

## Definition

**Dyspnea:** A disorder characterized by difficulty breathing

## Focused Health Assessment

PHYSICAL ASSESSMENT	SYMPTOM ASSESSMENT
<p><b>Vital Signs</b></p> <p><b>Observe General Appearance</b></p> <ul style="list-style-type: none"> <li>• Ability to speak in full sentences?</li> <li>• Skin- Pallor, cyanosis, clubbing, diaphoresis</li> <li>• Cough or sputum</li> <li>• Edema               <ul style="list-style-type: none"> <li>– peripheral; bilateral or unilateral</li> <li>- generalized</li> </ul> </li> <li>• Abdominal ascites</li> <li>• Jugular venous distention</li> </ul> <p><b>Chest Assessment</b></p> <ul style="list-style-type: none"> <li>• Auscultate breath sounds               <ul style="list-style-type: none"> <li>- Adventitious sounds</li> </ul> </li> <li>• Chest shape abnormalities</li> <li>• Chest wall movement               <ul style="list-style-type: none"> <li>- Accessory muscle use</li> <li>- Paradoxical breathing</li> </ul> </li> </ul> <p><b>Assess Mental Status</b></p> <ul style="list-style-type: none"> <li>• Level of consciousness</li> <li>• Alterations in mental status</li> </ul> <p><b>Nutritional Status</b></p> <ul style="list-style-type: none"> <li>• Weight</li> <li>• Hydration status</li> <li>• Assess daily intake and output</li> </ul> <p><b>Functional Status</b></p> <ul style="list-style-type: none"> <li>• Activity level/ECOG or PPS</li> </ul>	<p><b>*Consider <a href="#">contributing factors</a></b></p> <p><b>Normal</b></p> <ul style="list-style-type: none"> <li>• Have you had any previous breathing difficulties?</li> </ul> <p><b>Onset</b></p> <ul style="list-style-type: none"> <li>• When did your difficulty in breathing start? Did it start suddenly or gradually over the last few days? How long does it last? How often does it occur? Has it changed your activity level?</li> </ul> <p><b>Provoking / Palliating</b></p> <ul style="list-style-type: none"> <li>• What brings it on? Makes it worse? (e.g. SOBOE, ADL's, emotions)</li> <li>• What makes it better (e.g. positioning)?</li> </ul> <p><b>Quality (in last 24 hours)</b></p> <ul style="list-style-type: none"> <li>• How does it feel when you are breathless? (e.g. pain, air hunger, gasping, panting)</li> </ul> <p><b>Region/Radiation-N/A</b></p> <p><b>Severity / Other Symptoms</b></p> <ul style="list-style-type: none"> <li>• How bothersome is this symptom to you? (on a scale of 0 – 10, with 0 not at all and 10 being the worst imaginable)</li> <li>• Do you have other symptoms such as pain, fatigue, anxiety, worry, or depressed mood?</li> <li>• Cough, sputum, fever, chills, hemoptysis, chest tightness, palpitations, light-headedness?</li> </ul> <p><b>Treatment</b></p> <ul style="list-style-type: none"> <li>• What medications or treatments are you using or have used in the past?</li> <li>• How effective are they? Any side effects?</li> </ul> <p><b>Understanding / Impact on You</b></p> <ul style="list-style-type: none"> <li>• Is shortness of breath affecting your mood?</li> <li>• What activities are you unable to do because of it?</li> <li>• Are you able to sleep at night? Do you have to prop up on pillows to sleep?</li> <li>• How does this affect your family?</li> </ul> <p><b>Value</b></p> <ul style="list-style-type: none"> <li>• Why do you believe you are short of breath?</li> <li>• What is your comfort goal or acceptable level for this symptom (0 – 10 scale)? How are you hoping we can help you?</li> </ul>

## DYSPNEA GRADING SCALE

NCI CTCAE (Version 4.03)

