SYMPTOM MANAGEMENT FOR COVID-19 PATIENTS

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Learning Objectives

1. To discuss the management of anxiety and delirium in patients with COVID-19

2. To evaluate treatment options for dyspnea and respiratory secretions in patients with COVID-19

3. To evaluate caring for patients with COVID-19 at the end of life

Managing Symptoms for COVID-19 Patients

- Anxiety
- Delirium
- Dyspnea
- Withdrawal of Life Support

Anxiety

- Etiology

- Helpful methods to improve symptoms:
  - Check trusted news source once a day
  - Focus on facts
  - A.B.C.D.E

Delirium

- Diagnosis
  - D.E.L.I.R.I.U.M.

- Management
  - Delirium precautions (redirection, reorientation, familiar surroundings)
  - Anti-psychotics like Seroquel or Haldol if patient at risk of harm and delirium precautions without effect

Dyspnea

Definition of Dyspnea

"a term used to characterize a **subjective experience of breathing discomfort** that is comprised of qualitatively distinct sensations that vary in intensity. The experience derives from interactions among multiple physiological, social, and environmental factors, and may induce secondary physiological and behavioral responses."

Am J Respir Crit Care Med 1999

Descriptions of Dyspnea

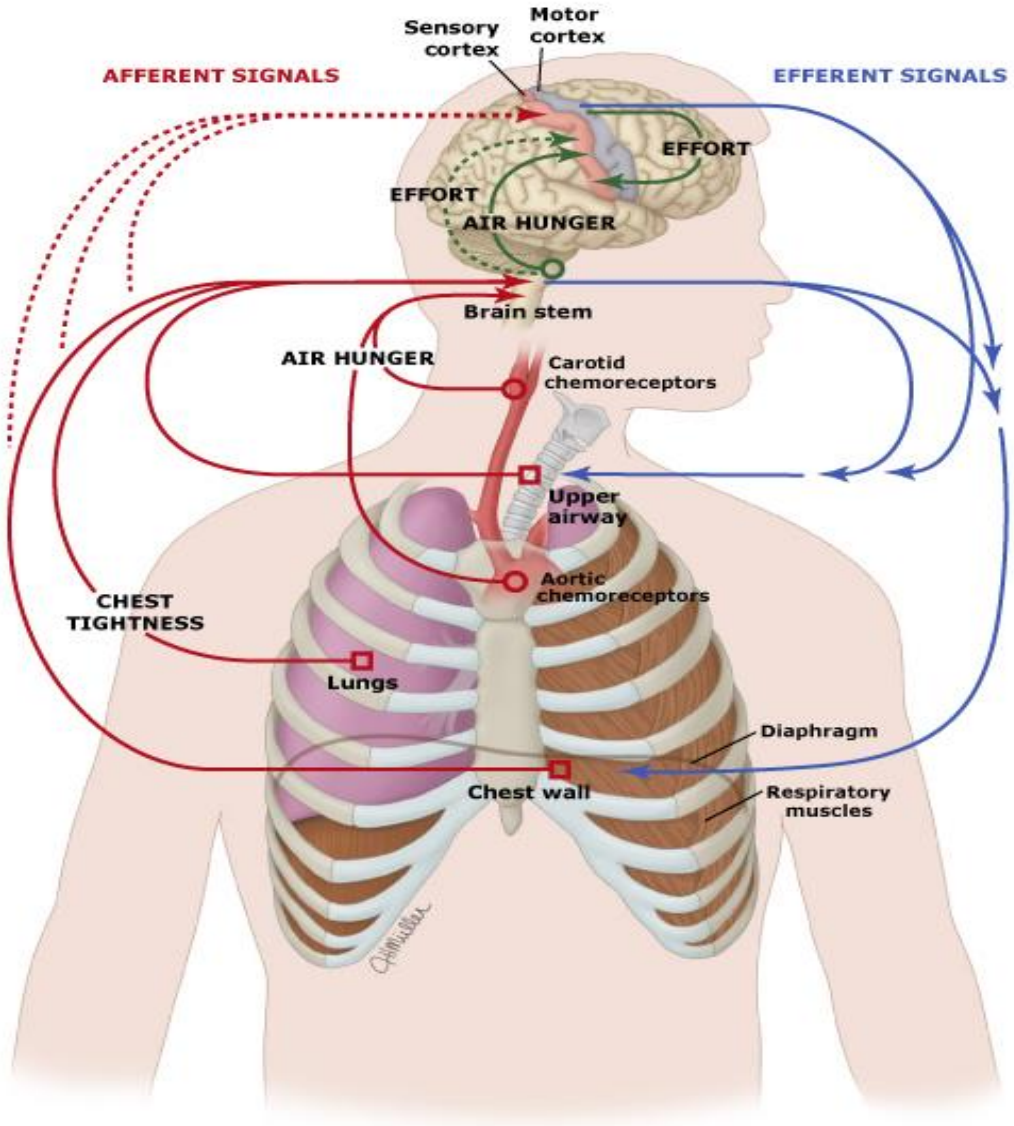
TABLE 3. DESCRIPTORS FOR AIR HUNGER COMMONLY CHOSEN FROM LISTS

Urge to breathe (115)	Unsatisfied inspiration (83)
Like breath hold (115)	Feeling of suffocation (115)
Starved for air (115)	Need for more air (37)
Hunger for air (115)	Breath does not go in all the way (37)
