

**Type:** Clinical Procedures**Subsection:** S- Special Services**Authority:** Executive Director with Medical Director**Related Documents:****Policy**

Dyspnea is a medical term for Shortness of Breath (SOB).

SOB can range from mild and temporary to serious and long lasting. It is sometimes difficult to treat dyspnea because there can be many different causes.

Dyspnea is experienced by up to 95% of COPD residents, 79% of advanced cancer residents and 75% of residents with advanced disease of any cause.

S-02.01 Definitions

- Dyspnea is also known as SOB and, encompasses multiple somatic perceptions that are variously described as air hunger, increased effort of breathing, chest tightness, rapid breathing, incomplete exhalation, or a feeling of suffocation.
- Dyspnea is a multidimensional symptom, consisting of affective as well as physical aspects. Its presence and severity cannot be inferred from physical examination or laboratory investigations. It can happen in the absence of physical signs such as rapid, deep, or labored breathing or abnormal findings such as blood gases or chest radiographs.
- Dyspnea may or may not be associated with hypoxemia, tachypnea, or orthopnea.
- Dyspnea is common in residents with advanced life-threatening illness. It is a common symptom that is reported in residents with a terminal cancer in the last months of life.

S02-.02 Assessment of Dyspnea

1. Ongoing comprehensive assessment is the foundation of effective dyspnea management, including interview, physical assessment, appropriate diagnostics, medication review, medical review, psychosocial review, and review of physical environment.
2. Assessment must determine the cause, the effect and impact on quality of life for the resident and their family.
3. Dyspnea cannot be determined solely on the basis of physiological change, i.e. hypoxemia. People can still feel breathless even if their respirations are normal, and their oxygen levels are adequate. Like pain, dyspnea is subjective and can have many contributing factors. Breathing can be expressed in different forms such as “feeling anxious”, tired, weak, or cannot breathe in deeply.

S-02.03 Degree of Dyspnea for Assessment

Grade	Degree of Dyspnea
0	No dyspnea except with strenuous exercise
1	Dyspnea when walking up an incline or hurrying on the level
2	Walks slower than most on the level, or stops after 15 minutes of walking on the level
3	Stops after a few minutes of walking on the level
4	With minimal activity such as getting dressed

There are a variety of scales that may be used to quantify the degree of shortness of breath

S-02.04 Record and Report the Following When Assessing for Dyspnea

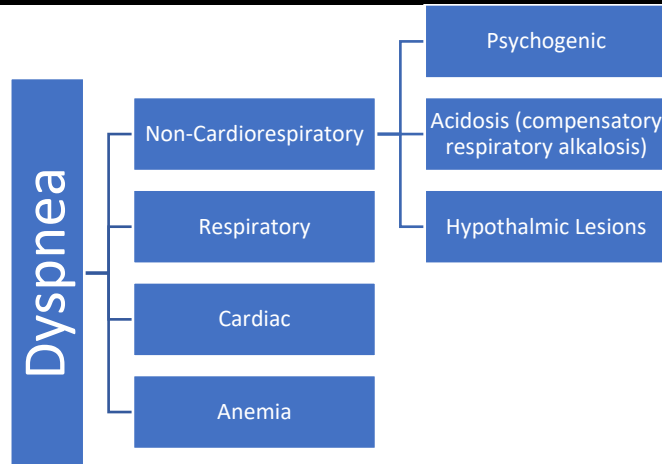
- Respiratory rate/depth.
- Breathing patterns.
- Onset.
- Presence of cough.
- Sputum color.
- Chest movement.
- Use of accessory muscles.
- Presence of anxiety/fear.
- Pauses when talking.
- Effects of exertion.
- Sounds of respirations.
- Signs of pallor, or cyanosis.
- Chest pain, diaphoresis.
- Confusion.

S-02.05 Symptom Assessment Acronym for Dyspnea

Onset	When did it begin? How long does it last? How often does it occur?
Provoking/palliating	What brings it on? What makes it better? What makes it worse?
Quality	What does it feel like? Can you describe it?
Region/radiating	Where is it? Does it spread?
Severity	What is the intensity? 0 being comfortable, 10 being the most uncomfortable? Right now? At best? At worst? How bothered are you by the symptom?

Treatment	What medications and treatments are you currently using?
Understanding the impact	How does this affect your daily life?
Value	What is your comfort goal or level of expectance?

S-02.06 Etiology



S-02.07 Diagnosis

1. Management should include treating reversible causes where possible and desirable according to the goals of care. The most significant intervention in the management of dyspnea is identifying underlying cause(s) and treating as appropriate (see Table 1)
2. While the underlying cause(s) may be evident, treatment may not be indicated, depending on the stage of the disease and the individual resident's goals of care.
3. Whether or not the underlying cause(s) can be relieved or treated, all residents will benefit from management of the symptom (s) using education, energy conservation and breath control, airflow, and medications.

