



# B.C. INTER-PROFESSIONAL PALLIATIVE SYMPTOM MANAGEMENT GUIDELINES

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# DYSPNEA

## DEFINITION

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**Dyspnea** is the uncomfortable feeling of being short of breath. It may or may not be associated with hypoxia.

## PREVALENCE

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Prevalence is high in palliative patients, e.g., in cancer (10-70%), COPD (90-95%), and CHF (60-88%).<sup>1</sup> Intensity tends to worsen towards end of life.<sup>2</sup>

## IMPACT

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Results in multidimensional distress to patients and caregivers.<sup>3</sup> Quality of life and daily functions can be profoundly negatively impacted. Psychological effects include: anxiety, panic, hopelessness, loss of enjoyment of life, and social isolation.<sup>1,4</sup> Survival may be shortened in dyspnea patients, averaging as little as 30 days.<sup>5</sup>

## STANDARD OF CARE

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### Step 1 | Goals of care conversation

Determine goals of care in conversation with the patient, family and inter-disciplinary team. Refer to additional resources ([Additional resources for management of dyspnea](#)) for tools to guide conversations and required documentation. Goals of care may change over time and need to be reconsidered at times of transition, e.g., disease progression or transfer to another care setting.

## Step 2 | Assessment

### Dyspnea Assessment: Using Mnemonic O, P, Q, R, S, T, U and V<sup>47</sup>

<b>Mnemonic Letter</b>	<b>Assessment Questions</b> <i>Whenever possible, ask the patient directly. Involve family as appropriate and desired by the patient.</i>
<b>O</b> nset	When did it begin? How long does it last? How often does it occur?
<b>P</b> rovoking /Palliating	What brings it on? What makes it better? What makes it worse?
<b>Q</b> uality	What does it feel like? Can you describe it? Is it worse lying down or sitting?
<b>R</b> egion/Radiation	Not applicable.
<b>S</b> everity	How severe is this symptom? What would you rate it on a scale of 0-10 (0 being none and 10 being the worst possible)? Right now? At worst? On average? When you are walking? Or climbing stairs? Or doing activities of daily living? <sup>1</sup> How bothered are you by this symptom? Are there any other symptom(s) that accompany this symptom (e.g., pain in your chest, anxiety, fatigue)?
<b>T</b> reatment	What medications and treatments are you currently using? Are you using any non-prescription treatments, herbal remedies, or traditional healing practices? How effective are these? Do you have any side effects from the medications and treatments? What have you tried in the past? Do you have concerns about side effects or cost of treatments?
<b>U</b> nderstanding	What do you believe is causing this symptom? How is it affecting you and/or your family? What is most concerning to you?
<b>V</b> alues	What overall goals do we need to keep in mind as we manage this symptom? What is your acceptable level for this symptom (0-10)? Are there any beliefs, views or feelings about this symptom that are important to you and your family? What are you having trouble doing because of this symptom that you would like to do?

**Symptom Assessment:** Physical assessment as appropriate for symptom

**Diagnostics:** consider goals of care before ordering diagnostic testing

- If indicated, complete: blood count, electrolytes, renal function, oxygen saturation by oximetry, and chest x-ray.
- The choice of appropriate diagnostic tests should be guided by the stage of disease, the prognosis, the balance of the benefits and burdens, treatment goals, and patient preferences. Tests are exhausting for people in a palliative care setting and may be of limited usefulness.<sup>1, 2, 6, 7</sup> Specialized investigations may be less readily available depending on setting, the choice of which should also be made in light of these same factors.<sup>6, 8</sup>

## Step 3 | Determine possible causes and reverse as possible if in keeping with goals of care

**Pulmonary:** Airway obstruction, COPD/asthma, damage from chemotherapy, radiation or surgery, emboli, fibrosis, effusion, primary or metastatic tumour.

**Cardiac:** CHF, CAD, arrhythmias, pericardial effusion.

**Neuromuscular:** ALS, CVA, poliomyelitis, myasthenia gravis.

**Other:** Anxiety, fatigue/deconditioning, weakness, pain, severe anemia, infection, carcinomatosis, hepatomegaly, phrenic nerve lesion, peritoneal effusion.