<u>GRADE 1</u> (Mild)	<u>GRADE 2</u> (Moderate)	<u>GRADE 3</u> (Severe)	<u>GRADE 4</u> (Life - threatening)	GRADE 5
Shortness of breath with moderate exertion	Shortness of breath with minimal exertion; limiting instrumental ADL (e.g. preparing meals, shopping, managing money)	Shortness of breath at rest; limiting self-care ADLs (e.g. bathing, dressing, feeding self, using the toilet, taking medication)	Life-threatening consequences; urgent intervention required	Death

**\*Step-Up Approach to Symptom Management:  
Interventions Should Be Based On Current Grade Level and Include Lower Level Grade Interventions As Appropriate**

### DYSPNEA MANAGEMENT FOR IMMUNOTHERAPY PATIENTS

- For patients receiving Immunotherapy, collaborate with physician
- Refer to [Immunotherapy Alert Card](#)
- Please refer to [protocol specific algorithms](#) to guide monitoring and management of immune mediated side effects.
- If sending patient to Emergency and on Immunotherapy, remind patient to present Immunotherapy alert card.

### NORMAL - GRADE 1



### NON – URGENT:

Prevention, support, teaching & follow-up care as required

#### Patient Care and Assessment

- Assessment and management of underlying causes of dyspnea  
[Appendix B: Treatment Recommendations for Underlying Causes of Dyspnea below](#)

#### General Supportive Measures

- Assess emotional response to shortness of breath
- Reassure that shortness of breath can be managed
- Environmental considerations:
  - Maintain calm atmosphere
  - Promote cooler temperatures
  - Promote ambient air flow directed at nose or mouth (e.g. fresh air from open window or electrical fan on low speed, cool cloth on face)- stimulates trigeminal nerve, providing sense of relief from dyspnea
  - Use of hand fan
  - Humidify air
  - Avoid smoke/smoking
- Stress management and relaxation techniques (e.g. controlled breathing, visualization, music therapy, complete muscle relaxation, massage, therapeutic touch, yoga or Tai Chi)
- Consider assistive devices (e.g. wheelchair) to decrease physical activity that may exacerbate dyspnea

#### Energy Conservation

- Pacing
  - Balance activities with rest
  - Slow and steady pace uses less energy
- Planning
  - Organize your time, methods, and space
  - Encourage activities which are most enjoyed on days when feeling best
  - Develop a routine for rest and activity
- Priority setting
  - Eliminate unnecessary tasks, delegate responsibilities and ask for help
- Posture

