

# Lung Health Community of Practice Series 1

Symptom management in advanced respiratory illnesses



BY  
Pallium Canada

Facilitator: Diana Vincze, Pallium Canada

Presenter: Margot Sondermann, BScPT, MEd

Date: 18 September 2024

# Territorial Honouring

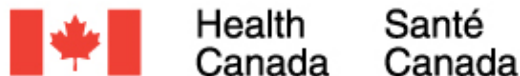


# The Palliative Care ECHO Project

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.

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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

**Danielle Hill** RRT, CRE, CSFI

Respiratory Therapist, Arnprior And District Family Health Team

**Jody Hamilton**, BSW, MSW

Director Community Programs & Partnerships, Lung Health Foundation

**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

**Geneviève Lalumière**, BScN, RN MN

Clinical Nurse Specialist and Coordinator  
Regional Palliative Consultation  
Team, Bruyère Continuing Care

# Introductions

## Presenter

**Margot Sondermann**, BScPT, MEd

Palliative Consultant for End Stage Lung Disease

Palliative Care Consult Service – Calgary Zone

Alberta Health Services

# 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.
- **Margot Sondermann:** Nothing to disclose
- **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
- **Dr. Joshua Wald:** Speaking fees and honoraria from GSK, AstraZeneca, Canadian Institute for the transfer of knowledge (CITE) and the lung health foundation.



# 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 or 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.

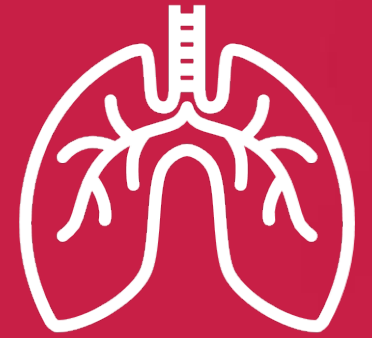
# Overview of Topics

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:**

- Develop a Comprehensive Understanding of Symptom Profiles, including dyspnea, anxiety, cough.
- Optimize Pharmacological Interventions.
- Implement Non-Pharmacological Approaches.
- Manage symptoms at the EOL.



# Symptom Management in Advanced Respiratory Illnesses:

## Strategies for Healthcare Professionals

**Margot Sonderrmann**, BScPT, MEd  
Palliative Consultant for End Stage Lung Disease  
Palliative Care Consult Service – Calgary Zone  
Alberta Health Services

# Overview of Advanced Respiratory Disease

## Common conditions:

- Chronic obstructive pulmonary disease (COPD)
- Interstitial lung disease (ILD)

## Prevalence and impact in Canada:

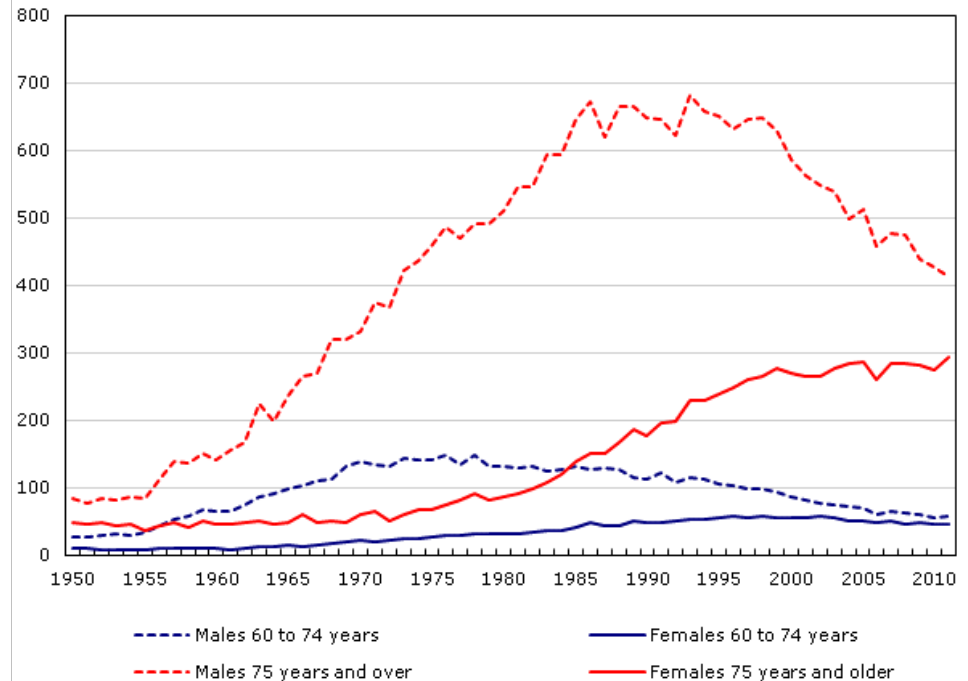
- COPD affects 2.4 million Canadians; leading cause of morbidity and mortality (Canadian Lung Association)
- ILD prevalence is less common but still significant, with an estimated 15-20 cases per 100,000 population in Canada (Canadian Respiratory Journal, 2021)
- Need for effective symptom management to improve patient outcomes

Graph: [statcan.gc.ca](http://statcan.gc.ca)

Chart 2

Death rate from chronic obstructive pulmonary disease by age group and sex, Canada 1950 to 2011

deaths per 100,000



Source: Statistics Canada, Canadian Vital Statistics—Death Database.



# Symptom assessment

## Patient history and physical examination

- Pattern, severity, impact, triggers, previous treatment, O2 saturation at rest and on exertion

## Symptom scales

- Borg scale – measures dyspnea severity
- Modified Medical Research Council (mMRC) – measures impact of breathlessness on daily activities
- Visual analog scale
- Numeric rating scale 0 – 10
- Edmonton Symptom Assessment Scale (ESAS)







# Three cheers for non-pharmacological strategies!!

## What makes the ideal non-drug strategy?

- Easy to understand and implement by almost all patients
- Easy to teach by non-specialist clinicians
- Effective!