**Superior Vena Cava (SVC) obstruction (This is an emergency and requires prompt intervention.)**

## PRINCIPLES OF MANAGEMENT

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When considering a management approach, always balance burden of a possible intervention against the likely benefit (e.g., does the intervention require transfer to another care setting?)





- Dyspnea may not be due to hypoxia. Use other methods to provide fresh air when O2 levels are satisfactory
- Utilize anticipatory planning to promote self-care for respiratory distress
- Focus on relaxation and other non-pharmacological techniques
- Opioids are first line of pharmacological treatment

### Step 4 | Interventions

## LEGEND FOR USE OF BULLETS




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Bullets are used to identify the type or strength of recommendation that is being made, based on a review of available evidence, using a modified GRADE process.





	<p><b>Use with confidence:</b> recommendations are supported by moderate to high levels of empirical evidence.</p>
	<p><b>Use if benefits outweigh potential harm:</b> recommendations are supported by clinical practice experience, anecdotal, observational or case study evidence providing low level empirical evidence.</p>
	<p><b>Use with caution:</b> Evidence for recommendations is conflicting or insufficient, requiring further study</p>
	<p><b>Not recommended:</b> high level empirical evidence of no benefit or potential harm</p>

## Non-pharmacological interventions






### Interventions available in the home and residential care facilities

-  Develop **activity pacing** with techniques to provide energy conservation.<sup>14, 15</sup>
-  **Learn breath control** methods, e.g., pursed lip and diaphragmatic breathing.<sup>1, 6, 19</sup>
-  **Small, frequent meals** will reduce abdominal pressure on the diaphragm.<sup>16</sup>

### Positioning

-  Sit upright, supported by pillow, or forward leaning with arms on table when standing.<sup>6</sup> When lying on side, position poor lung side down.<sup>16</sup>
-  Stabilization of ribcage may help accessory muscles to engage and improve breathing.<sup>29</sup>
-  Avoid compression of chest and abdomen; position for optimal lung expansion.<sup>30</sup>
-  Elevate head of bed to a comfortable 15 to 45 degrees, and elevate arms with pillows.<sup>30, 31</sup>

### Support

-  Provide a comprehensive multi-disciplinary care approach when resources are available.<sup>15, 24, 32, 33</sup>
-  COPD patients, use exercise and pulmonary rehabilitation.<sup>24</sup> Tai Chi<sup>20</sup> and inspiratory muscle training,<sup>21</sup> if appropriate and available.
-  Provide supportive presence when dyspnea distressing; do not leave alone.<sup>6, 16</sup>
-  Phone-based coaching may be beneficial to patients and their care-givers.<sup>34</sup>
-  Ask YES and NO questions, rather than open-ended, if talking increases dyspnea.<sup>16</sup>

- ☰ Relaxation techniques of guided imagery and therapeutic touch.<sup>6</sup>
- ☰ Anxiety management and relaxation. Problem solve to avoid panic.<sup>6, 14, 15</sup>

## Environment

- ☰ Maintain a calm environment.<sup>16</sup>
- ☰ Strive for an air source that is fresh, cool, humidified and free of irritants.<sup>17</sup>
- ☰ Identify and avoid provoking exertion triggers.<sup>13</sup>

## Interventions requiring additional equipment or admission to acute care

- ☰ **Airflow** with room air is sometimes as effective as oxygen<sup>17</sup> such as medical air via mask or nasal prongs.<sup>22, 23</sup>
- ☰ **Oxygen** is generally only helpful for hypoxic patients.<sup>36</sup>
- ✔ Fans to provide airflow,<sup>1, 6, 15, 16, 24-27</sup> either a hand-held or electric fan for a minimum of five minutes. (This equipment could very likely be obtained in community for minimal cost.)
- ✔ Walking aids.<sup>28</sup> Forward leaning on wheeled walkers may help ventilation.<sup>1, 28</sup>
- ✔ Neuromuscular electric stimulation whenever no practical barriers and if trained provider available.<sup>1, 15, 28</sup>
- ✔ COPD and motor neuron disease patients, use chest wall vibration only if tolerated and if trained provider available.<sup>1, 28</sup>