Table 1: Underlying Causes and Treatment of Choice

Underlying Causes	Treatment of Choice
Airway Obstruction	Radiotherapy/steroids/stenting
Anemia- Severe	Transfusion may be indicated
Anxiety	Benzodiazepines and nonpharmacological interventions
Chronic Obstructive Pulmonary Disease (COPD)/Asthma	Conventional inhalers/ nebulizers/ steroids/ anticholinergic. Many smokers live with undiagnosed and untreated COPD, which exacerbates malignancy-related dyspnea
Congestive Heart Failure/ Coronary Artery Disease, Arrhythmias	Treatment with conventional medications
Effusions- pleural, pericardial, peritoneal	Drain- if clinically significant with respect to the resident's dyspnea; pleurodesis or indwelling pleural

	catheter for recurrent pleural effusion; pericardial window
Fatigue/deconditioning, weakness	Activity to tolerance, pulmonary rehabilitation exercises may be helpful
Infection: Pneumonia, pericarditis	Antibiotics, antifungal, antiviral if appropriate
Lymphangitic Carcinomatosis	Corticosteroids, diuretics
Neuromuscular (ALS, CVA, poliomyelitis, myasthenia gravis)	No specific therapy: apply the non-pharmacological and pharmacological suggestions outlined below. For Amyotrophic Lateral Sclerosis residents- BIPAP if appropriate
Pulmonary Emboli	Anti-coagulation, filter if appropriate
Pain	Often exacerbates dyspnea- appropriate analgesia
Primary or metastatic tumor (hepatomegaly, phrenic nerve lesion)	Chemotherapy may be indicated- assists to reduce the incidence of ascites/pleural effusions in ovarian cancer and ascites in intra-abdominal cancer. As above, radiotherapy may relieve airway obstruction
Pulmonary Fibrosis	Steroids; reassessment of oxygen requirements with disease progression
Superior vena cava (SVC) obstruction	Steroids; consult oncologist for treatment of underlying tumor, radiotherapy

See [appendix 1](#) for more Common Causes and Aggravating Factors of Dyspnea in Palliative Residents.

S-02.08 Family and Resident Education

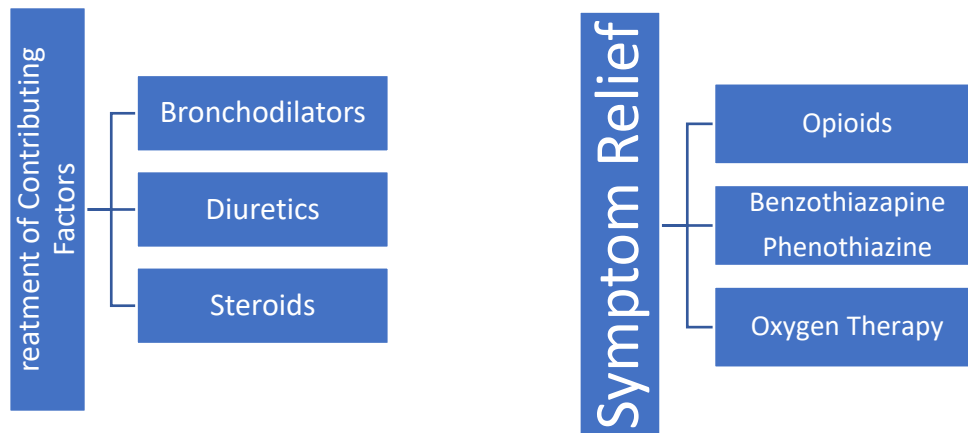
1. Dyspnea is a distressing symptom to experience and to witness. Providing information and education is foundational to enhance the resident and family's ability to cope.
2. Explain to the resident and family what is understood about the multiple triggers of dyspnea (i.e., restriction of respiratory movement, obstructions, and muscle weakness). It is not simply related to oxygenation and therefore many different strategies together can make a difference. Reinforce that this is a symptom that can be managed.
3. Develop a clear plan for the resident and family to address the pattern of SOB and the resident's way of coping.
4. Teach the purpose of each medication, particularly opioids, as families often do not understand the role of these medications. Ensure an understanding of using regular and breakthrough medications. This is a key to effective management.
5. Known COPD residents often use inhalers incorrectly. Consider the use of nebulizers and spacers. Promote resident's compliance.
6. Dyspnea may be controlled but may never completely disappear.
7. When a person is short of breath, they are not causing further damage to their lungs.
8. Review SOB teaching with resident and family ([see Appendix 2](#))

S-02.09 Non-Pharmacological

1. Energy conservation and breath control
 - 1.1. Explain how to incorporate pacing and planning.
 - 1.2. Teach relaxation training and breath control.