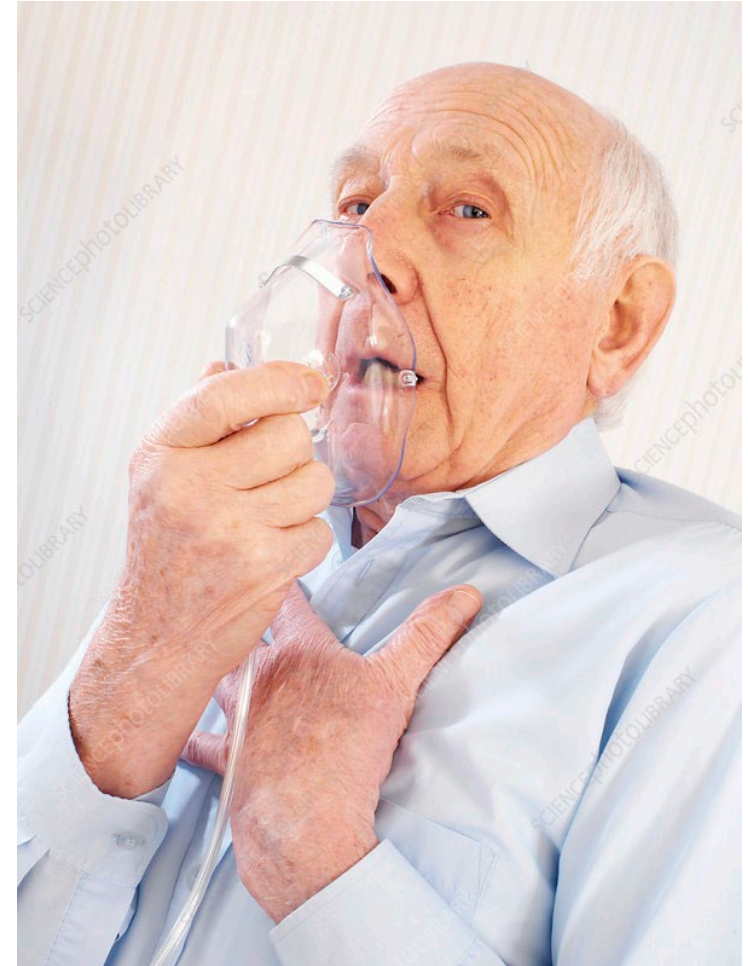


## Benefits of non-drug strategies

- Perception of more control; taking action
- Strategies available for various situations
- Family/caregivers can help provide coaching
- Can be used alone or in conjunction with medications for optimal symptom management

# Common symptoms

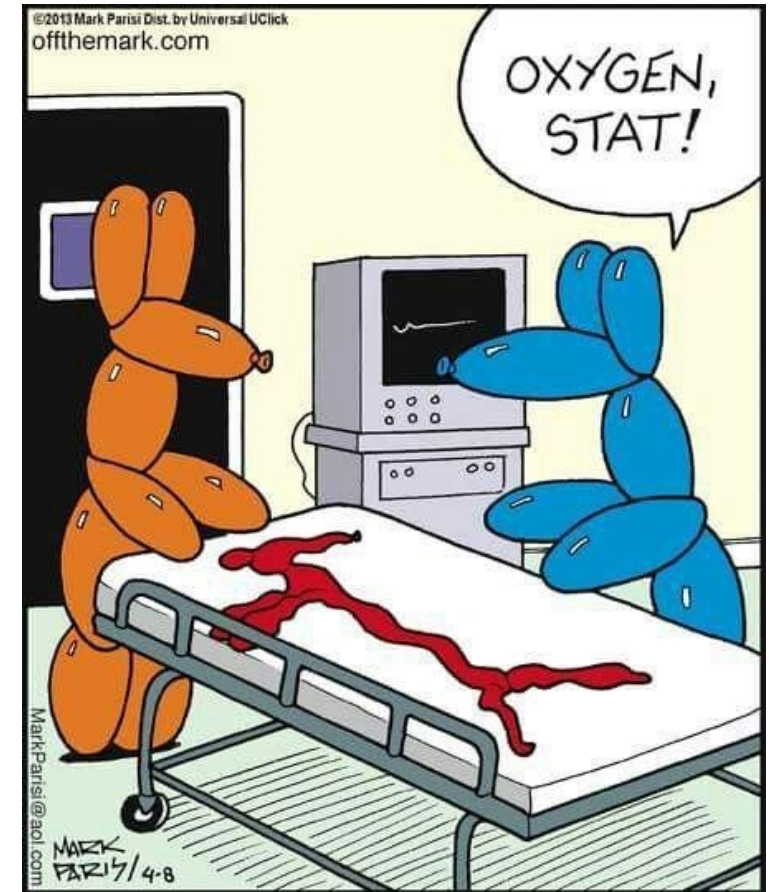
Dyspnea	Most distressing symptom, significantly affecting daily activities and QOL
Cough	Can be persistent and disruptive, often accompanied by sputum production
Sputum production	May be copious and thick, complicating breathing
Fatigue	Common due to increased effort of breathing & overall disease burden
Chest pain	Often related to inflammation or muscle strain from chronic coughing
Anxiety	Almost always a component of advanced respiratory disease, significantly reduces QOL



# Dyspnea management – Pharmacological Strategies

- “The usual”
  - Bronchodilators, corticosteroids
  - Oxygen
- Opioids:
  - Opioids are effective for treating dyspnea; recommended even in patients with advanced lung and heart disease.
  - They are safe provided they are started at lower than usual doses and titrated slowly
  - Appropriate titration of opioids does **not** hasten death (ventilatory drive is NOT affected with slow titration)
  - Regular assessment and management of side effects: constipation (laxatives), nausea (antiemetics), drowsiness

