PRACTICAL DYSPNEA MANAGEMENT

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Faculty / Presenter Disclosure

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Learning Objectives

The participants will be able to:

1. List at least 5 non-pharmacological and 2 pharmacological strategies to employ during a dyspnea crisis.

2. Differentiate between the management of acute and chronic dyspnea.

3. Instruct patients in how to set up a “Breathing Chair”.
Is this patient breathless?
What is dyspnea?

“The **subjective** experience of breathing discomfort that consists of qualitatively distinct sensations that vary in intensity” (American Thoracic Society)

Includes:

- work of breathing
- chest tightness
- air hunger/ unsatisfied inspiration
What is dyspnea?

• One of the most uncomfortable and terrifying symptoms

• Affective component present – anxiety and panic
Pathophysiology of dyspnea

Affective component (unpleasantness)

Neuromechanical Dissociation

Uptodate, accessed 2015

Affective component (unpleasantness)
Acute vs. Chronic Dyspnea

• Acute dyspnea appears suddenly or in a matter of minutes. It typically indicates acute and severe conditions that may be life-threatening. E.g. PE, MI

• Chronic dyspnea develops over weeks to months. It is associated with chronic pathology, such as congestive heart failure, COPD

  ➢ Typical in palliative care
Causes of dyspnea

• Respiratory - airway obstruction, COPD, malignancy
• Cardiovascular - CHF, pericardial effusion
• Musculoskeletal – muscle weakness (motor neuron dz)
• Pressure effects – lymphadenopathy, ascites
• Systemic – anemia, cachexia, obesity
• Psychological – anxiety, depression
Management hinges on performing 3 simultaneous tasks:

- Identifying the underlying causes and treating these if possible and if appropriate.
- **Symptom-targeted measures**
- Communicating with the patient and family
The aggressiveness of management depends upon:

- Goals of care
- Prognosis
- Past experience of the patient
- Current level of health
- Location of care
Management of dyspnea

• Multidisciplinary approach reduces patient distress & increases confidence

• Includes evidence-based non-pharmacological and pharmacological interventions
**Impractical** non-pharmacological strategies

- Neuro-muscular electrical stimulation (NMES)
- Chest wall vibration
- Cognitive-behavioural & self-management techniques
Practical non-pharmacological strategies

• Fan
• Breathing techniques
• Positioning & energy conservation
• Distraction
• Calming presence/environment
• Pulmonary rehabilitation – useful in the long-term
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 (5th 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-pharmacologic strategies for acute, chronic or end-of-life dyspnea
Practical points . . .

• Fan blows across the face
• Handheld fans can be fatiguing to hold up to the face for a prolonged period (esp. for COPD patients)
• Dollar store fans are cheap & break easily
• In the home, use larger fans and set them up in various rooms in the house
• Use fans with a remote control
• Spray a mist of water on the face, then let the fan blow across face – further stimulates the trigeminal nerve
Breathing techniques

• Encourage pursed lip breathing during exertion
• Allow rapid respiratory rate in hypoxic patients
• Let patients breathe through an open mouth when initially SOB
• As breathing begins to slow, encourage PLB on exhalation
• For anxious patients, use pursed lip breathing with focus on breathing out twice as long as breathing in
Practical points . . .

• Breathing techniques need regular practice to be effective when patient is breathless
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
Energy conservation

- Discourage talking in an acutely dyspneic patient
- Pace all activities
- Limit activities
- Use ADL aids
  - e.g. 4-wheeled walker, stair climber, raised toilet seat, wheelchair, urinal bottle, reacher
- “Energy bank” concept
- Rearrange environment e.g. kitchen
Distraction

- Massage – to upper back, shoulders & neck
  - Release muscle tension
  - Potentially improve ventilation capacity
  - Laying on of hands
  - Present to distress

- Turn on TV or music

- Chat to patient but don’t ask for conversation back!
Calming presence/environment

• Keep calm; you know what to do
• Keep family members calm
• Keep people from crowding patient
• Limit the number of people in the room so the patient has visual space
• Have fan & inhalers (if using) ready
A new idea . . . The Breathing Chair

- Designated chair(s) in the home
- A place to sit when in a dyspnea crisis

- Items to have at each chair:
  - Telephone – for support/EMS
  - Rescue inhaler (with aerochamber)
  - Tabletop or standing fan +/- remote
  - Extra medication – breakthrough opioid or Ativan SL
  - TV remote & TV – for distraction
  - Oxygen – concentrator or extra cylinder with regulator & tubing
Pharmacological management

- Oxygen
- Inhalers
- Opioids
- Other medications
Oxygen therapy

• The relationship b/w arterial hypoxemia and dyspnea is complex and poorly understood.

• **Not** a cure-all for dyspnea!
  • Giving O2 in hypoxemic patients doesn’t predict a symptomatic improvement
  • Not always a benign therapy
Inhalers

• Not all patients will be prescribed inhaled meds
• Ensure patient uses good technique with their inhalers
• In patients with a “rescue” inhaler (Ventolin®, Combivent®), encourage them to use the 6-breath method when dyspneic
Opioids

• Opioids are now recommended in ATS, CTS, ACCP guidelines to treat REFRACTORY DYSPNEA (regardless of etiology)

• LEVEL 1 Evidence for reducing refractory dyspnea by at least 20%

• MOST evidence is for morphine

• Lower doses are needed for dyspnea than for pain

• Need gradual titration of dose and careful monitoring

• Respiratory depression is not a concern with low doses
Practical points . . .

• Different ways to use an opioid:
  1. As needed – e.g. ½ hour before a bath once a week
  2. Semi-regularly – e.g. immediately upon waking up in a.m.
  3. Regularly – e.g. q4h

• Different lengths of action:
  1. Short-acting – e.g. sublingual Fentanyl (lasts 30 min)
  2. Regular – e.g. morphine, hydromorphone (lasts ~ 4-6 hours)
  3. Long-acting – e.g. hydromorph contin (lasts ~ 12 hours)
Practical points . . .

• Constipation management starts when the opioid does!
• Expect sleepiness for the first 4-6 days
• Some patients experience nausea – need an anti-emetic
• As dyspnea progresses, dose should be increased accordingly
• Codeine is a weak opioid
Other medications for dyspnea

**Insufficient** evidence to recommend other therapies:

- Anxiolytics (Benzodiazepines)
- Antidepressants (SSRI)
- Cannabis
- Nebulised furosemide
- Herbal therapies

**NB:** nebulized morphine is not helpful

Questions??
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