Palliative Care for COPD Patients

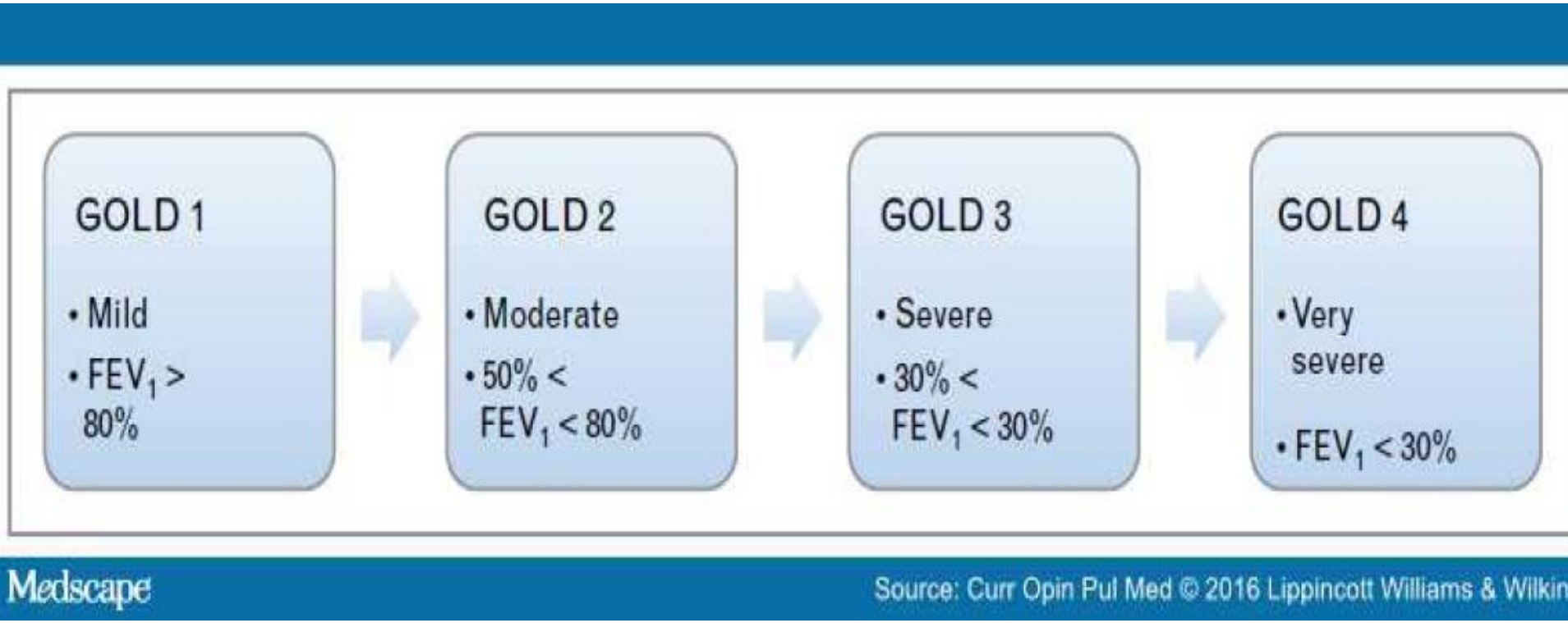
Dr. Semionov Valentina
Pain and Palliative Care Unit,
Ben-Gurion University of the Negev,
Clalit Health Services,
Beer-Sheva, Israel

COPD: Definition

- Chronic obstructive pulmonary disease (COPD) is a preventable and treatable disease state characterized by airflow limitation that is not fully reversible
- The airflow limitation is usually progressive and is associated with an abnormal inflammatory response of the lungs to noxious particles
- Although COPD affects the lungs, it also produces significant systemic consequences

Celli et al; ATS/ERS Task Force. *Eur Respir J*. 2004;23:932-946.

Recent staging system



Stages of COPD

COPD Stages I: Mild COPD

Stage 1

80% Normal Lung Function

COPD Stages II: Moderate COPD

Stage 2

50% - 80% Normal Lung Function

COPD Stages III: Severe COPD

COPD Stage III typically involves severe worsen of [Respiration, tiredness of breath and frequently COPD exacerbations.