Mahler and O'Donnell, CHEST 2015; 147(1):232-241 Hayen et al. Neuroimage 2017;150:383-94







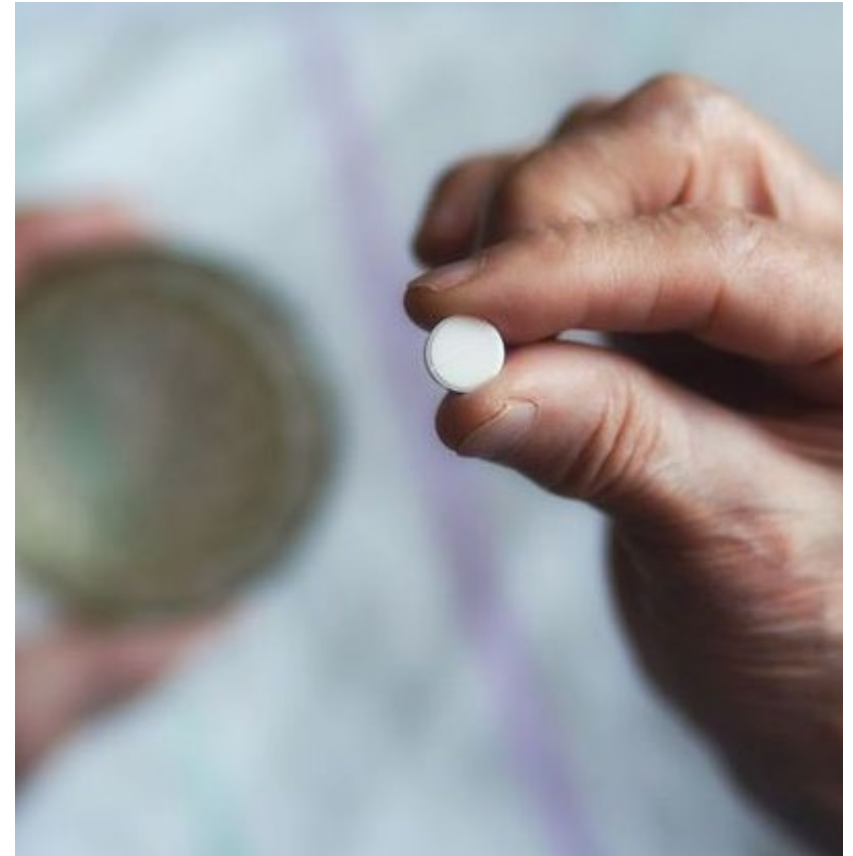
# How do opioids improve dyspnea?

- Opioids treat dyspnea through several mechanisms:
  - Reducing respiratory drive
  - Reducing anxiety
  - Altering central responses to exertion
  - Cough suppression
  - Decrease central perception of breathlessness
- Other possible mechanisms:
  - Increase peripheral vasodilation, improve venous return and heart function
  - Peripherally, by acting on lung receptors  
→ less bronchospasm

Canadian Thoracic Society Guidelines, 2023

# Morphine dosing . . . what we really do (in Calgary)

- In opioid naive patients without hypercapnia, and without contraindications, here are 3 options:
  - **Morphine liquid 1 mg/ml 1 ml po q4h prn in selected patients (frail, cachectic, etc.)**
  - **Morphine 2.5 mg po q4 hours prn to start**
  - **Morphine 2.5 mg q4h + 1-2mg q1h PRN for breakthrough dyspnea**
- Titrate and change to long-acting dose once dose stabilised and symptoms optimized
- Monitor closely for side effects
- Start a bowel routine always
- Other opioids can be used instead e.g. hydromorphone
- Sublingual fentanyl is useful in specific circumstances



# Other medications for dyspnea

- **Insufficient** evidence to recommend other therapies:
  - Anxiolytics (Benzodiazepines)
  - Antidepressants (SSRI)
  - Cannabis
  - Nebulised furosemide
  - Herbal therapies
- Note: nebulized morphine is not helpful





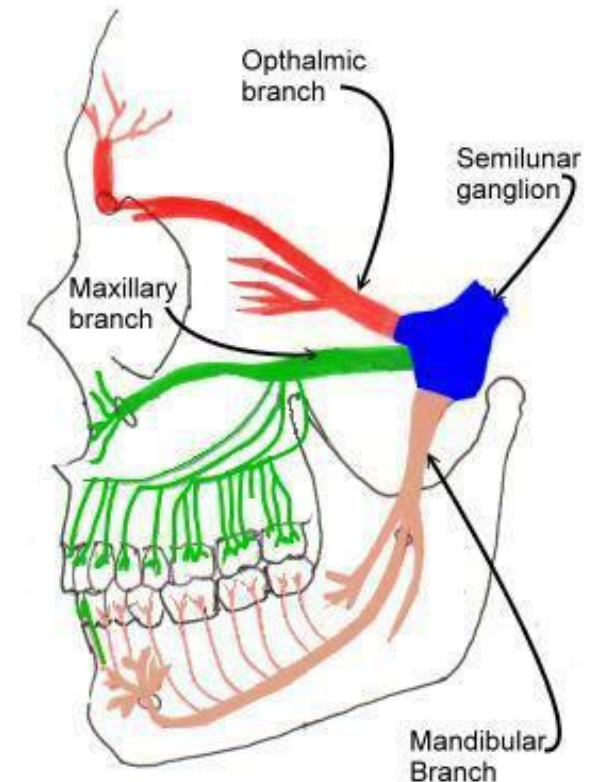
# Non-pharmacological dyspnea strategies

