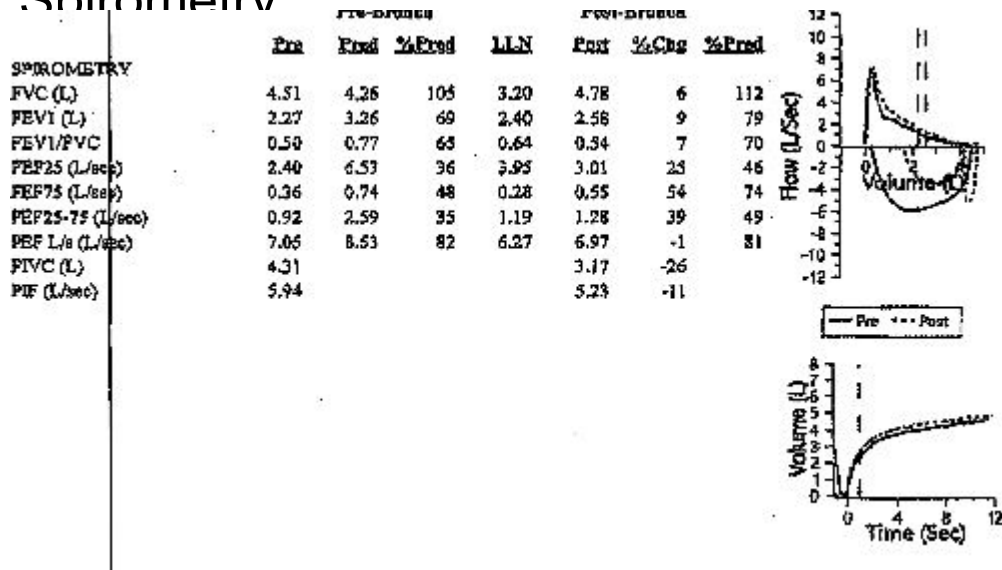
Jim mentioned at his Doctor's appointment that he is feeling more tired, more SOB at work and his wet cough is really bothering him.

Where do you start?

- Spirometry was ordered
- Encouraged to quit smoking

# Jim

## Spirometry



Mild obstruction noted on spirometry

## History

- Cough with sputum 3m/yr
- Pneumonia treated with Antibiotics and prednisone from Family Doctor 6 months ago
- No Hospitalizations
- CAT score 12/40

What treatment plan best suits Jim?

# Meet Kimberley

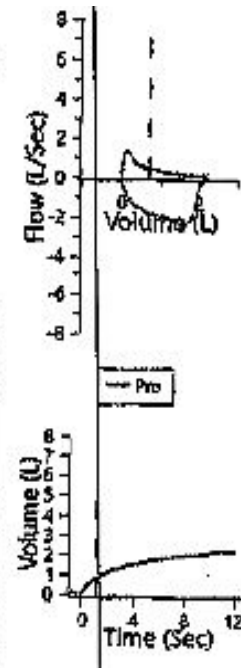


- 75 yrs of age
- Known severe COPD
- Long Hx of smoking
- currently reports smoking 1 cigarette a day but its her only bad habit so she doesn't care to quit.
- 2 COPDe last year, last one 2 months ago, requiring hospitalization for 2 nights and treatment of antibiotics and prednisone
- Current treatment plan
  - Symbicort 200 2 puffs BID and
  - Spiriva Respimat 2 puffs OD,
  - Salbutamol being used 2 puffs 3x/day

Patient is finding it more difficult to do simple tasks at home

# Kimberley

SPIROMETRY	Pre-Bronch				Post-Bronch		
	Exp	Fred	%Pred	LLN	Post	%Chg	%Pred
FVC (L)	2.20	2.67	82	1.90			
FEV1 (L)	0.74	2.05	36	1.46			
FEV1/FVC	0.34	0.77	43	0.63			
PEF25 (L/sec)	0.57	4.60	12	2.46			
PEF75 (L/sec)	0.13	0.38	34	0.13			
PEF25-75 (L/sec)	0.25	1.68	14	0.73			
PEP L/s (L/sec)	2.06	5.18	39	3.47			
FIVC (L)	2.12						
PIF (L/sec)	2.45						



Assessment was completed including spirometry and walk test.

Walk Test - PT walked for 4 min

Resting SpO2 91%, HR 76

4min SpO2 79%, HR 105

How can we optimize Kimberley's treatment?



Questions?

# Wrap Up

- Please fill out the feedback survey following the session! Link has been added into the chat.
- A recording of this session will be e-mailed to registrants within the next week.
- Please join us for the next session in this series on **Pulmonary Fibrosis held on June 28th 2024 from 12–1:00 p.m. ET.**

Thank You



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