	<ul style="list-style-type: none"> <li>- Change positions frequently</li> <li>- Keep activities/work within easy range using correct body alignment</li> <li>- Avoid bending and lifting</li> <li>• Proficiency <ul style="list-style-type: none"> <li>- Use labour saving devices (e.g. elevator) to maximize efficiency and minimize workload</li> </ul> </li> </ul>
<b>Positioning</b>	<p>Goal: Avoid compression of chest and abdomen when positioning</p> <ul style="list-style-type: none"> <li>• Positions that allow for optimal lung expansion and gas exchange are: <ul style="list-style-type: none"> <li>- <b>Sitting:</b> Sit upright with back against chair, with feet wide apart, leaning forward with arms on bedside table or on knees – allows more space for lung expansion</li> <li>- <b>Standing:</b> Lean back against wall with feet slightly apart and head and shoulders relaxed</li> <li>- <b>In Bed:</b> Elevate head of the bed, support and elevate arms with pillows</li> <li>- <b>Other:</b> Lean forward on banister when climbing stairs or shopping cart when shopping</li> </ul> </li> </ul>
<b>Techniques to Retrain and Control Breathing</b>	<p>Goal: Decrease dyspnea and help patient regain control over their breathing. May help patient remain calm when short of breath</p> <p>-Techniques below prevent /reduce trapped air in lungs and help to inhale more fresh air</p> <p><b>Pursed Lip Breathing</b></p> <ul style="list-style-type: none"> <li>- Breathe in slowly through your nose for 1 count</li> <li>- Purse your lips as if you are about to whistle</li> <li>- Breathe out through pursed lips for 2 slow counts – let air escape naturally, do not force</li> <li>- Continue pursed lip breathing until feeling of breathlessness resolves</li> </ul> <p><b>Help for Shortness of Breath</b></p> <ul style="list-style-type: none"> <li>- Stop and rest in a comfortable position</li> <li>- Lower head and shoulders</li> <li>- Breathe in through nose and out through mouth (as fast as necessary)</li> <li>- Breathe out slowly and for longer time (may use pursed lip breathing)</li> <li>- Slow breathing down</li> <li>- Breathe through nose</li> <li>- Begin diaphragmatic breathing</li> <li>- Stay in position for at least 5 minutes</li> </ul> <p><b>Diaphragmatic Breathing</b></p> <ul style="list-style-type: none"> <li>- Put one hand on upper chest, and other on abdomen just above waist</li> <li>- Breathe in slowly through nose – should feel hand on abdomen move out</li> <li>- Breathe out slowly through pursed lips – should feel hand on abdomen move in</li> </ul>
<b>Physical Activity</b>	<ul style="list-style-type: none"> <li>• Encourage activity to tolerance, increasing intensity to prevent deconditioning</li> <li>• Upper and lower extremity exercises help improve endurance</li> <li>• Upper – extremity exercise improves respiratory muscle strength</li> </ul>
<b>Pharmacological Management</b>	<ul style="list-style-type: none"> <li>• Opioids</li> <li>• Bronchodilators</li> <li>• Corticosteroids (Refer to protocol specific algorithm if patient is on Immunotherapy)</li> </ul> <p>*Review correct dosing, timing and use of medications, including inhalers and analgesics</p> <p>*Discuss vaccination against respiratory illness if patient has chronic underlying lung disease</p> <p><a href="#"><u>Appendix B: Treatment Recommendations for Underlying Causes of Dyspnea below</u></a></p>
<b>Patient Education and Follow-Up</b>	<ul style="list-style-type: none"> <li>• If indicated, discuss smoking cessation strategies</li> <li>• Reinforce with patients when to seek immediate medical attention: <ul style="list-style-type: none"> <li>- Temperature greater than or equal to 38° C</li> <li>- Acute onset of respiratory distress and/or chest pain</li> </ul> </li> <li>• If breathing does not improve or begins to deteriorate: <ul style="list-style-type: none"> <li>- Instruct patient/family to call back</li> <li>- If indicated, arrange for nurse initiated or physician follow – up for further assessment</li> </ul> </li> </ul> <p><a href="#"><u>See Resources &amp; Referrals Section</u></a></p>

## GRADE 2 – GRADE 3



### URGENT: Requires medical attention within 24 hours

<b>Patient Care and Assessment</b>	<ul style="list-style-type: none"> <li>Collaborate with physician re: need for further patient assessment at clinic or with GP</li> <li>Assessment and management of underlying causes of dyspnea *If breathing does not improve or worsens, consider urgency of symptom and calling 911 <a href="#">Appendix B: Treatment Recommendations for Underlying Causes of Dyspnea below</a></li> <li>Lab tests that may be ordered:             <ul style="list-style-type: none"> <li>Complete blood count (CBC), serum electrolytes, pulse oximetry, arterial blood gases, Chest X – Ray. If above not adequate, further evaluation might include: Pulmonary function tests, CT scan, ventilation – perfusion scans.</li> </ul> </li> </ul>
<b>Pharmacological Management</b>	<ul style="list-style-type: none"> <li>Oxygen therapy in the presence of hypoxemia</li> <li>Smooth muscle relaxants</li> <li>Bronchodilators</li> <li>Anti-inflammatories</li> <li>Diuretics</li> <li>Corticosteroids (Refer to protocol specific algorithm if patient is on Immunotherapy)</li> <li>Opioids</li> <li>Anxiolytics/sedatives</li> <li>Antibiotics, antifungals, antivirals</li> </ul> <p><a href="#">Appendix B: Treatment Recommendations for Underlying Causes of Dyspnea below</a></p>
<b>Patient Education and Follow-Up</b>	<ul style="list-style-type: none"> <li>Develop plan to address patterns of shortness of breath and patients way of coping Explain concept of multiple triggers of dyspnea</li> </ul>