- Fan
- Breathing techniques
- Positioning & energy conservation
- Distraction
- Calming presence/environment
- Cognitive-behavioural & self-management strategies
- Mobility aids/ADL equipment



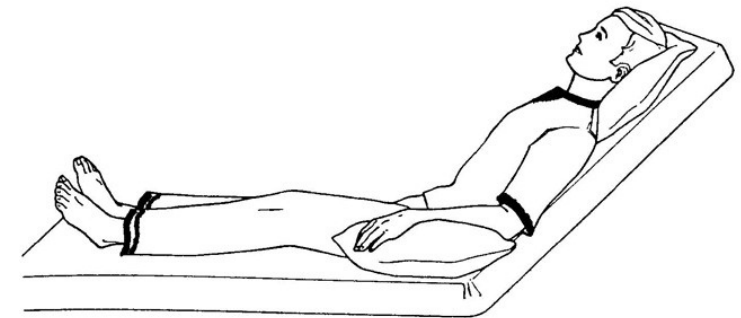
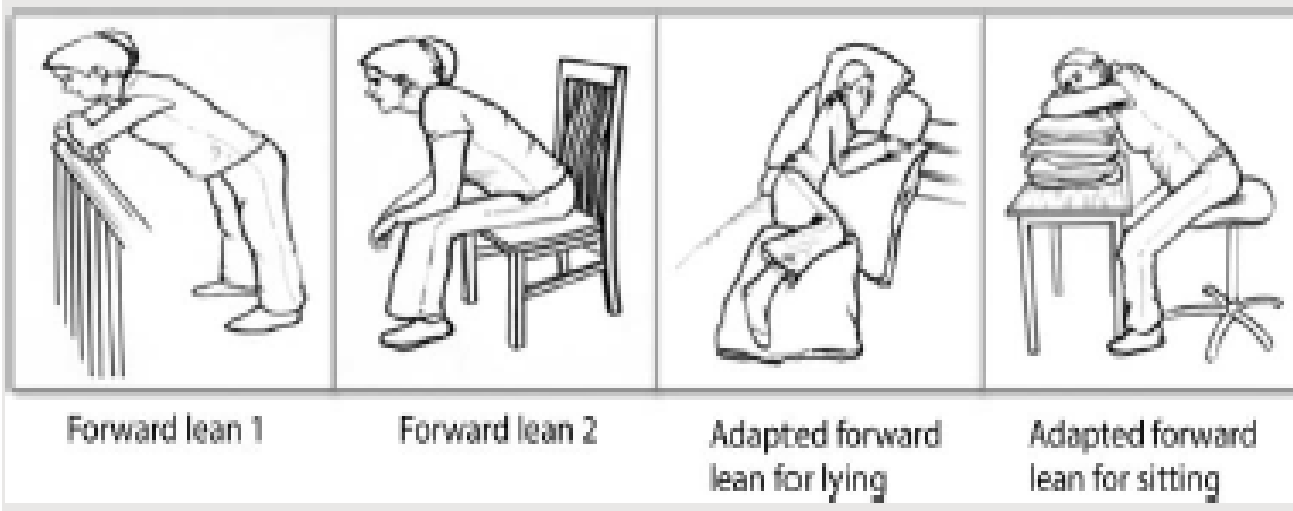
# The case for the fan

- Breathless patients often report relief of dyspnea when sitting by open window or by a fan
- Mechanism of action: stimulation of facial receptors (5<sup>th</sup> cranial nerve/trigeminal nerve) which triggers brain to perceive a reduction in breathlessness.
- **Safe, inexpensive, portable and may be one of the MOST effective non-pharmacological strategies for acute, chronic or end-of-life dyspnea**





# Positioning for dyspnea



- Weight-bearing through arms allows muscles to increase ventilation capacity
- Forward lean domes the diaphragm – improved force generation

- High Fowler's
- Fold pillows under elbows in a dyspneic bed-bound patient

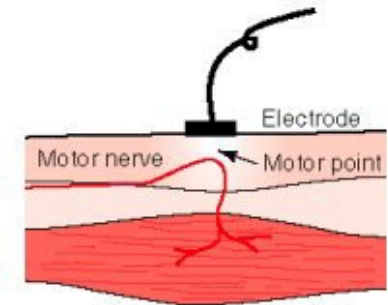
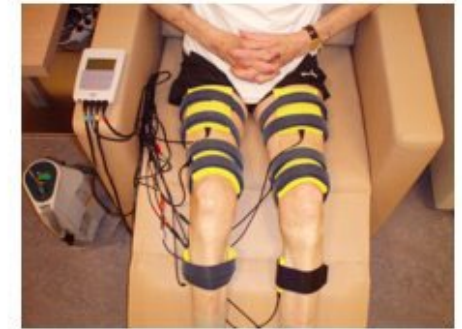
# Time-intensive non-drug dyspnea strategies

## Require:

- specialist skills and involvement
- high levels of engagement by cognitively intact and highly motivated patients/families
- time to learn & time to do