- 1.3. Encourage activity to tolerance and assist with energy conservation.
2. Air flow
 - 2.1. Open windows and provide air movement, including a fan, which can be very helpful. Cool air blowing on the face lightly triggers reflexes in the trigeminal nerve, providing a sense of relief from dyspnea.
3. Environment
 - 3.1. Cool and humidify dry air, eliminate irritants in air, loosen clothing.
4. Positioning
 - 4.1. Avoid compression of abdomen or chest when positioning. High Fowlers position is often recommended.
5. Support
 - 5.1. Offer psychosocial support.
 - 5.2. Alternative therapies for relaxation including that of massage, therapeutic touch, visualization, music therapies, pillows.

S-02.10 Pharmacological Management



Symptom relief will help throughout the course and will be more useful at the end of life for a more comfortable effect.

S-02.11 Opioids

1. Opioids are typically the medication of first choice in the symptom management of dyspnea in advanced disease of any cause.
2. Dose is individualized and titrated until resident comfort is achieved or there is presence of undesirable side effects. Continued titration may be necessary as tolerance develops.
3. Relief occurs in the absence of significant changes in blood gases or oxygen saturation levels.
4. Respiratory depression from opioids is rare and they do not hasten death if appropriately titrated.
5. Provide access to prophylactic anti-emetic and introduce palliative care bowel protocol to avoid iatrogenic symptoms when initiating opioids.

S-02.12 Benzodiazepines

1. Prescribed on a prn basis rather than regular dosing schedule, for severe anxiety and respiratory “panic attacks”.
2. Lorazepam – refer to Physician Orders for proper dosing.

S-02.13 Phenothiazines

1. Neuroleptics can be a useful adjuvant in chronic dyspnea.
2. Methotrimeprazine: start low to test tolerance as wide variation in resident response. Refer to Physician Orders for proper dosing.
3. Promethazine is beneficial in residents with COPD.

S-02-14 Oxygen

1. There are multiple triggers contributing to the sensation of dyspnea. Hypoxemia is only one. Measure oxygen saturation levels to determine if hypoxemia is a factor in the resident’s experience of dyspnea.
2. Careful selection is necessary to identify those people who will benefit from oxygen therapy. Individualized care is paramount.

S-02.15 Corticosteroids

1. Corticosteroids are particularly indicated in the presence of bronchial obstruction, superior vena cava or lymphangitic carcinomatosis. They may also be useful in Pulmonary Fibrosis for brief periods. Taper and avoid long-term use if possible.
2. Initiate Dexamethasone daily depending on severity of dyspnea.
3. Prednisone – refer to Physician Orders for dosing.

S-02.16 Bronchodilators

1. Beneficial in residents with airflow obstructions.
2. Can be administered via nebulizer or oral.
3. Salbutamol – refer to Physician Orders for dosing.
4. Aminophylline and Theophylline can improve diaphragmic contractility (but have greater risk for side effects).

S-02.17 Diuretics

1. Useful in residents with pulmonary edema, SVC, and congestive heart failure.
2. Helpful with CHF.

S-02.18 Hypoxic Residents

1. There is low-grade scientific evidence that both oxygen and airflow improve dyspnea in hypoxic residents with advanced disease at rest.
2. Provide supplemental oxygen therapy for hypoxic residents.

S-02.19 Non-Hypoxic Residents

1. A systematic review shows that there is insufficient evidence that supplemental oxygen is beneficial for non-hypoxic residents.
2. Use other interventions as first line to manage dyspnea with non-hypoxic residents.

S-02.20 Crisis Intervention

1. Diagnosis of severe dyspnea occurring during the last hours of life requires crisis intervention. Some examples of how this may be managed aggressively with opioids as well as sedatives until comfort are listed below:
 - 1.1. Opioid naïve – refer to Physician Orders for dosing. Some physicians may consider double dose if no effect after three doses.
 - 1.2. Opioid tolerant – refer to Physician Orders.
 - 1.3. The following sedatives may be ordered with an opioid:
 - Midazolam
 - Lorazepam
 - Methotrimeprazine
2. If dosing is ineffective, contact the Most Responsible Physician (MRP), describe the results of your assessment for a potential change in orders.
3. Opioids are the first line and are to be titrated to effect; Midazolam may provide dyspnea relief as a second line, adjunct therapy. The dose provided is for severe dyspnea in advanced illness.
4. Use incremental titration until resident is comfortable, determined by subjective as well as objective means.

S-02.21 Review Cycle

Clinical Policies shall be reviewed in the odd year.