Breaths felt too small (115)	Cannot get enough air (58)

Numbers in parentheses indicate reference numbers.

AJRCCM 2012

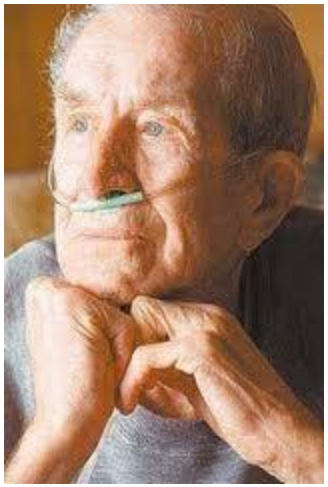
Pathophysiology



Total Dyspnea: Domains

Physical

Psychological



Interpersonal

Existential

The Physical Domain

- History and physical
  - -Frequent measure of intensity and distress
  - -Dyspnea scales
- Labs and imaging (when appropriate)
- Differential diagnosis
- Interventions

Physical Domain: Opioids

- May work centrally on chemoreceptors
- First-line agent for dyspnea
- Improved QOL, reduced exhaustion, stress
- Best evidence CHF, COPD, cancer
- Negligible risk respiratory depression when dosed appropriately

Abernethy BMJ 2003, Clemens KE J Palliat Med 2008

Opioid Dosing and Titration

- Start low, go slow, but go
- Short-acting (10-20 mg/day divided doses)
- Long-acting when near steady-state and non-naïve
- Goal: comfort, not to respiratory rate
- Nebulized opioids

-9 RCTs, no significant benefit

Oxygen

- Palliative oxygen vs. room air
  - no difference in symptomatic benefit for refractory dyspnea
  - Any benefit peaked 1-3 days
  - Possible effect of blow-by air
  - Improves mortality in hypoxemic patients

Abernathy The Lancet 2010;376:784-793

The Psychological Domain

- Assess for anxiety, depression, other stressors
- Cognitive-behavioral therapy (no evidence)
- Self-hypnosis
- Guided imagery
- Benzodiazepines
  - -Little evidence to support first-line use
  - -Most effective if anxiety component
  - -Examples: Lorazepam 0.5 mg q 4 hr prn
    Clonazepam 0.25 mg q 12 hr

