



Part 2: Pain and Symptom Management

Dyspnea

Effective Date: February 22, 2017

Key Recommendations

- Use opioids first line for pharmacological management of dyspnea for patients with incurable cancer.
- Use of opioids in the non-cancer population for breathlessness, especially those with chronic obstructive pulmonary disease (COPD), needs extreme caution and probable consultation with a Palliative Care Physician.

Definition

Dyspnea is breathing discomfort that varies in intensity but may not be associated with hypoxemia, tachypnea, or orthopnea. It occurs in up to 80% of patients with advanced cancer.¹

Assessment

Investigations and imaging should be guided by stage, prognosis, and whether results will change management.

1. Ask the patient to describe dyspnea severity using a 1–10 scale.
2. Identify underlying cause(s) and treat as appropriate.²
3. History and physical exam lead to accurate diagnosis in two-thirds of cases.³
4. Investigations: CBC/diff, electrolytes, creatinine, oximetry +/- ABGs and pulmonary function, ECG, BNP when indicated.
5. Imaging: Chest x-ray and CT scan chest, when indicated.

Management

1. Proven therapy includes opioids for relief of dyspnea. For non-cancer patients with breathlessness, especially those with COPD, use of opioids requires extreme caution and consultation with a Palliative Care Physician should be considered.⁴
2. Oxygen is only beneficial for relief of hypoxemia.⁵
3. Adequate control of dyspnea relieves suffering and improves a patient's quality of life.⁶
4. Treat reversible causes where possible and desirable, according to goals of care.
5. Always utilize non-pharmacological treatment: education and comfort measures.

► Pharmacological Treatment

Opioids, +/- benzodiazepines or neuroleptics, +/- steroids.

Drug	Comments
1. Opioids (drugs of first choice)	<ul style="list-style-type: none">• If opioid naïve, start with morphine 2.5-5 mg PO (SC dose is half the PO dose) q4h or equianalgesic dose of hydromorphone or oxycodone.• Breakthrough should be half of the q4h dose ordered q1h prn.• If opioid tolerant, increase current dose by 25–50%.• When initiating, start an antiemetic (metoclopramide) and bowel protocol.• Therapeutic doses used to treat dyspnea do not decrease oxygen saturation or cause differences in respiratory rate or CO₂ levels.³• Nebulized forms have NOT been shown to be superior to oral opioids and are not recommended.⁷
2. Benzodiazepines	<ul style="list-style-type: none">• Prescribe prn for anxiety and respiratory “panic attacks”.• Lorazepam 0.5-2 mg SL q2-4h prn.• Consider SC midazolam in rare cases.
3. Neuroleptics	<ul style="list-style-type: none">• Methotrimeprazine 2.5-5 mg PO/SC q8h, then titrate to effect.
4. Corticosteroids	<ul style="list-style-type: none">• Dexamethasone 8-24 mg PO/SC/IV qam depending on severity and cause of dyspnea.• Particularly for bronchial obstruction, lymphangitic, carcinomatosis, and SVC syndrome; also for bronchospasm, radiation pneumonitis and idiopathic interstitial pulmonary fibrosis.
5. Supplemental Oxygen	<ul style="list-style-type: none">• Indicated only for hypoxia (insufficient evidence of benefit otherwise).⁶

