



Geriatric Curriculum

End-of-Life Nursing Education Consortium

“Respiratory Issues at End-of-Life”

Jerry Boltz, FNP
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Geriatric Curriculum

End-of-Life Nursing Education Consortium

**Module 3:
Nonpain Symptoms at the
End of Life**

Part I



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Common Respiratory Issues Near the End of Life

- **Dyspnea**
- **Cough**
- **Changes in respiratory rate & rhythm**
- **Increased Respiratory secretions**

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Dyspnea: Definition

- **Distressing shortness of breath, air hunger, or difficulty breathing**
- **Associated with anxiety, depression, and decreased quality of life**
- **Can be acute or chronic**
- **Sometimes occurs or worsens only with activity**

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Dyspnea: A subjective Feeling

- *Dyspnea* refers to the sensation of difficult or uncomfortable breathing. It is a subjective experience perceived and reported by an affected patient.

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Chronic Obstructive Pulmonary Disease
(COPD)
(Chest)



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Dyspnea

Major Pulmonary Causes

Tumor Infiltration

Pleural Effusion

Aspiration

COPD

Pneumonia

Bronchospasm

Pulmonary Embolism

Pulmonary Fibrosis

Superior Vena Cava Syndrome

Thick Secretions caused by infectious diseases or dehydration...

Thick secretions caused by Us? Later

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Dyspnea

- Major Cardiac causes
 - Congestive Heart Failure
 - Pulmonary edema
 - Pulmonary Hypertension
 - Pericardial Effusion
 - Cardiac disease - arrhythmias

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Dyspnea

- Cancer Related Causes

- Metastatic disease from any primary site
- Obstruction of Bronchus
- Malignant Ascites
- Anemia (Anemia of chronic disease)
- Superior Vena cava Syndrome
- Pneumonectomy

Dyspnea

- Major Neuromuscular Causes
 - Amyotrophic Lateral Sclerosis (ALS)
 - Muscular dystrophy
 - Myasthenia Gravis
 - Cerebrovascular Disease
 - Trauma as a result of physical injury

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Dyspnea

Other causes

Generalized weakness

Anorexia

Cachexia

Hyperventilation

Anxiety

Uncontrolled Pain

Hyperthyroid

Obesity

Spiritual issues

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Assessment of Dyspnea

- Subjective report
- Clinical assessment
 - Physical exam
 - Diagnostic tests

Derby et al., 2010; Dudgeon, 2010

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Dyspnea Assessment

Subjective

- **Dyspnea Assessment Is like a Pain Assessment.** The subjective report of the patient is the only reliable indicator of this symptom.
- **The patient's respiratory rate & Oxygenation status Do Not always correlate with the symptom of breathlessness.**

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Subjective Report

- **Impact on Function & Quality of Life**
 - Ability to sleep
 - Ability to perform ADL's (get dressed, talk, eat, sleep, etc.)
- The patient may report breathlessness in spite of good oxygenation status or limited disease state.

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Clinical Assessment of Dyspnea

- Determine history of:
 - Acute or chronic dyspnea
 - Smoking
 - Heart Disease or Lung Disease
 - Concurrent Medical Conditions

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Clinical Assessment of Dyspnea

- **Physical Examination**
 - **Elevated Jugular Pressure**
 - **Lung Sounds**
 - **Respiratory Rate, Depth**
 - **Use of Accessory Muscles**
 - **Peripheral Edema**

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Non-Pharmacologic Treatments for Dyspnea

- Education, Education, Education
- Pursed lip breathing
- Energy conservation
- Fans, elevating head of the bed
- Prayer, Music,
- Calm environment

Dudgeon, 2010

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Other Non-Pharmacologic Treatments for Dyspnea

- Transfusion of PRBC's
- Thoracentesis
- Paracentesis
- Radiation therapy to shrink tumor
- Stent tube placement to open an occluded airway

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Oxygen Therapy for Dyspnea

- Effectiveness has not been established by research
- Worth trying especially if oxygen saturation is low
- Trial O₂ 2-6 L per nasal prongs; reassess 2 hours after each change in liter flow



Derby et al., 2010; Dudgeon, 2010;
Gallagher & Roberts, 2004; Pan, 2003

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Pharmacologic Treatment of Dyspnea

- Opioids
- Bronchodilators
- Diuretics
- Other

Clemens & Klaschik, 2007; Derby et al., 2010;
Dudgeon, 2010; Jacobs, 2003

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Opioids for Dyspnea

- Can be administered by oral, subcutaneous, sublingual, or intravenous routes
- Studies show that Opioids have a small, but positive effect on reducing dyspnea
- Significant respiratory depression is uncommon
- Nebulized opioids are no more effective than opioids given by other routes

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How do Opioids work for Dyspnea?