Renfroe 1988
Yu 2007

Benzodiazepines

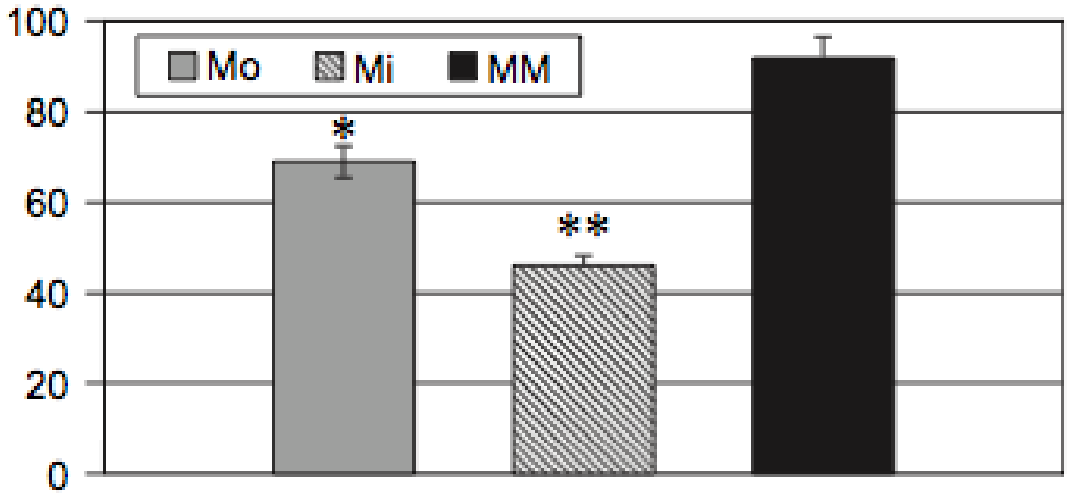


Fig. 2. Percentage of patients who experienced dyspnea relief at 24 hours. *$P = 0.003$ compared with MM. **$P = 0.0004$ compared with MM.

Navigante. J Pain Sympt Manag 2006;31:38.