## GRADE 4

**Or the presence of the following: Temperature greater than or equal to 38° C, acute respiratory distress (sudden onset of dyspnea, unable to speak, lie flat, air hunger), new acute onset of chest pain**



### Grade 4 EMERGENT:

**Requires IMMEDIATE medical attention**

<b>Patient Care and Assessment</b>	<ul style="list-style-type: none"> <li>If patient at home, instruct to call 911</li> <li>Notify physician of assessment and need for hospital admission; facilitate arrangements as necessary</li> <li><b>If patient on Immunotherapy, remind patient to present Immunotherapy alert card.</b></li> <li>Lab tests that may be ordered:             <ul style="list-style-type: none"> <li>Complete blood count (CBC), serum electrolytes, pulse oximetry, arterial blood gases, Chest X – Ray. If above not adequate, further evaluation might include: Pulmonary function tests, CT scan, ventilation – perfusion scans.</li> </ul> </li> <li>Suctioning might be indicated</li> <li>If dyspnea severe, may need to open airways (e.g. endobronchial stents, radiation therapy)</li> </ul>
<b>Pharmacological Management</b>	<ul style="list-style-type: none"> <li>As severity of dyspnea increases, consider higher doses of opioids or switch to another route</li> <li>Consider anticholinergics (e.g. scopolamine, atropine) to help control secretion production</li> </ul> <p><a href="#">Appendix B: Treatment Recommendations for Underlying Causes of Dyspnea below</a></p>