Stage 3

30% - 50% Normal Lung Function

COPD Stages IV: Very Severe COPD

COPD Stage IV becomes very severe and risks, and Thus decreases the life quality with vital COPD Exacerbations.

Lung function **FEV1** levels might lower that than 30%.

Stage 4

Less Than 30% Normal Lung Function

The burden of COPD

Epidemiology

- COPD is the **fourth** leading cause of death.
- COPD is a chronic disease affecting 6-10% of the adult population worldwide
- While mortality from CV disease, stroke, and cancer decreased over the last two decades, COPD mortality in the US has **doubled**.
- Patients who have COPD in developed countries are often hospitalized 3-4 times per year. Many of them are in an ICU

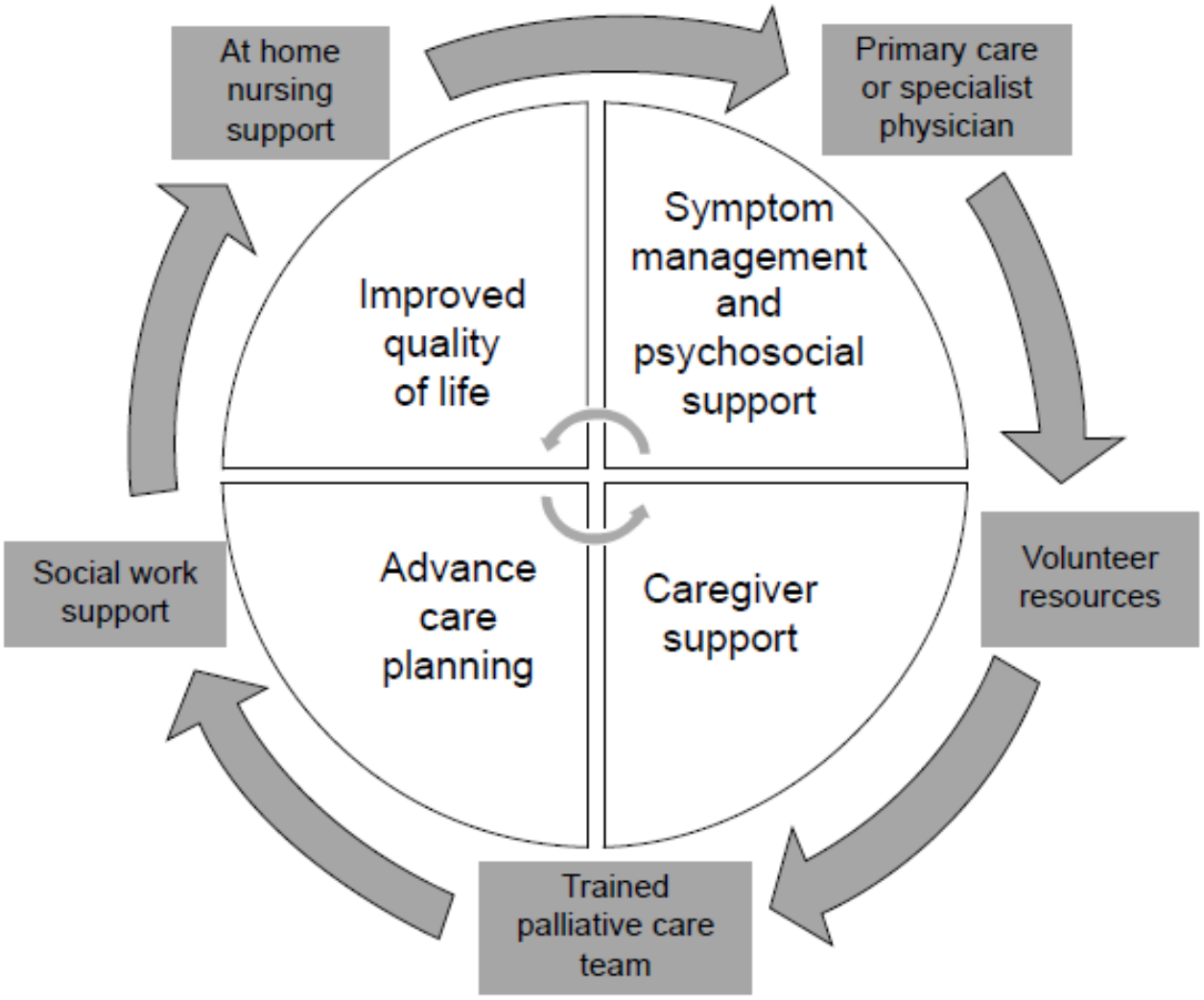
COPD Patients:

- Affect on the quality of life:
  - intractable dyspnea
  - fatigue
  - social isolation
  - high level anxiety and depression.
- The lack of recourse to support in the community.

