Symptomatic Management of Dyspnea

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Objectives

- Review mechanisms of dyspnea
- Review disease states that frequently cause dyspnea
- Review treatments by disease state
- Review treatments for dyspnea at end of life
Physiologic Mechanisms of Dyspnea

- Increased respiratory drive
- Impaired mechanics
- Multifactorial mechanisms

Obstructive Disorders: Small Airways

Includes Asthma, COPD, bronchiectasis

- Treatments:
  - Bronchodilators (PRN, scheduled)
  - Consider steroids, antibiotics for exacerbations
  - Pulmonary rehabilitation
- Advanced treatments
  - Lung Volume Reduction Surgery (COPD)
  - Bronchial thermoplasty (asthma)
  - Lung Transplant (COPD, bronchiectasis)
### Obstructive Disorders: Medium/Large Airways

#### Fixed/Non-variable:
- **Tracheal/bronchial stenosis**
  - Bronchoscopic or surgical laser, cryotherapy, resection
  - Sometimes stent placement
- **Extrinsic tracheal/bronchial compression**
  - Treat lesion (chemotherapy, resection, radiation)
  - Stents generally NOT helpful

#### Variable mechanical obstruction
- **Tracheobronchomalacia**
  - Cough training, airway hygiene
- **Vocal cord paralysis**
  - Speech therapy, possibly vocal cord injections
  - Consider Tracheostomy for airway protection
- **Paroxysmal Vocal Fold Dysfunction (“VCD”)**
  - Speech (laryngeal control) therapy
Intrinsic Pulmonary Restrictive Disorders

- ILD
  - Hypersensitivity = avoidance
  - GERD = Acid suppression
  - Autoimmune = Immunosuppression

- IPF
  - Pirfenidone, Nintedanib, (N-acetylcysteine)
  - Pulmonary rehabilitation
  - Oxygen if indicated
  - Lung transplant

Extrinsic (Nonpulmonary) Restrictive Disorders

- Obesity/Obesity Hypoventilation Syndrome
- Diaphragm paralysis, Spinal cord injury
  - May consider diaphragm pacemaker
- Neuromuscular conditions:
  - Amyotrophic Lateral Sclerosis (ALS)
  - Myasthenia Gravis, Guillain-Barré, Botulism
  - Paraneoplastic Syndromes
  - Myositis/Myopathy/Neuropathy
Pulmonary Hypertension: WHO Groups

• Group I: (Pulmonary Arterial Hypertension)
  • Includes Idiopathic, Familial, Drug-induced, associated with connective tissue disease, HIV, etc.
• Group II: Left heart disease (systolic, diastolic, valvular)
• Group III: Lung disease/Hypoxia
• Group IV: Chronic Thromboembolic Disease
• Group V: Other/Unclear/Multifactorial
  • Includes sarcoidosis, metabolic diseases, chronic dialysis-associated

Pulmonary Hypertension: Treatments

• Treat underlying cause if present
• Oxygen if indicated
• Pulmonary rehabilitation

• Phosphodiesterase type 5 inhibitors
• Endothelin receptor antagonists
• Prostaglandins
• Soluble guanylate cyclase activators
### Pulmonary Hypertension: Treatments

- Pulmonary thromboendarterectomy (CTEPH only)
- Atrial septostomy (palliative, worsens hypoxemia)
- Lung transplant

### Pleural Effusion

- Possible causes: malignancy, para-pneumonic, empyema, CHF, trauma (CVC, surgery, MVC), etc.
- Treat underlying cause if possible
- Long-term may consider:
  - PRN thoracentesis
  - pleurodesis
  - tunneled indwelling pleural catheter (PleurX®)
## Alveolar Filling Processes

- Pulmonary edema
- Aspiration
- Pneumonitis/Pneumonia
- Alveolar hemorrhage
- Massive hemoptysis
- Pulmonary Alveolar Proteinosis
- Acute Respiratory Distress Syndrome

## Effects of Advanced Lung Disease
Psychosocial Effects

- Symptoms (breathlessness) causing anxiety/panic
- Depression, Anxiety, Insomnia
- Self-consciousness (cough, oxygen, slow moving)
- Dependence on others (ADLs), Social isolation
- Changes in relationships
- Desperation
- Feeling cheated of future
- Loss of purpose/self-determination