## Pharmacological interventions

- ☰ Oral or parenteral opioids are first line pharmacological treatment.<sup>35</sup>
- ☰ For home oxygen, see program criteria for required oxygen saturation. Consider practical concerns if oxygen is used in the community.
- ☰ For non-hypoxic patients, limit trial of oxygen, e.g., 72 hours.<sup>39</sup>



## Mild level of distress (patient rating of 1 to 3/10 -- mild dyspnea)

- ☰ **Bronchodilators** such as salbutamol, ipratropium for asthma, COPD.<sup>43, 45</sup>
- ☰ Provide PRN oral or parenteral opioids if dyspnea is only episodic, and provide for breakthrough dyspnea when already on regular opioids.
- ☰ The size of opioid dose should reflect the patient's severity of dyspnea and opioid tolerance. If no prior opioids and mild dyspnea; use **morphine** 2.5 mg immediate release orally every 4 hours PRN or **HYDROmorphine** 0.5 mg immediate release orally every 4 hours PRN.

## Moderate level of distress

(patient rating of 4 to 6/10 -- moderate dyspnea)

- ☰ **Bronchodilators** such as salbutamol, ipratropium for asthma, COPD.<sup>43, 45</sup>
- ☰ For ongoing dyspnea, begin a regular opioid dose with concurrent PRN:
  - ☰ **Morphine** orally: 2.5 mg immediate release every 4 hours.  
**Morphine** parenterally: 1 to 1.5 mg SC or IV every 4 hours.
  - ☰ Alternatively: **HYDROmorphine** 0.5 mg orally every 4 hours, OR **HYDROmorphine** 0.25 mg SC or IV every 4 hours.
  - ☰ Titrate opioid dose incrementally by about 25% according to effectiveness and PRN usage in prior 24 hours. Goal is patient comfort, determined by subjective, objective effect and tolerance.
- ☰ Provide preventative anti-emetic and bowel management to prevent, and to immediately manage, opioid adverse effects of nausea, vomiting and constipation. Incidence may triple with opioid use.<sup>37</sup>
- ☰ Monitor for excessive opioid-induced drowsiness; use **Pasero Opioid-Induced Sedation Scale (POSS)** assessment tool ([Underlying causes of dyspnea in palliative care](#)).
- ☰ **Corticosteroid** trial in major airway obstruction, lymphangitis carcinomatosa, radiation or drug-induced pneumonitis,<sup>1</sup> or for endotracheal and bronchial tumors.<sup>41</sup> A limited course duration will likely reduce risk of adverse effects. Assess benefit, as current use evidence limited to COPD patients.<sup>35</sup>
  - ☰ Use short course **corticosteroids** for COPD dyspnea exacerbations.<sup>40</sup>

- ☰ **Benzodiazepines** may assist anxiety or panic,<sup>1,35</sup> e.g., with the combination of midazolam and morphine in terminal stage cancer patients with anxiety.<sup>1,35</sup>
  - ☰ A systematic review has found no efficacy evidence of benzodiazepines for the relief of breathlessness in patients with advanced cancer or COPD regardless of type of benzodiazepine, dose or route, nor for prevention of breakthrough dyspnea.<sup>42</sup>
  - ☰ Use benzodiazepines only as a second or third line agent when opioids and non-pharmacological measures have failed to control breathlessness.
- ☰ **Methotrimeprazine's** role limited to use only as a second line agent or in combination with an opioid when further opioid dose titration is contraindicated.<sup>43</sup> Initiate at low doses, monitor for benefit, excessive sedation, and anti-cholinergic side effects such as extrapyramidal effects as reviews have concluded limited to no effectiveness.<sup>1,44</sup>