Benzodiazepines

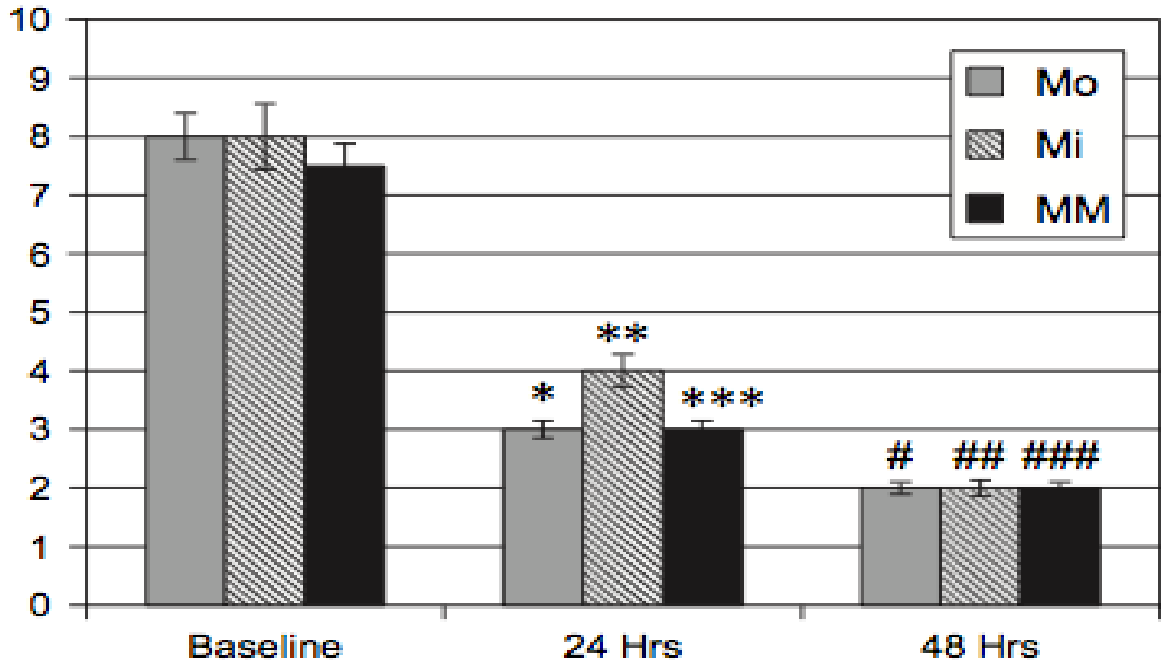


Fig. 3. Dyspnea intensity (Borg scale) at 24 and 48 hours (median). $*P = 0.002$, $**P = 0.018$, $***P = 0.003$ compared with their respective baseline values. $\#P = 0.0001$, $\#\#P = 0.0004$, $\#\#\#P < 0.0001$ compared with their respective baseline values.

Navigante. J Pain Sympt Manag 2006;31:38.