Terminal Disease?

PALLIATIVE MEDICINE

LIFE-LIMITING ILLNESSES


At home nursing support
Primary care or specialist physician
Symptom management and psychosocial support
Improved quality of life
Volunteer resources
Caregiver support
Advance care planning
Social work support
Trained palliative care team

A comparison of palliative care and quality of life in COPD and Lung Cancer.

Thorax 2000;55(12):1000–6

- Compared symptoms and morbidity between **50** patients who had severe COPD (and at least one admission for respiratory failure) and **50** patients inoperable NSCLC
- **None** of the patients who had COPD was offered or received input from palliative care specialists, whereas **30%** of the patients who had cancer received such care

A comparison of palliative care and quality of life in COPD and Lung Cancer.

Thorax 2000;55(12):1000–6

- COPD patients had significantly worse physical, social, and emotional functioning and more anxiety and depression (**90%** versus **52**%).

- **28%** of the patients who had COPD were housebound, and **36%** were chair bound, compared with **36%** and **10%** of patients with lung cancer.

Support Study- A controlled trial to improve care for seriously ill hospitalize patients.

JAMA1995

Compared with patients with lung cancer:

patients with COPD were much more likely

- to die in the intensive care unit(ICU)
- on mechanical ventilation
- and with dyspnoea

- patients with COPD, 56% had severe dyspnea and 21% had severe pain.
- patients who had lung cancer, 32% had severe dyspnea and 28% had severe pain.

A comparison of symptom prevalence in far advanced cancer, AIDS, heart disease, COPD and renal disease.

J Pain Symptom Manage 2006; 31(1):58–69.

- Three common symptoms were present in more than 50% of patients across all five diseases: **pain, breathlessness, and fatigue**.
- Patients who have COPD have a reduced quality of life and a heavy burden of symptoms that is at least as great if not greater than patients who have advanced lung cancer.
- The most common symptoms are **dyspnea, pain, fatigue, and depression**

Differences in health care utilization at the end o life among patients with COPD and patients with lung cancer

Arch Intern Med 2006;166(3):326–31

- During the last 6 months of life, patients who had COPD were **twice** as likely to be admitted to the ICU.
- Were **five** times more likely to be in an ICU longer than 2 weeks.
- Received fewer palliative medications.

The current state of COPD and palliative care

- Despite refractory symptoms and recurrent hospitalizations, patients with COPD die without access to palliative care
- Many physicians view palliative care only as care given to actively dying individuals rather than a multidisciplinary approach
- Consequently, patients with COPD are often not referred to palliative care recourses and have unmet needs at the end of life.

So Why Not?