## Severe distress

(patient rating of 7 to 10/10 -- severe dyspnea = crisis management)








- ☰ Use opioids and adjunctive anxiolytics/sedatives until comfort is achieved.<sup>1,35</sup>
- ☰ Opioid naïve: use morphine 5 mg SC or IV bolus every 5 to 10 minutes. Double dose if no effect every three doses; hold and reassess once dyspnea is reduced, especially if very sedated.<sup>17</sup>
- ☰ Opioid tolerant: give full regular opioid dose SC or IV every 5 to 10 minutes. If ineffective, double dose as above.
- ☰ If patient anxious, use one of the following with opioid: either **midazolam 2.5 to 5 mg** SC or IV, OR **lorazepam 5 mg** SC or IV every 5 to 15 minutes PRN.
- ☰ Use incremental opioid titration first line until patient comfortable. Monitor for effectiveness and excessive sedation using POSS.

## Not recommended

- ☒ Administration of nebulized opioids.<sup>37,46</sup>

## Patient and family education

Refer to non-pharmacological interventions section for more information.

-  Ensure inhalers are being used correctly.
-  Inform patient and family that dyspnea is not always caused by low oxygen levels and may not improve with oxygen. Fresh air via a fan, positioning and opioids may be more helpful than oxygen.
-  Build a documented plan, both for ongoing dyspnea and for acute dyspnea episodes.<sup>1, 9-13</sup>
-  A symptom and medication diary can be useful.
-  Ask about cultural practices involving smoke and respect decisions to continue these practices.
-  Encourage smoking cessation. Dyspnea can be lessened even after early lung cancer diagnosis.<sup>18</sup>
-  Teach safe and appropriate use of medications including purpose, adverse effects and how to manage.<sup>15</sup> Include correct use of inhalers.<sup>6</sup>

## ADDITIONAL RESOURCES FOR MANAGEMENT OF DYSPNEA

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### Resources specific to dyspnea

- First Nations Health Authority: “Keep tobacco sacred”
  - <http://www.fnha.ca/wellness/wellness-and-the-first-nations-health-authority/wellness-streams/respecting-tobacco#keep-tobacco-sacred>
- BC Guidelines: Dyspnea (medication table as well)
  - [http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/palliative2\\_dyspnea.pdf](http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/palliative2_dyspnea.pdf)
- BC Cancer Agency: Symptom management guidelines: Dyspnea
  - <http://www.bccancer.bc.ca/nursing-site/Documents/5.%20Dyspnea.pdf>
- BC’s Heart Failure Network: Clinical practice guidelines for heart failure symptom management: Dyspnea
  - <http://www.bcheartfailure.ca/wp-content/uploads/downloads/2015/01/Dyspnea-Jan-20151.pdf>
- Managing dyspnea in patients with advanced chronic obstructive pulmonary disease: a Canadian Thoracic Society clinical practice guideline.<sup>29</sup>
  - <http://www.respiratoryguidelines.ca/>

### General Resources

- **Provincial Palliative Care Line** – for **physician** advice or support, call **1 877 711-5757** In ongoing partnership with the Doctors of BC, the toll-free Provincial Palliative Care Consultation Phone Line is staffed by Vancouver Home Hospice Palliative Care physicians 24 hours per day, 7 days per week to assist physicians in B.C. with advice about symptom management, psychosocial issues, or difficult end-of-life decision making.
- BC Centre for Palliative Care: Serious Illness Conversation Guide
  - <https://www.bc-cpc.ca/cpc/serious-illness-conversations/>

- BC Guidelines: Palliative Care for the Patient with Incurable Cancer or Advanced Disease
  - <http://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/palliative-care>
- BC Palliative Care Benefits: Information for prescribers
  - <https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/pharmacare/prescribers/plan-p-bc-palliative-care-benefits-program>
- National Centre for Complementary and Alternative Medicine (NCCAM) for additional information on the use of non-pharmacological interventions
  - <https://nccih.nih.gov/>
- Canadian Association of Psychosocial Oncology: Algorithms for Cancer-related Distress, Depression and Global Anxiety
  - <https://www.capo.ca/resources/Documents/Guidelines/4.%20Algorithms%20for%20Cancer-related%20Distress,%20Depression%20and%20Global%20Anxiety.pdf>
- Fraser Health psychosocial care guideline
  - [https://www.fraserhealth.ca/employees/clinical-resources/hospice-palliative-care#.W-by\\_pNKg2w](https://www.fraserhealth.ca/employees/clinical-resources/hospice-palliative-care#.W-by_pNKg2w)