Possible Mechanisms

- They interrupt the neural pathways that give rise to the sensation of dyspnea
- They have a sedative & anxiolytic effect to relieve the discomfort of dyspnea
- Vasodilatation – Reduce Preload

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What Opioids do not do

- Opioids do not relax the respiratory muscles, allowing the patient to breathe easier.
- This explanation could be easily be misconstrued by patients and families.

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Is there a role for Anxiolytics in Dyspnea?

- Sedation and reduction of anxiety are “side effects” of Opioids. Like all side effects, (except for constipation), These side effects may disappear over time.
- If an anxiety component is identified, anxiolytics may be helpful.

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Bronchodilators

- **Albuterol (relaxes bronchial smooth muscle by action on the Beta-2 receptors).**
- **Atrovent (Anti-cholinergic agent that causes bronchodilation)**
- **Given by SVN is more effective than if given by metered dose inhalers.**

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Diuretics

- Reduce pre-load on the heart
- May reduce the sensation of dyspnea that may be caused by congestive heart failure.

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Other Pharmacologic treatments

- Chlorpromazine (Thorazine) – There is some evidence that low doses of Chlorpromazine (25mg q 4 hours) may relieve the symptoms of dyspnea.
- Antibiotics – Pneumonia
- Steroids – Reduce inflammation

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Cough

- **Cough is:**
 - **A Common Symptom in advanced disease**
- **Cough causes:**
 - **Pain, Fatigue, Insomnia**

Dudgeon, 2010

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Some Causes of Cough

- Post Nasal Drip
 - Bronchitis
 - Pleural effusion
 - Pneumothorax
 - Cigarette Smoking
 - Environmental irritants
 - Medications (ACE Inhibitors)
- Asthma
 - Obstruction
 - P.E.
 - Allergens

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Assess the Type of Cough

- Acute Cough – Often caused by:
- Allergens, Environmental irritants, Post-Nasal drip, GERD, Lung lesions, TB, Pneumonia, Foreign Body
- Chronic Cough: Allergens, Chronic diseases (COPD, Bronchitis, Airway Inflammation)
- Nocturnal: GERD, Asthma, CHF

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Treatment Decisions

- Patient's condition – Where are they on the trajectory of their illness.
- Does the patient have a strong or a weak cough?
- Suppress by night – Expectorate by day
- Do we really want to dry it up?

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Pharmacologic Interventions for Cough

- **Suppressants/Anesthetics**
- **Expectorants**
- **Antibiotics**
- **Steroids**
- **Anticholinergics**

Lingerfelt et al., 2007

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Cough Suppressants

- **Opiates**
 - **Morphine Sulfate**
 - **Codeine – Metabolized to Morphine**
 - **Hydrocodone & Homatropine**
 - **Opioids in general - Bind to opiate receptors & suppress cough in the medullary center**

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Cough Suppressants

- **Non-Opioid**
 - Dextromethorphan – Structurally related to Codeine, Depresses Medullary cough center.
 - Benzonatate (Tessalon Perles)
Suppresses cough by topical anesthetic action on the respiratory stretch receptors

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Non-Pharmacologic Interventions for Cough

- Chest PT
- Humidifier
- Positioning



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Changes in Respiratory Rate and Rhythm

- Education, Education, Education
- Autonomic Nervous System -
- “Normal” Respiratory rate 12 – 20 breaths per minute.
- The term “Normal” changes depending on where the patient is at on their “Journey”

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“They are Breathing So Fast!!

- **Kussmaul Breathing – Deep Rapid respirations – Acidosis – Blowing off Carbon Dioxide. Body is trying to maintain acid / base balance...**

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Some Things to Think About When the Patient's Respiratory Rate is Fast and "labored"

Do we need to slow down the patient's respiratory rate?

How much Morphine (Opioid) does it take to slow down a person's respiratory rate?

Who are we treating when we try to slow down the respiratory rate?

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Other “End of Life” Breathing Patterns

- Apnea
- Cheyne Stokes Breathing
- Guppy Breathing

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“Death Rattle”

- “Death Rattle” – Now that is an uncomfortable couple of words!
- “Increased Respiratory Secretions”
 - Why is the terminology problematic?
 - Who are treating?

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Non-Pharmacologic “Treatments”

- **Education, Education, Education**
 - Tell family members what to expect
 - Ask them not to feed their loved ones unless they are wide awake, and able to swallow.
- **Patient Positioning**

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Pharmacologic Treatments

- **Scopolamine Patch – Crosses the blood brain barrier - “Mad as a Hatter”.**
- **Glycopyrrolate**
- **Atropine drops**
- **Hyoscyamine**

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Just a Thought

- Asking for Refills on these medications should be a rare event.

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Key Nursing Roles

- # 1 Patient Advocacy

- “We all believe in patient determined end of life care...As long as they agree with our plan”

Charles von Gunten, M.D.

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Key Nursing Roles

- Patient/Family Teaching
- Assessment
- Pharmacologic treatments
- Non-pharmacologic treatments
- Presence