Barriers to providing palliative care to patients with COPD

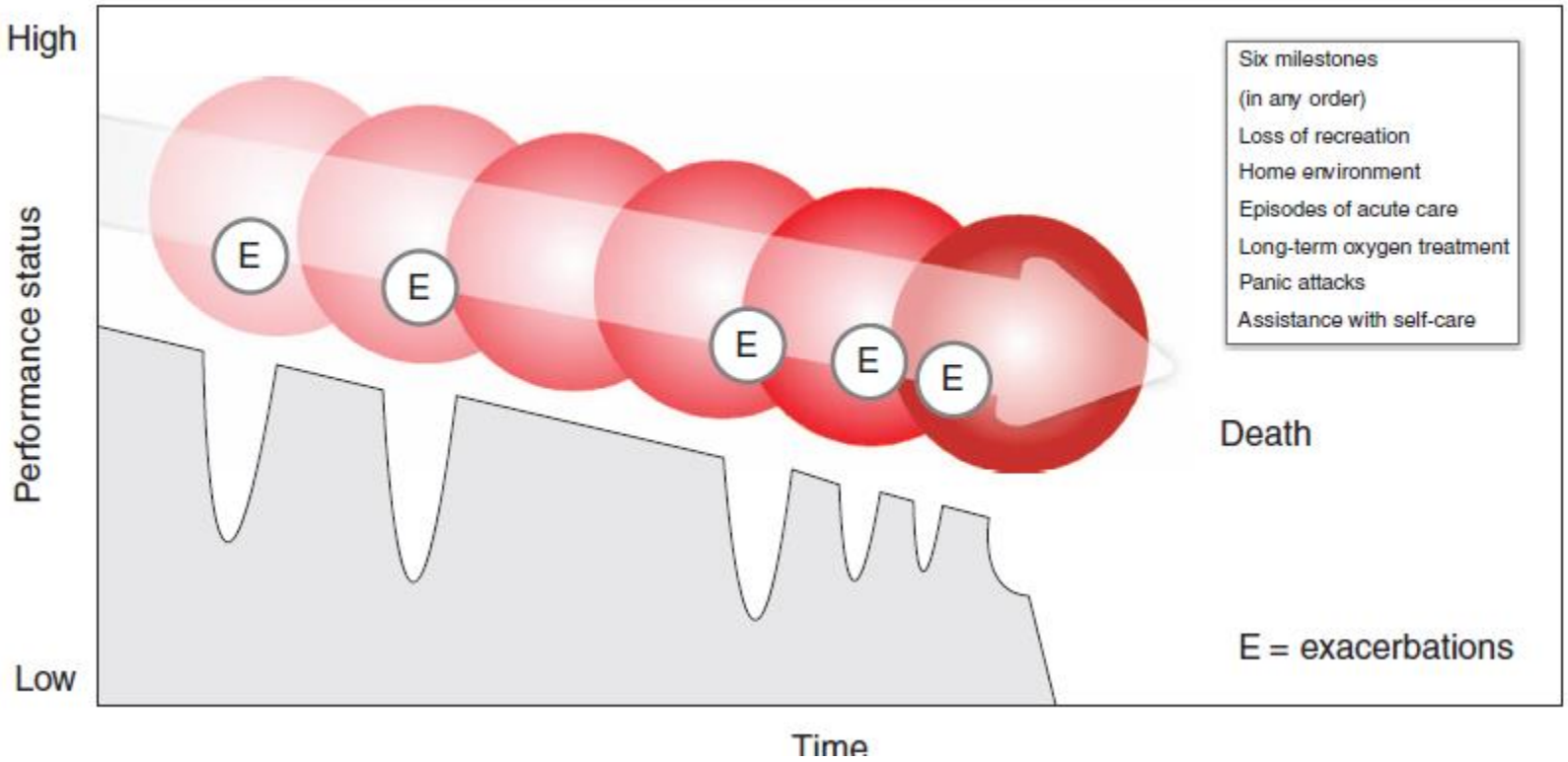
POOR PROGNOSTIC FACTORS IN COPD

- FEV1 < 30% predicted
- Oxygen dependence
- One or more hospital admissions in the previous year for an acute exacerbation of COPD
- Left heart failure or other co-morbidities

POOR PROGNOSTIC FACTORS IN COPD

- Weight loss or cachexia
- Decreased functional status
- Increasing dependence on others
- Age >70 yrs

Trajectory of chronic obstructive pulmonary disease



Barriers to providing palliative care to patients with COPD

- Difficulties of prognosis
- Difficulties with communication
- Health-systems issues

Potential barriers of palliative care in patients with advanced COPD

Patient factors

1. Unwillingness to discuss end of life
2. Lack of knowledge about such type of care
3. Loss of hope
4. Communication problems

Physician factors

1. Uncertainly about the prognosis
2. Lack of recourse and time constraints
3. Lack of confidence

-

Palliative care and COPD

- Identifying patients appropriate for referral to palliative care : ***the surprise question***
- This method, encourages physicians to ask "would I be surprised if my patient were to die in the next 12 months?
- If the answer is no, proactive palliative care should be considered

Triggers to begin or intensify proactive palliative resources for patients with COPD

Age ≥ 75[35,54–56,61]

Comorbidities[a,35,54,55,61–66]

Change 6-minute walk by 50 m[53]

Functional dependence and patient reported minimal physical[b] activity[35,53,65,67]

Poor health-related quality of life[c,35,57,65,68]

FEV_1 $<30\%$[9,54,66]

BMI $<20\%$[61,69]

≥ 1 hospitalization within last year[55,65]

Management:

Goals of treatment for COPD

- Improve quality of life, exercise tolerance, sleep quality, and survival

- To reduce dyspnea, nocturnal symptoms, exacerbations, use of rescue medications, and hospitalizations.