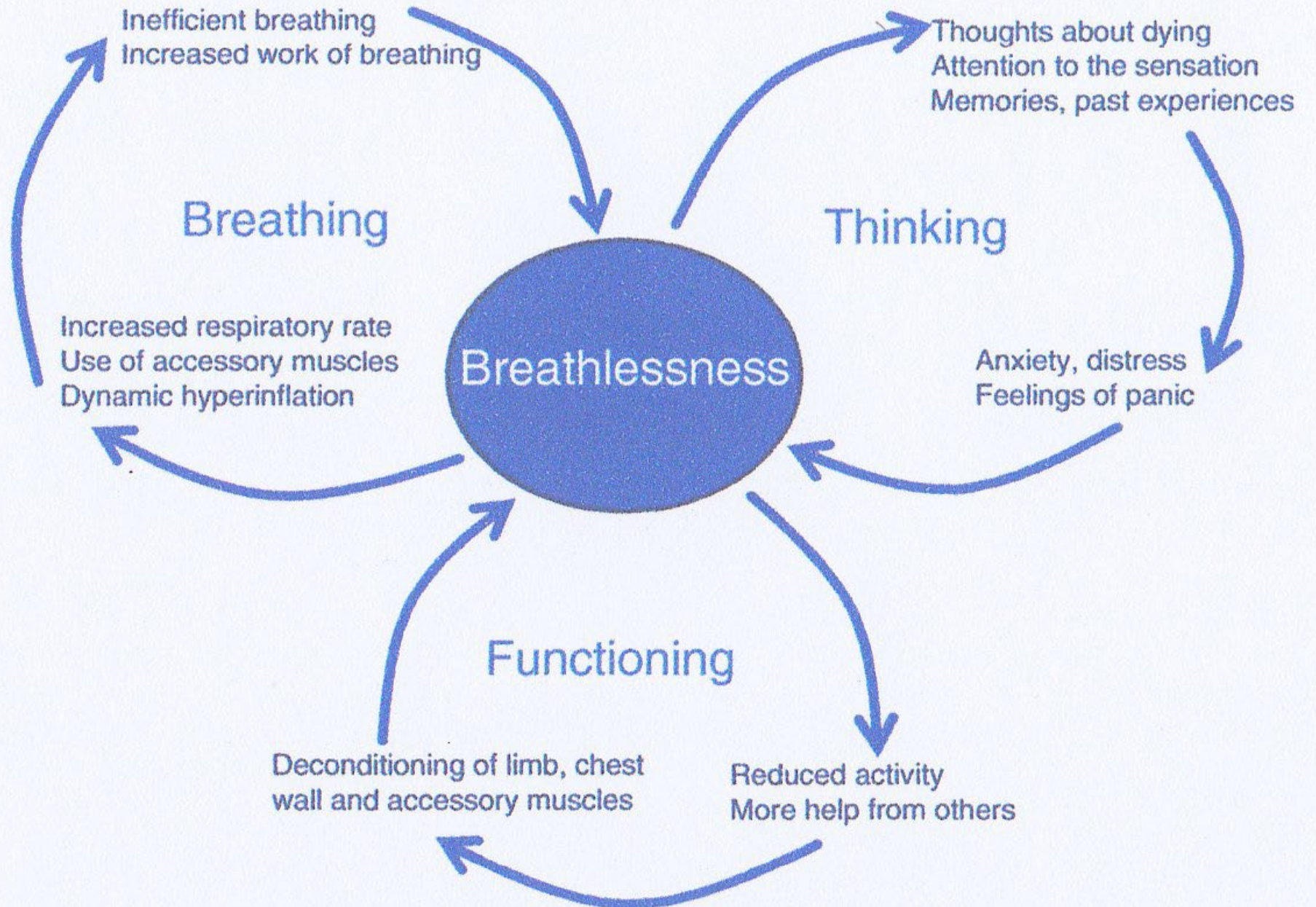
## Strategies:

- Neuro-muscular electrical stimulation (NMES)
- Chest wall vibration
- Cognitive-Behaviour Therapy & self-management techniques
- Mindfulness-based stress reduction (MBSR)
- Pulmonary rehabilitation – useful in the long-term if prognosis is long



# Breathing, Thinking, Functioning Model for Breathlessness

Booth et al.  
Managing  
Breathlessness in  
Clinical Practice  
Pub: Springer 2014



# Interventions for dyspnea

## Breathing

- Recovery breathing, breathing control
- Pursed lip breathing
- Airway clearance
- Positioning/walking aids
- Hand-held fan
- Opioids

## Thinking

- Explanation and reassurance
- Relaxation techniques
- Mindfulness based stress reduction (MBSR)
- Cognitive-Behavioural strategies
- Acupuncture and acupressure
- Opioids +/- anxiolytics

## Functioning

- Pacing
- Graded exercise
- Energy conservation
- Lifestyle adjustment
- Pulmonary rehabilitation
- Opioids