Symptoms: Depression, Anxiety

- Associated with
  - increased dyspnea
  - lower performance status
  - worse quality of life ratings

- Anxiety associated with dyspnea and related fear

- Limited evidence for effectiveness of pharmacologic management in advanced lung disease
### Symptoms: Fatigue, Anorexia

- Energy conservation
- Pulmonary rehabilitation (includes nutrition)

**Consider Corticosteroids**
- May suppress inflammation in asthma, COPD, ILD
- May reduce risk of exacerbations
- May improve fatigue, appetite, sense of wellbeing

### Symptoms: Cough

- Smoking cessation
- Bronchodilators
- Cough suppressants
- Mucolytics
- Physiotherapy
- Antisecretories
- Other causes of cough
### Symptoms: Dyspnea - Nonpharmacologic

- Fan to face
- Cognitive/Behavioral strategies
  - Slow breathing exercises
    - pursed lip breathing
    - diaphragmatic breathing
    - singing
  - Dyspnea self-management education + exercises
  - Distractive auditory stimuli [music]

### Symptoms: Dyspnea - Oxygen

- Hypoxia does not correlate with dyspnea severity
- Oxygen does not change dyspnea (hypoxic/non-hypoxic)
- No difference in overall dyspnea with oxygen vs air
- Oxygen complications: epistaxis, nose irritation, drowsiness

Oxygen has limited symptom benefit for most patients
Symptoms: Dyspnea - Opioids

Given with appropriate caution,
- Safe & effective for dyspnea
- Effective for both opioid-naïve and opioid-tolerant
- Do not hasten death at end of life

- Multiple administration routes studied for dyspnea
  - Oral (good evidence)
  - Parenteral (good evidence)
  - Nebulized opioids (few studies; limited evidence)
  - Transmucosal fentanyl (very limited to no evidence)

Symptoms: Dyspnea - Benzodiazepines

- Precise/best role less clear than that of opioids
- Often used in advanced lung disease

- Can help especially if anxiety causes/is caused by dyspnea, cannot be broken with non-pharmacologic coping mechanisms
  - Possible synergy with opioids?
  - Some may respond better to benzodiazepines than to opioids
### When to consider hospice?

- “The Surprise Question”
- General indicators
  - Decline
  - Decreasing activity
  - Comorbidities
  - Weight loss
  - Admissions
  - Falls

### Hospice eligibility* for Pulmonary Disease

Severe chronic lung disease with both:

- Disabling dyspnea at rest
  - poor/no bronchodilator response
  - decreased functional capacity
- Progression of ESLD evidenced by
  - increasing ED visits/hospital admissions, or
  - increasing home visits prior to initial certification
Hospice eligibility* for Pulmonary Disease

- Supporting documentation
  - Resting hypoxemia on room air OR Hypercapnia
  - Right heart failure due to pulmonary disease
  - Unintentional weight loss over preceding 6 months
  - Resting tachycardia

Introduction to Hospice
Objectives

- Describe what hospice is
- Describe what hospice is not
- Dispelling hospice myths

Hospice IS:

- Specialized, patient-centered care for patients facing life-limiting illness, including care for
  - Physical needs (including symptom management)
  - Emotional needs
  - Social needs
  - Spiritual needs
Hospice is **ALSO:**

- Specialized care and support for the patient’s family and caregivers
- A way of focusing on the patient’s (and family’s) quality of life

Hospice cares for patients:

- With many different diagnoses
- Who **may** die in 6 months or less
- Wherever they are
<table>
<thead>
<tr>
<th><strong>Hospice patients:</strong></th>
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<tbody>
<tr>
<td>• Need not be DNR</td>
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<tr>
<td>• Can be hospitalized if necessary</td>
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<tr>
<td>• Can see their own physician(s)</td>
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<tr>
<th><strong>Hospice provides:</strong></th>
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<tr>
<td>• Medications for symptom management</td>
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<tr>
<td>• Home medical supplies/equipment</td>
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<tr>
<td>• Home visits by physician, nurses, aides, social workers, chaplains, volunteers, therapists</td>
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<tr>
<td>• Education to family/caregivers on how to care for patient and for themselves</td>
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<tr>
<td>• Bereavement care to surviving family &amp; friends</td>
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References


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