ELEMENTS OF EFFECTIVE PALLIATIVE CARE

- Management of dyspnea
- Oxygen therapy
- Nutritional support
- anxiety and antidepressants-Anti
- Advance care planning

An Update on Pharmacologic Management of Chronic Obstructive Pulmonary Disease

Curr Opin Pulm Med.
2016;22(2):119-124

Bronchodilators

β-agonists

- short-acting β-agonists (SABA):
  - albuterol and levalbuterol
  - onset of effect is achieved in 3–5 min
  - the duration is only about 4–6 h
  - 'as-needed' form

β-agonists

Several long-acting β agonists (LABA) :

- monotherapy and in combination with ICS or with longacting muscarinic antagonists (LAMA)
- The TORCH (Towards a Revolution in COPD Health) trial was one of the largest studies showing a statistically significant improvement in time to exacerbation in the salmeterol arm as compared with placebo.

Anticholinergics

- Short-acting muscarinic antagonists (SAMA)
- Longacting muscarinic antagonists (LAMA)

Anticholinergics

- effective bronchodilation
- reduce the frequency of exacerbations
- improvement in FEV1 when compared with placebo that is statistically significant

Combination Long-acting Muscarinic Antagonists and Long-acting β-agonists

- for improved symptom control in late stage COPD, especially for patients in categories C and D
- Initial results are positive for several LAMA/LABA combinations when compared with monotherapy and placebo.
- Improve medication adherence in this sick patient population

Inhaled Corticosteroids

- ICS are recommended for late stage COPD or in those with frequent exacerbations.
- In TORCH, salmeterol/fluticasone has been shown to decrease rates of exacerbations

Mucolytics

- May result in a small reduction in acute exacerbations and in the total number of days of disability for patients with moderate to severe COPD.

- A systematic review of studies comparing oral mucolytics with placebo for three to six months showed a small decrease in exacerbations from a baseline of 2.7 exacerbations per year to 2.0 exacerbations per year with treatment.

.

.

Corticosteroids (Oral)

- No significant improvement in patient-oriented outcomes, and long-term use is associated with significant harm.

- Switching from the use of oral to inhaled steroids is not associated with adverse outcomes.

Drug therapy of COPD in palliative care

- Benzodiazepines to control anxiety
- Antidepressants to improve mood
- Opioids and oxygen to control breathlessness
- Consider continuous subcutaneous infusion therapy of opioids, anti-emetics and anxiolytics

Palliative interventions for refractory dyspnea

Palliative interventions for refractory dyspnea

Oxygen	Pharmacologic	Non-pharmacologic
Hypoxemic ↑	Opioids	Rehabilitation ↑
Non-hypoxemic ↔	*Oral* ↑	Nutrition ↔
	Parenteral ↑	Psychosocial support ↔
	Inhaled ↓	Breathing techniques ↑
	Psychotropic drugs	*Positioning*
	Anxiolytics ↔	*Pursed lip breathing*
	Phenothiazines ↓	Breathlessness clinics ↔
	Selective serotonin reuptake inhibitors ↔	
	Inhaled furosemide ↔	
	Heliox ↔	

↑ Evidence generally supports use of intervention for the management of refractory dyspnea in COPD.

↓ Current available evidence does not support use of this intervention.

↔ Further investigation required.

Drugs for symptom control in end stage COPD

- **Opiates**
  - Useful in reducing the sensation of breathlessness
  - Initially prescribe oral morphine
  - This can lead on to a regular longer acting opiate
- **Benzodiazepines**
  - Can be prescribed alone or alongside opiates
  - Lorazepam can be used sublingually as required at dose of 0.5-1 mg
  - Patients with persistent anxiety or breathlessness may require a regular longer acting benzodiazepine such as diazepam 2-5 mg every 8 hours