# Cough management

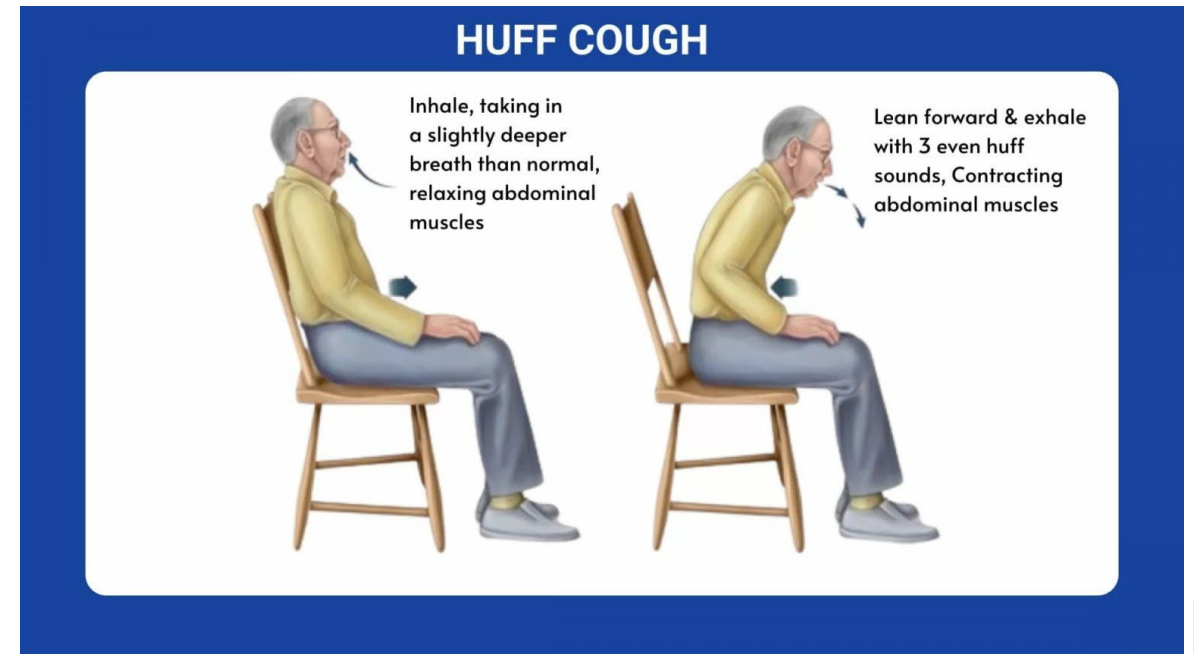
## Pharmacological treatment

- Antitussives (e.g. dextromethorphan)
- Expectorants (e.g. guaifenesin)
- Mucolytics (acetylcysteine)
- Antihistamines
- Bronchodilators
- Pharyngeal demulcents (lozenges)
- Opioids (e.g. codeine, morphine)
  - Most effective

Image: Thehomerehabnetwork.com

## Non-pharmacological strategies

- Humidification
- Hydration
- Huffing



# Sputum/respiratory secretions management

## Pharmacological treatment

- Mucolytics (acetylcysteine)
- Saline nebs
- Short-acting bronchodilators (salbutamol)

## Non-pharmacological strategies

- Oscillating positive expiratory pressure devices
  - Aerobika, Flutter, Acapella
- Chest physiotherapy
- Postural drainage
- Humidification
- Hydration



# Fatigue management

## Pharmacological treatment

- Limited evidence that any medications help



## Non-pharmacological strategies

- Energy conservation
- Notion of an “energy bank”
- Adequate nutrition
- Planning activities

Image: oldnutrition.com

# Chest pain management

\*Attempt to determine cause

## Pharmacological treatment

- Analgesics
  - Acetaminophen, NSAIDS
  - Opioids



## Non-pharmacological strategies

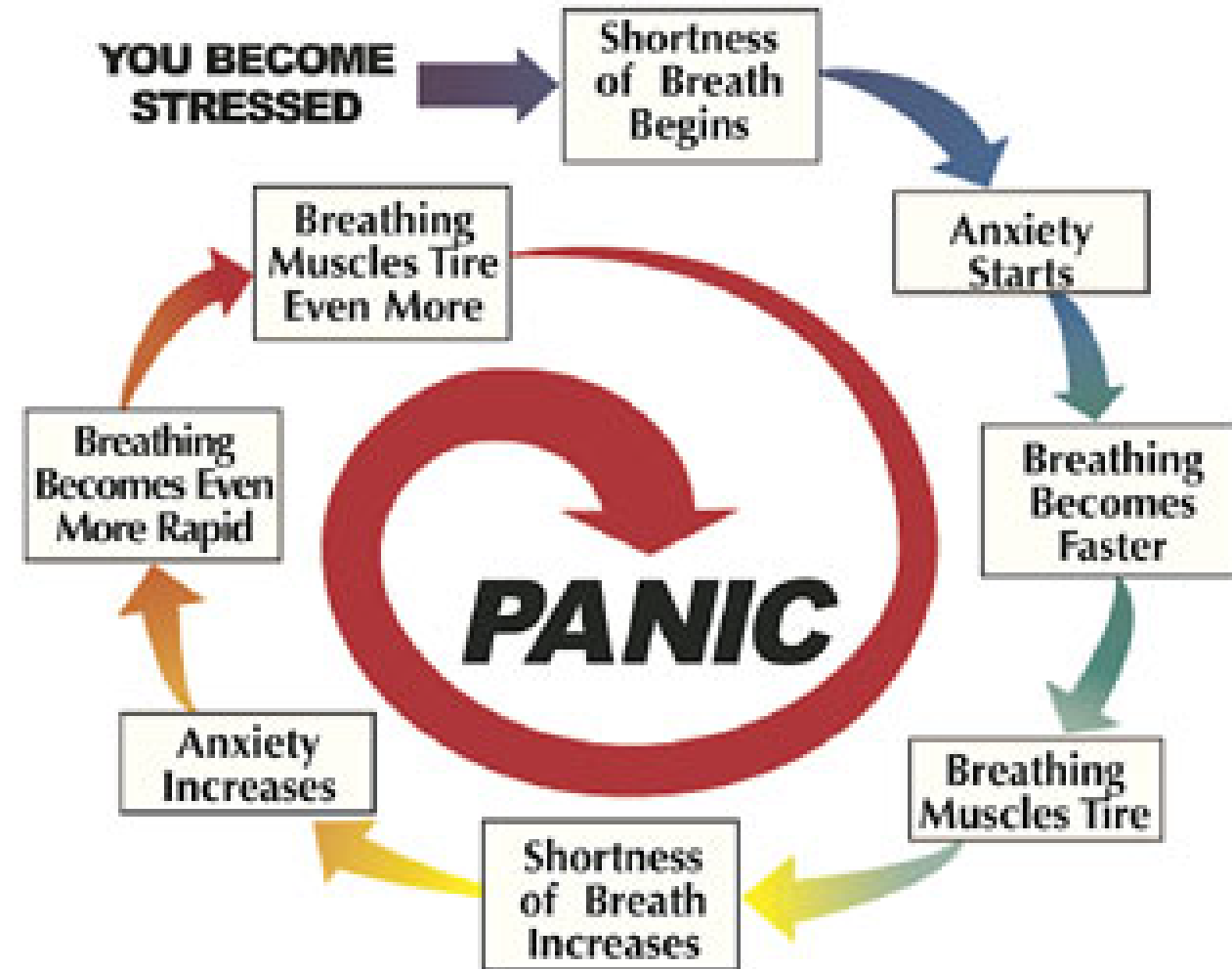
- Hot pack or heating pad
- Supported coughing techniques (if pain due to cough)
- Rest/relaxation
- Gentle stretching
- Stress management

image: saintlukeskc.org



# Anxiety management

- Almost always a component of end stage lung disease
- Should be addressed along with dyspnea management
- Often leads patients to overuse other strategies
  - Increased oxygen flow
  - Overuse of inhalers/nebs
  - Overuse of “breakthrough” dose of opioid
  - Increased use of ER