## Resources specific to health organization/region

- Fraser Health
  - <https://www.fraserhealth.ca/employees/clinical-resources/hospice-palliative-care#.XDU8UFVKjb1>
- First Nations Health Authority
  - <http://www.fnha.ca/>
- Interior Health
  - <https://www.interiorhealth.ca/YourCare/PalliativeCare/Pages/default.aspx>
- Island Health
  - <https://www.islandhealth.ca/our-services/end-of-life-hospice-palliative-services/hospice-palliative-end-of-life-care>

- Northern Health
  - <https://www.northernhealth.ca/for-health-professionals/palliative-care-end-life-care>
- Providence Health
  - <http://hpc.providencehealthcare.org/>
- Vancouver Coastal Health
  - <http://www.vch.ca/your-care/home-community-care/care-options/hospice-palliative-care>

## Resources specific to patient population

- ALS Society of Canada: A Guide to ALS patient care for primary care physicians
  - <https://als.ca/wp-content/uploads/2017/02/A-Guide-to-ALS-Patient-Care-For-Primary-Care-Physicians-English.pdf>
- ALS Society of British Columbia 1-800-708-3228
  - [www.alsbc.ca](http://www.alsbc.ca)
- BC Cancer Agency: Symptom management guidelines
  - <http://www.bccancer.bc.ca/health-professionals/clinical-resources/nursing/symptom-management>
- BC Renal Agency: Conservative care pathway and symptom management
  - <http://www.bcrenalagency.ca/health-professionals/clinical-resources/palliative-care>
- BC's Heart Failure Network: Clinical practice guidelines for heart failure symptom management
  - <http://www.bcheartfailure.ca/for-bc-healthcare-providers/end-of-life-tools/>
- Canuck Place Children's Hospice
  - <https://www.canuckplace.org/resources/for-health-professionals/>
    - 24 hr line – 1.877.882.2288
    - Page a Pediatric Palliative care physician – 1-604-875-2161 (request palliative physician on call)

- Together for short lives: Basic symptom control in pediatric palliative care  
→ [http://www.togetherforshortlives.org.uk/professionals/resources/2434/basic\\_symptom\\_control\\_in\\_paediatric\\_palliative\\_care\\_free\\_download](http://www.togetherforshortlives.org.uk/professionals/resources/2434/basic_symptom_control_in_paediatric_palliative_care_free_download)

## UNDERLYING CAUSES OF DYSPNEA IN PALLIATIVE CARE

All information regarding causes of dyspnea is contained within the body of the document.

## MEDICATIONS FOR MANAGEMENT OF DYSPNEA

No medication table included in this document

Prices for prescription drugs may be obtained from BC PharmaCare. The British Columbia Palliative Care Benefits Plan <https://www2.gov.bc.ca/assets/gov/health/health-drug-coverage/pharmacare/palliative-formulary.pdf> provides province wide drug coverage for many of the recommended medications– check website to confirm coverage. **Consider price when choosing similarly beneficial medications, especially when the patient / family is covering the cost.**

## DYSPNEA MANAGEMENT ALGORITHM

No management algorithm included in this document.

## DYSPNEA EXTRA RESOURCES OR ASSESSMENT TOOLS

### Pasero Opioid-Induced Sedation Scale (POSS)<sup>78</sup>

5	sleep, easy to arouse
1	awake and alert
2	slightly drowsy, easily aroused
3	frequently drowsy, arousable, drifts off to sleep during conversation
4	somnolent, minimal or no response to physical stimulation

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