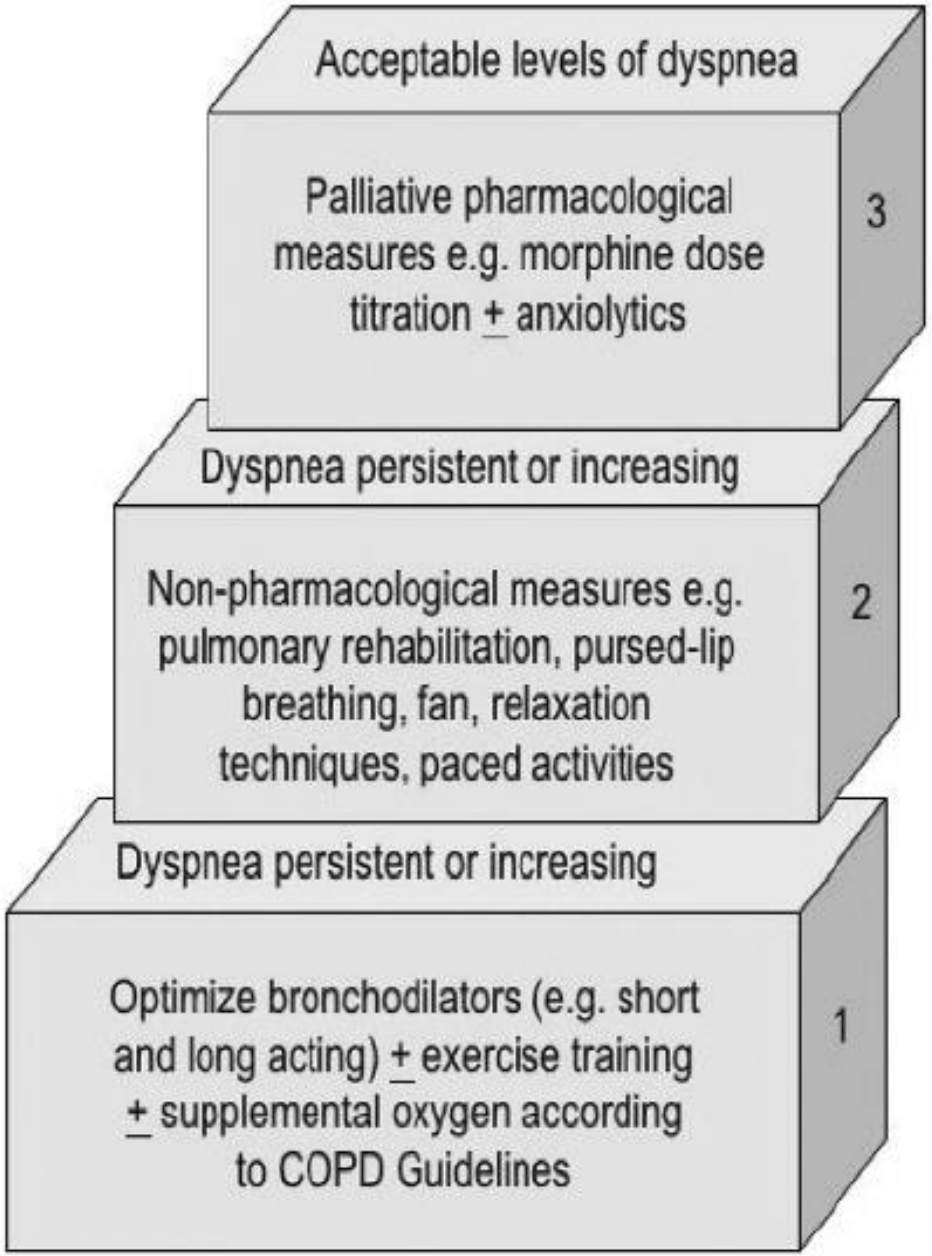
Palliation of dyspnoea in advanced COPD:

revisiting a role for opioids

G Rocker, R Horton, D Currow, D Goodridge, J Young and S Booth

Thorax 2009; 64; 910-915

The dyspnoea ladder for advanced COPD.



Oxygen

- Both oxygen and normal air reduce dyspnoea
- No evidence for a consistent beneficial effect

individual test, but stop if no beneficial effect

Adverse effects:

- –Dry airways
- –Dependency
- –No adaptation to low oxygen level
- –Difficult discharge home
- –Financial issues

Oxygen

- Home oxygen therapy is commonly prescribed for patients with severe COPD

- Two randomized controlled trials demonstrated (1980/81)that long term oxygen therapy (LTOT) prolongs survival in COPD patients with hypoxemia (PaO_2 <55 mmHg). LTOT oxygen is administered at home for at least 12–15 hours per day.