Benzodiazepines

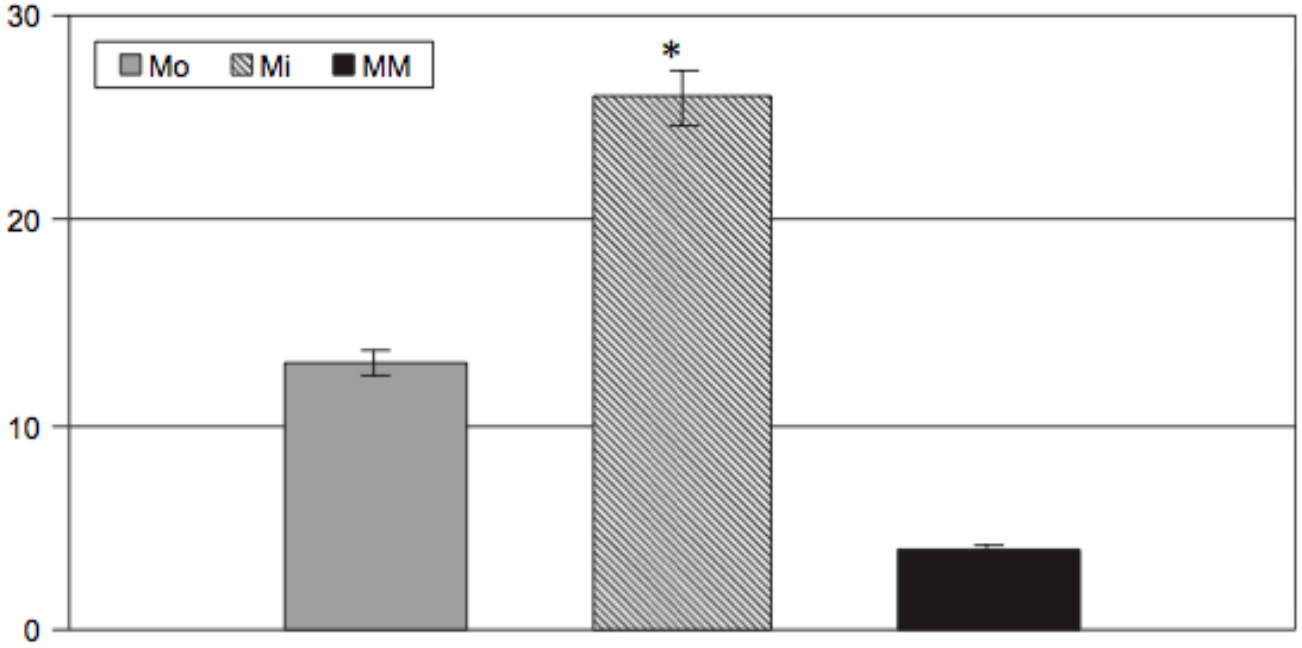


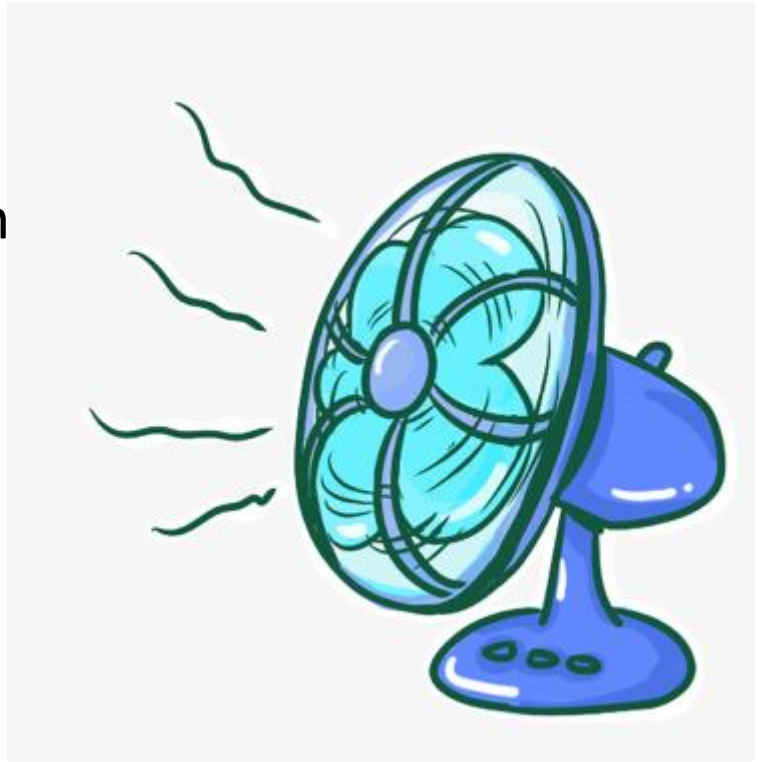
Fig. 4. Percentage of patients with persistent, uncontrolled dyspnea at 48 hours. *$P = 0.04$ compared with MM.

Navigante. J Pain Sympt Manag 2006;31:38.

Other Evidence

COPD

- Pulmonary rehabilitation
- Neuromuscular electrical stimulation
- Chest wall vibration
- Walking aids (rolling walkers)
- Pursed lip breathing
- Fan directed at nose/mouth



Galbraith J Pain Symp Manag 2010

Advance Care Planning

If symptoms worsen,

- Should patient be hospitalized/transferred to inpatient hospice?
- Escalation of respiratory support? BIPAP/CPAP, ventilation
- Refractory dyspnea - therapeutic sedation?

Summary

- Dyspnea is a complex, multidimensional, subjective symptom
- Complete history and physical should clarify cause in most cases
- Comprehensive approach “Total Dyspnea” can improve odds of successful management
- Oral or parenteral opioids (morphine) best evidence and considered first line

Respiratory Secretions

Pathophysiology

- Mucus = water (~ 95%), glycoproteins, small amounts of proteoglycans and lipids

- Mucus layer of respiratory tract rests against a periciliary watery layer around cilia, which facilitates upward movement of secretions

- For patients with ineffective mucociliary clearance, poor cough, or excessive/abnormal mucus production, dyspnea, cough, tachypnea, or sensations of choking/gagging may occur

Assessment

- Assess quantity and quality (thick/thin) of secretions
- Immediate relief through suctioning, postural drainage, or nebulization before long term maintenance therapy, such as antibiotics
- Select agents based on the balance of benefits vs. undesirable effects, e.g.
  - guaifenesin may worsen nausea
  - scopolamine dries mouth, may worsen confusion and sedation

Death Rattle

- Loss of ability to swallow oral secretions

- Turbulence produces noisy ventilation

  - Type 1 = predominantly salivary secretions
  - Type 2 = predominantly bronchial secretions

- Good predictor of death
  -median time from onset of death rattle to death = 16 hours

Death Rattle Treatments

- Reposition patient
  - Side
  - Trendelenburg (few minutes)

- Gentle oropharyngeal suctioning

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Management: Non-Pharmacological