## RESOURCES & REFFERALS

<b>Referrals</b>	<ul style="list-style-type: none"> <li>• Patient Support Centre or Telephone Care Management</li> <li>• Pain and Symptom Management/Palliative Care (PSMPC)</li> <li>• Physiotherapist</li> <li>• Respiratory Therapist (including assessment for home oxygen as necessary)</li> <li>• Home Oxygen Program (requires physician prescription for oxygen therapy)</li> <li>• Home Health Nursing</li> </ul>
<b>Bleomycin Drug Index</b>	<ul style="list-style-type: none"> <li>• Drug Monograph: <a href="http://www.bccancer.bc.ca/drug-database-site/Drug%20Index/Bleomycin_monograph_1Dec2014.pdf">http://www.bccancer.bc.ca/drug-database-site/Drug%20Index/Bleomycin_monograph_1Dec2014.pdf</a></li> <li>• Patient handout: <a href="http://www.bccancer.bc.ca/drug-database-site/Drug%20Index/Bleomycin_handout_21Nov06.pdf">http://www.bccancer.bc.ca/drug-database-site/Drug%20Index/Bleomycin_handout_21Nov06.pdf</a></li> <li>• Bleomycin Alert Card: <a href="http://www.bccancer.bc.ca/drug-database-site/Drug%20Index/Bleomycinalertcard_Sep2011.pdf">http://www.bccancer.bc.ca/drug-database-site/Drug%20Index/Bleomycinalertcard_Sep2011.pdf</a></li> </ul>
<b>Immunotherapy</b>	<ul style="list-style-type: none"> <li>• <a href="#">Immunotherapy Alert Card</a>; found under Patient Educations Resources tab</li> <li>• Please refer to protocol specific algorithms to guide management of immune mediated side effects.</li> </ul>
<b>References</b> (Available internally to BCCA staff)	<ul style="list-style-type: none"> <li>• H:\EVERYONE\nursing\REFERENCES AND GUIDELINES\BCCA Nursing Practice Reference Manual             <ul style="list-style-type: none"> <li>• <a href="#">0 – 70: Home Oxygen Program</a></li> <li>• <a href="#">0 – 70: Patient Handout on Home Oxygen Therapy- Appendix B:</a></li> <li>• <a href="#">R – 150: Medication Delivery via small volume nebulizer or metered dose inhaler (MDI)</a></li> <li>• <a href="#">R – 180: Oxygen Delivery</a></li> <li>• <a href="#">R – 200: Transport of Patients Receiving Oxygen Therapy</a></li> <li>• <a href="#">H:\EVERYONE\SYSTEMIC\Chemo\Orders\VCC\Supportive\End of Life Care</a></li> </ul> </li> </ul>
<b>Patient Education Resources</b>	<ul style="list-style-type: none"> <li>• Managing Symptom Side Effects – Breathlessness: Understanding Breathlessness, Professional Management and Self Care <a href="http://www.bccancer.bc.ca/health-info/coping-with-cancer/managing-symptoms-side-effects/breathlessness">http://www.bccancer.bc.ca/health-info/coping-with-cancer/managing-symptoms-side-effects/breathlessness</a></li> <li>• Resources about managing deep breathing, progressive muscle relaxation, positive thinking, etc. Located under patient handouts. <a href="http://www.bccancer.bc.ca/health-info/coping-with-cancer/emotional-support/managing-stress">http://www.bccancer.bc.ca/health-info/coping-with-cancer/emotional-support/managing-stress</a></li> </ul>
<b>BC Inter-professional palliative symptom management guideline</b>	<ul style="list-style-type: none"> <li>• <a href="https://www.bc-cpc.ca/cpc/wp-content/uploads/2019/03/12-BCPC-Clinical-Best-Practices-colour-Dyspnea.pdf">https://www.bc-cpc.ca/cpc/wp-content/uploads/2019/03/12-BCPC-Clinical-Best-Practices-colour-Dyspnea.pdf</a></li> </ul>
<b>Bibliography</b>	<ul style="list-style-type: none"> <li>• Insert new link to updated document here</li> </ul>

## Appendix A: Contributing Factors

Contributing Factors	
<b>Cancer Related</b>	<ul style="list-style-type: none"> <li>• Lung cancer primary or metastatic</li> <li>• Superior vena cava syndrome (SVCS)</li> <li>• Malignant pleural effusion, atelectasis</li> <li>• Pericardial effusion</li> <li>• Pulmonary embolus</li> <li>• Ascites</li> <li>• Pathologic chest wall fractures</li> <li>• Tracheal esophageal fistula</li> <li>• Electrolyte imbalance</li> <li>• Low hemoglobin</li> </ul>
<b>Cancer Treatment Related</b>	<ul style="list-style-type: none"> <li>• Surgery (e.g. lobectomy, pneumonectomy)</li> <li>• Radiation therapy to lung or chest (e.g. radiation - induced pneumonitis, pulmonary fibrosis, pericardial disease)</li> <li>• Chemotherapy (e.g. chemotherapy induced pneumonitis, pulmonary toxicity, cardiomyopathy, anemia)</li> <li>• Immunosuppression with respiratory infection</li> <li>• Immunotherapy- Checkpoint inhibitors</li> </ul>
<b>Psychosocial</b>	<ul style="list-style-type: none"> <li>• Anxiety, fear</li> </ul>
<b>Relevant Medical History</b>	<ul style="list-style-type: none"> <li>• Airway obstruction, aspiration</li> <li>• Chronic obstructive pulmonary disease (COPD), asthma, chronic bronchitis, emphysema</li> <li>• Cardiac disease (e.g. congestive heart failure, cardiac ischemia, atrial fibrillation)</li> <li>• Neuromuscular disorders</li> <li>• Chest wall deformity</li> <li>• Atelectasis</li> <li>• Pneumonia, bronchitis</li> <li>• Pneumothorax</li> <li>• Systemic infection</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>• Deconditioning – overall decline in functional status resulting in exercise intolerance</li> <li>• Environmental factors (e.g. exposure to second hand smoke or other irritants, air pollution)</li> <li>• Obesity, malnutrition</li> <li>• Smoking history</li> <li>• Fatigue</li> <li>• Pain</li> </ul>
Consequences	
<ul style="list-style-type: none"> <li>• Respiratory distress</li> <li>• Risk for decreased quality of life – physical and psychological distress, impaired nutrition, social isolation, physical deconditioning</li> <li>• Reduced ability to cough – increased risk of infection</li> <li>• Exacerbation of other symptoms such as pain, fatigue, loss of appetite, loss of concentration, sleep – wake disturbance</li> </ul>	