Oxygen

- In patients with end stage disease, oxygen is used to provide symptomatic relief of breathlessness
- Oxygen can be administered for long periods during the day and night (long term oxygen therapy) or as short burst therapy to relieve symptoms

NPPV in palliative care

- **Non invasive positive pressure ventilation**
- NPPV is alternative to invasive ventilation for symptom relief in end stage COPD
- The goals of using NPPV and the parameters for success and failure, should be discussed by experienced personnel, in appropriate healthcare settings

Killing the symptom without killing the patient

- Do opioids cause respiratory depression, especially in patients with cardiopulmonary disease?
- Do opioids shorten life when required to treat severe symptoms?

Canadian Family Physician

Vol 56: june • juin 2010

Killing the symptom without killing the patient

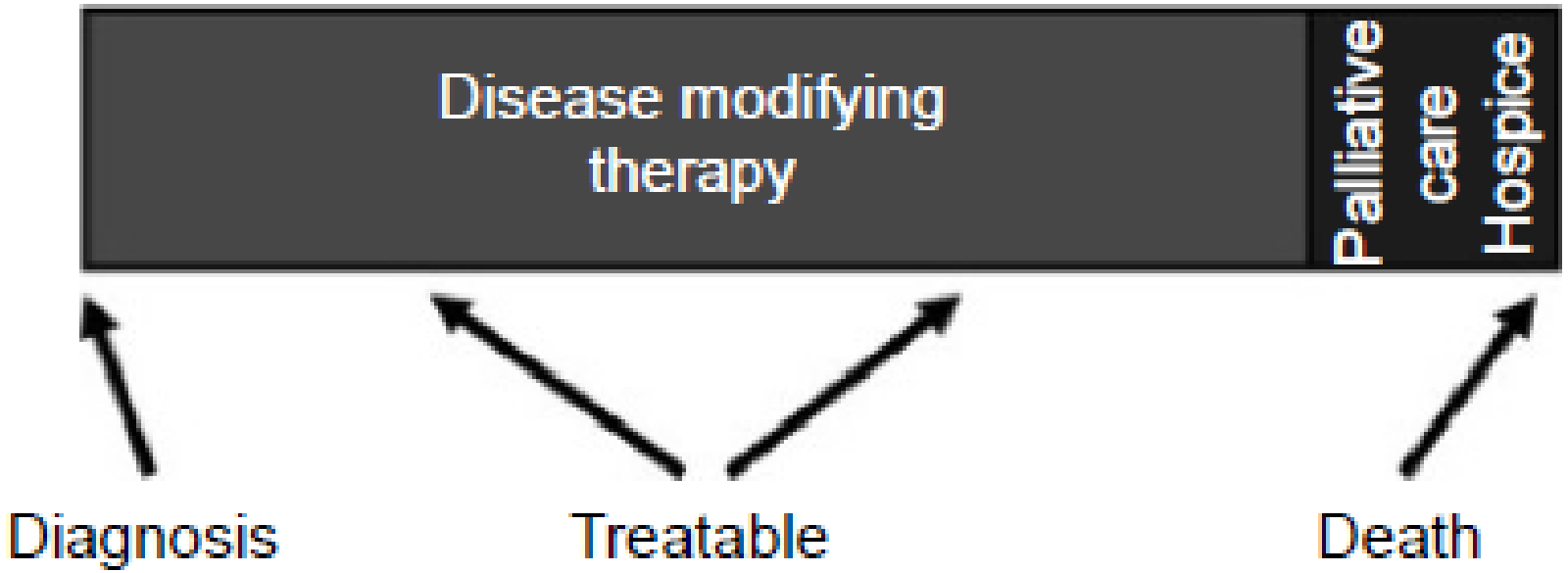
- *Respiratory depression is defined as a rise in peripheral PCO2 and a fall in peripheral oxygen, as well as a reduction in the rate of respiration. It is always preceded by sedation, and the process of sedation through to reduction and cessation of breathing takes at least 5 to 15 minutes*.
- Studies show that appropriate doses of opioids do ***not cause respiratory depression***.

Killing the symptom without killing the patient

Studies of the relationships between opioids dose, change of dose, and use of sedatives and time to death in patients with advanced illness have found no significant relationships.

- .

Old model of care



New models of care