Original Approval: 08-01-2022
Reviewed On:
Revised On:

Appendix 1:

Common Causes and Aggravating Factors of Dyspnea in Palliative Resident

Disease Itself (Direct and Indirect)		
Pulmonary	Cardiovascular	Systemic
Pleural Effusion Airway Obstruction (Trachea, Large Bronchus) Pulmonary Embolism Pneumonia Lymphangitic Carcinomatosis Parenchymal Disease/Metastases	Pericardial Effusion Pericardial Metastases or invasion tamponade Superior Vena Cava Syndrome Pulmonary Vein Occlusion	Hepatomegaly from cancer Phrenic nerve palsy Anemia secondary to disease Paraneoplastic syndrome Psycho-social spiritual stressors (anxiety) Electrolyte imbalance (hypokalemia, hypomagnesemia) Acidosis Ascites Renal Failure, Hepatopulmonary Syndrome
Treatment of the Disease		
Pulmonary	Cardiovascular	Systemic
Chemotherapy Pulmonary Toxicity Radiotherapy; Pulmonary Fibrosis (1-3 months post treatment) Acute pneumonectomy or lobectomy	CXT cardiac toxicity RXT pericarditis	Anemia secondary to treatment: chemotherapy, extensive radiotherapy Corticosteroid myopathy Acidosis
Unrelated to the Disease		
Pulmonary	Cardiovascular	Systemic

Obstructive Pulmonary Disease (COPD or asthma) Restrictive Lung Disease Chest Wall Deformity	Congestive Heart Failure Dysrhythmias (ie - uncontrolled atrial fibrillation causing heart failure) Ischemic Heart Disease	Anemia
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Appendix 2:

Shortness of Breath Family and Resident Information

1. Shortness of Breath, Breathlessness, or Dyspnea are terms used to describe awareness of difficulty in breathing.

- 1.1. Like pain, it is a sensation that can be felt only by the person experiencing it and its causes are many and varied.
- 1.2. You may be short of breath only with activity and be comfortable at rest.
- 1.3. Or you may be aware of the effort of breathing even at rest. When this is the case, demands you may not think of as work can make your breathing worse: eating and digesting food after eating; dealing with discomfort such as constipation, pain, or a fever; even laughing. Simply anticipating some event can increase the work of breathing.

2. What can you do to keep your breathing at a comfortable level?

- 2.1. Move slowly and pace your activities within your breathing tolerance. Slight shortness of breath is easier to recover from than extreme SOB from rushing or overexertion.
- 2.2. Rest before and after an activity (including eating).
- 2.3. Use relaxation techniques in your daily routine such as visualization, self-hypnosis, and deep, slow breathing.
- 2.4. Be aware of the role anxiety may play in your SOB. Getting ready for an activity that will require effort can make you more short of breath in anticipation. To avoid this, think about your breathing and slow it down to a comfortable level before beginning an activity.
- 2.5. Take medications prescribed for your shortness of breath before activities that are particularly difficult, e.g., dressing or bathing.
- 2.6. Pre plan about what you can do if you become short of breath.
- 2.7. Avoid holding your breath during an activity. When getting out of a chair or bending over to put on your shoes, breathe out as you bend and continue to breathe at your normal pace.
- 2.8. Be aware of your breathing pattern.
- 2.9. When first feeling short of breath, slow down your activity, concentrate on your breathing and slow it down. Slow your breath by breathing in through your nose, and out very gently through lips loosely pursed as if you are going to whistle.
- 2.10. Tell family or friends what helps you manage your breathing. For example, turning a fan on; staying with you but staying quiet; putting their hand gently on your shoulder; reminding you to breathe more slowly.

3. Are there medications to help?

- 3.1. Medications such as Morphine and Hydromorphone are often very effective in decreasing the feeling of SOB. These medications are used in the same way as when treating pain. A regular dose is given for constant relief, with “breakthrough” or “rescue” doses for times of when shortness of breath feels worse.

- 3.2. People who are short of breath often do not want to use Morphine or Hydromorphone medications because of worries about addiction or overdosing. These concerns are common, but these medications are very safe. Addiction is rare and side effects can be easily managed.
- 3.3. If you feel a great deal of anxiety due to shortness of breath, anti-anxiety drugs can be used on a regular or as needed basis. Methotrimeprazine may be useful as a regular anti-anxiety drug. For acute, sudden episodes of shortness of breath, lorazepam may be helpful.

4. What can you do when your shortness of breath gets worse?

- 4.1. Stop your activity.
- 4.2. Get supported in a relaxed position.
- 4.3. Concentrate on your breathing, gradually slowing the rate and deepening your breaths. In your mind say “slower breath in, longer breath out” until you feel your breathing responding to your message.
- 4.4. If your SOB does not ease to a tolerable level with these strategies, call your physician and discuss adjusting your medication.
- 4.5. SOB can be very frightening, lonely, and an overwhelming experience.
- 4.6. To cope with it, you will likely need to use several approaches the best suits the individual.
- 4.7. SOB can be managed with proper care from your health care team and self-awareness.