## Appendix B: Treatment Recommendations for Underlying Causes of Dyspnea

Underlying Cause of Dyspnea	Possible Treatments
<b>Airway obstruction</b>	<ul style="list-style-type: none"> <li>• Radiation therapy, stents, or corticosteroids</li> </ul>
<b>Anemia (severe)</b>	<ul style="list-style-type: none"> <li>• Blood transfusion for Hgb <math>\leq</math>80 gm/l and with symptoms</li> </ul>
<b>Anxiety</b>	<ul style="list-style-type: none"> <li>• Non- pharmacological interventions</li> <li>• +/- sedatives/anxiolytics</li> </ul>
<b>Asthma, Chronic obstructive pulmonary disease (COPD)</b>	<ul style="list-style-type: none"> <li>• Bronchodilators to help open constricted airways (e.g. metered dose inhalers, nebulizers, steroids, anticholinergics)</li> </ul>
<b>Cardiac – congestive heart failure (CHF), coronary artery disease (CAD), arrhythmias</b>	<ul style="list-style-type: none"> <li>• Conventional cardiac medications (e.g. beta- blockers, calcium channel blockers, diuretics)</li> </ul>
<b>Effusions – pericardial, peritoneal, pleural</b>	<ul style="list-style-type: none"> <li>• Drainage if fluid accumulation significant</li> </ul>
<b>Fatigue / Deconditioning / Weakness</b>	<ul style="list-style-type: none"> <li>• Activity to tolerance, pulmonary rehabilitation exercises</li> <li>• Consider referral to physiotherapist</li> </ul>
<b>Infection – pneumonia, bronchitis, pericarditis</b>	<ul style="list-style-type: none"> <li>• Antibiotics, antifungals, antivirals as prescribed to treat infections</li> </ul>
<b>Lymphangitic Carcinomatosis</b>	<ul style="list-style-type: none"> <li>• Steroids, diuretics</li> </ul>
<b>Lung damage from cancer treatment: Radiation, Immunotherapy or chemotherapy pneumonitis, pulmonary fibrosis</b>	<ul style="list-style-type: none"> <li>• Corticosteroids (e.g. glucocorticoids)</li> </ul>
<b>Pain (which may exacerbate dyspnea)</b>	<ul style="list-style-type: none"> <li>• Analgesics</li> </ul>
<b>Primary or Metastatic Lung Tumor</b>	<ul style="list-style-type: none"> <li>• Chemotherapy, palliative radiation therapy</li> </ul>
<b>Pulmonary Embolus</b>	<ul style="list-style-type: none"> <li>• Anticoagulants (e.g. heparin, warfarin sodium)</li> </ul>
<b>Pulmonary Secretions</b>	<ul style="list-style-type: none"> <li>• Anticholinergics (e.g. scopolamine, atropine)</li> </ul>
<b>Superior Vena Cava Syndrome (SVCS)</b>	<ul style="list-style-type: none"> <li>• Radiotherapy, steroids, glucocorticoids</li> </ul>

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