# Anxiety management

## Pharmacological treatment

- SSRI (any)
  - Escitalopram, sertraline, fluoxetine, etc.
- Buspirone
- Benzodiazepines
  - Ativan, Clonazepam



## Non-pharmacological strategies

- Cognitive Behavior Therapy
- Bibliotherapy (self-help)
- Breathing techniques (e.g. PLB)
- Relaxation techniques
- Guided meditation

# Managing dyspnea in the last hours of life

- Stop measuring oxygen saturation
- Opioid naïve:
  - 2.5-5mg morphine IV/SC stat then reassess, then titrate to effect.
- Opioid tolerant:
  - 25-100% increase in dose IV/SC stat
- Opioids can be given subcutaneously via hypodermoclysis
- Consider palliative sedation in selected patients

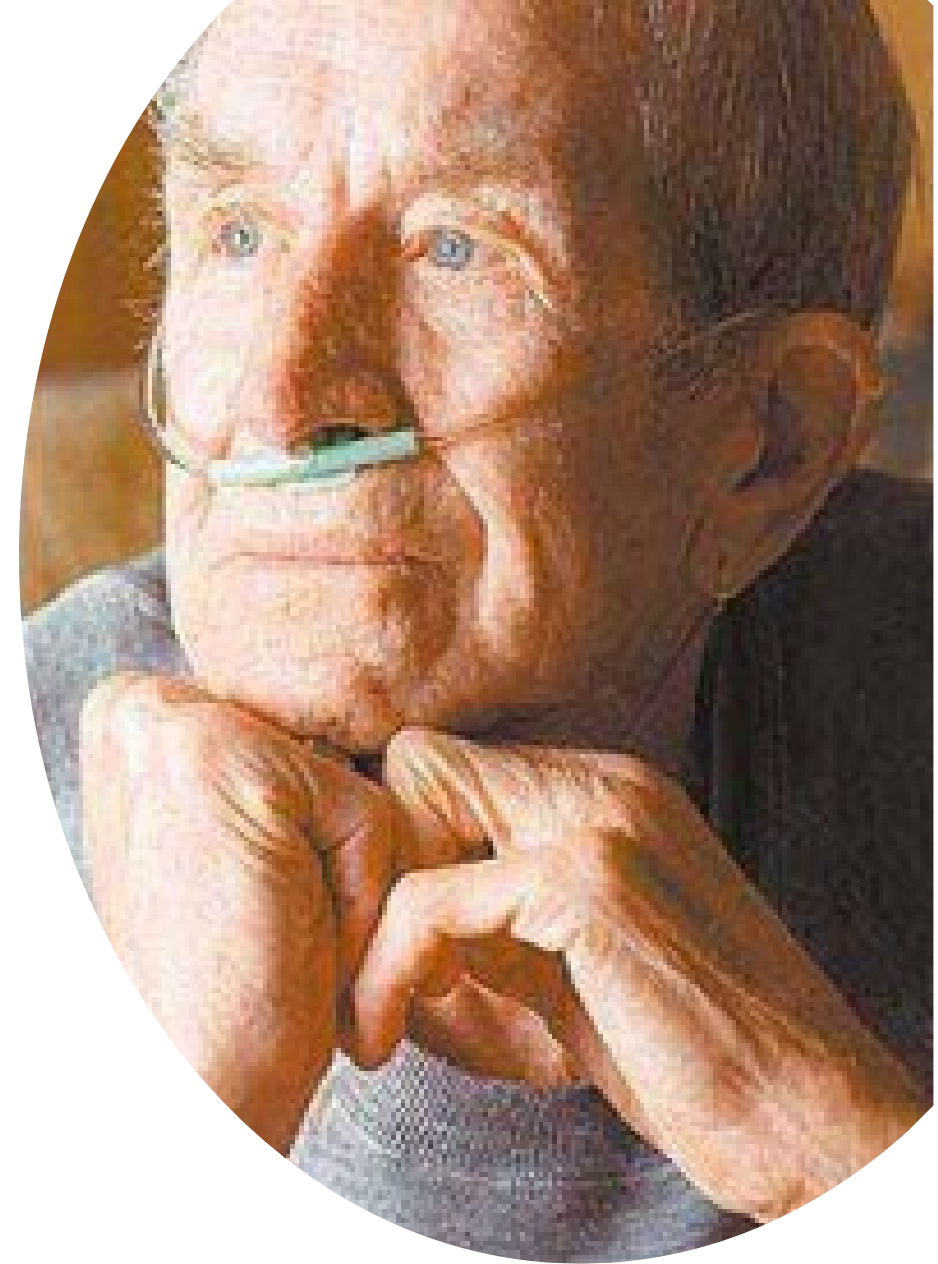


# Case-Based Discussion



# Case Study - John

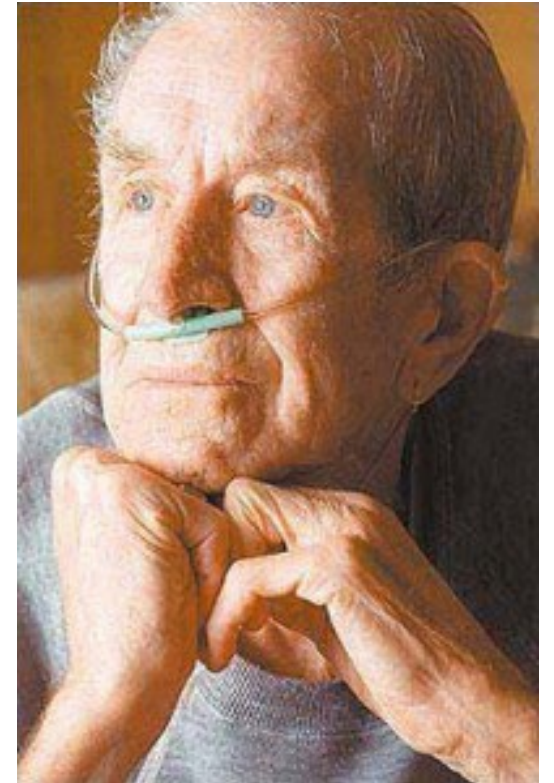
- 72-year-old man with advanced COPD (FEV1 30%), HTN, dyslipidemia
- Social history: widower, lives alone, 3 adult children
- For the last 3 months, SOB getting progressively worse. Home O2 usually 3 lpm, no cough. Dyspnea 4/10 at rest, 8-10 on exertion.
- In the last year, has been admitted to hospital twice for COPD exacerbations.
- PPS now 50%; MMRC 4
- Meds: Trelegy, Ventolin prn, rosuvastatin, ramipril



# John becomes worse over the last few days . . .

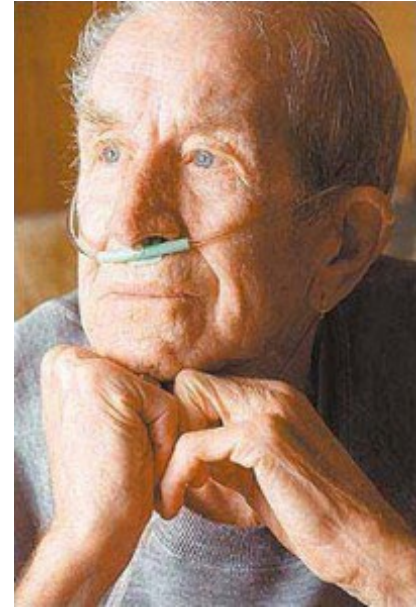
- Dyspnea increased: 8/10 at rest and 10/10 on exertion.
- New productive cough, purulent.
- Physical exam
  - Lucid and alert. Looks uncomfortable. Pursed-lip breathing, using accessory breathing muscles.
  - Temp 37.8°C; RR 24/min; PR 110/min regular, colour normal. O2 saturation 85% (usually about 92% on home O2 at 3LPM). JVP normal. Cachectic (muscle wasting). Mild pedal edema.
  - Barrel chest and hyper-resonant on percussion. Decreased breath sounds. Bilateral crackles and some wheezing