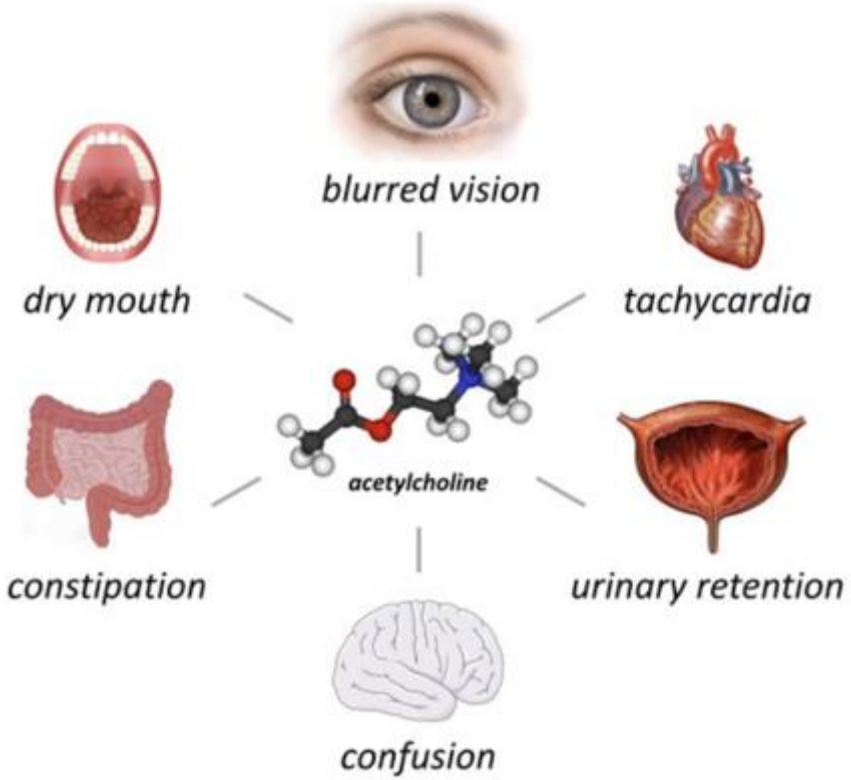
- Suctioning
- Postural drainage
- Chest physiotherapy
- External oscillation device
- External compression vests

Management: Pharmacological

- Expectorants
- Drying agents
- Aerosolized
  - Nebulized hypertonic saline (3%), sodium bicarbonate, N-acetylcysteine
- Antibiotics
- Bronchodilators
- Enzymatic agents – cystic fibrosis

Hyoscine Hydrobromide (Scopolamine)	Transdermal patch	1.5 mg	12 hours, 24 hours steady state
Hyoscyamine (Levsin)	PO, SL	0.125 mg	30 minutes
Glycopyrrolate (Robinul)	PO SQ, IV	0.2 mg 0.1 mg	30 minutes 1 minute
Atropine sulfate	SQ, IV SL	0.1 mg 1 gtt (1% opth soln)	1 minute 30 minutes

Anti-Cholinergic side effects



https://twitter.com/hashtag/anticholinergic

Other Tips

- Explain to the loved ones that the noisy respiratory secretions are unlikely to be distressing for the patient who is unconscious

- Pharmacologic treatments are effective for upper airway secretions, but will not work for secretions deep in the lungs, pulmonary edema, pneumonia, etc.

- Hydration with IV fluids may increase the severity of this symptom – use fluids cautiously in the dying

Summary

- Respiratory secretions occur in at least 50% of patient who are dying and are strong predictor of death

- Depending on etiology, most cases can be managed by repositioning patient and administering anticholinergic therapies

Caring for the Dying Patient

Signs of a Dying Patient

- Fatigue
- Poor PO intake
- Altered
- Mottled skin, cool extremities
- Changes in pulse, breathing
- Decreased urine output

Ventilator Withdrawal

- Wean to pressure support if possible
- Lower FIO2
- Provide symptom management:
  - Air hunger: opioids, benzodiazepines
  - Excessive secretions: glycopyrrolate, atropine, scopolamine
- Prone positioning of patients

How to Determine Death

What to Do after Death

References

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