**How would you approach this situation?**



# John's care plan

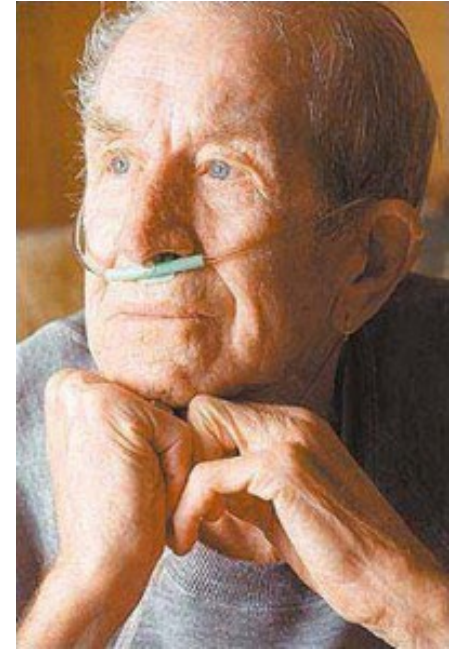
- Treat respiratory infection with appropriate antibiotic
- Optimize the COPD treatment (inhalers, prednisone, etc.)
- Non-pharmacological measures to help reduce dyspnea
  - Fan, pursed lip breathing, energy conservation, use of ADL equipment, etc.
- Given dyspnea for many months and signs of progressive disease, he would benefit from opioid treatment (starting at a low dose and then titrating slowly if needed to clinical effect)
  - Morphine 2.5 mg PO q4h plus 1mg PO TID PRN
  - OR
  - Hydromorphone 0.5 mg PO q4h plus 0.2 mg PO TID PRN
- Note: These doses are considerably lower than usually used in patients with no advanced lung, heart or kidney disease.





# John's care plan continued . . .

- Laxative (as he is now on an opioid)
  - Senna, PEG or lactulose
- Metoclopramide 5mg or 10mg PO QID prn for nausea
  - For first few days as he may experience nausea when starting opioid treatment
- Optimize oxygen
- Initiate essential discussions with him about:
  - His understanding of what is happening now and overall, with his disease, and address mood
  - Values and wishes regarding care
  - ACP and GOC
- Enhance home care supports and ensure he is connected to his primary care team as well.







# QUESTIONS?

Margot Sondermann, BScPT, MEd.  
Palliative Consultant for End-Stage Lung Disease,  
Palliative Consult Service, Alberta Health Services  
403-828-1289

[margot.sondermann@ahs.ca](mailto:margot.sondermann@ahs.ca)

# 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 **Psychological distress and depression** held on **November 27, 2024, from 12–1:00 p.m. ET.**

Thank You



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