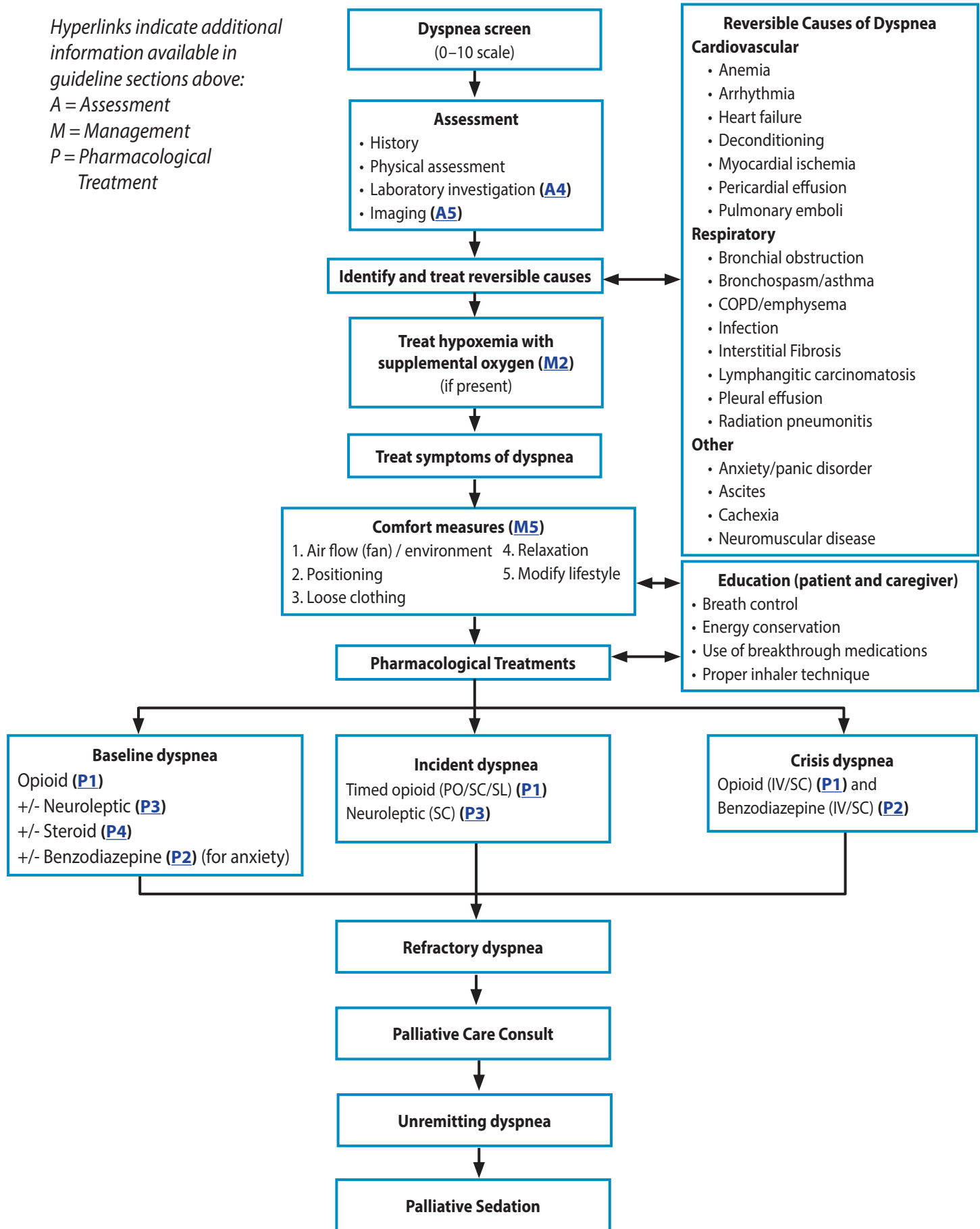
Dyspnea Management Algorithm

Hyperlinks indicate additional information available in guideline sections above:

A = Assessment

M = Management

P = Pharmacological Treatment



Resources

► References

1. Kobierski, L et al. Hospice Palliative Care Program. Symptom Guidelines. Fraser Health Authority. 2009 April. Available at: <http://www.fraserhealth.ca/health-professionals/professional-resources/hospice-palliative-care/>.
2. Schwartzstein RM, King TE, Hollingsworth H. Approach to the patient with dyspnea. UpToDate. 2009 Jan 1;17.1.
3. Membe SK, Farrah K. Pharmacological management of dyspnea in palliative cancer patients: Clinical review and guidelines. Health Technology Inquiry Service. Canadian Agency for Drugs & Technologies in Health. 2008 July.
4. Vozoris NT, Wang X, Fischer HD, et al. Incident opioid drug use and adverse respiratory outcomes among older adults with COPD. Eur Respir J 2016; 48: 683–693.
5. Qaseem A, Snow V, Shekelle P, et al. Evidence-based interventions to improve the palliative care of pain, dyspnea, and depression at the end of life: a clinical practice guideline from the American College of Physicians. Ann Intern Med. 2008;148(2):141-6.
6. Kobierski et al, "Dyspnea", Hospice Palliative Care Program Symptom Guidelines, Fraser Health Authority, 2006.
7. Fraser Health Authority. Hospice Palliative Care Symptom Guidelines – Dyspnea. 2009. Available at: <http://www.fraserhealth.ca/media/Dyspnea.pdf>.

► Abbreviations

ABG	arterial blood gas
BNP	brain natriuretic peptide
CBC/diff	complete blood count and differential count
CT	computed tomography
ECG	electrocardiogram
IV	intravenous
PO	by mouth
SC	subcutaneous
SL	sublingual
SVC	superior vena cava

► Appendices

Appendix A – Medications Used in Palliative Care for Dyspnea and Respiratory Secretions



Appendix A: Medications Used in Palliative Care for Dyspnea and Respiratory Secretions

Tailor dose to each patient; those who are elderly, cachectic, debilitated or with renal or hepatic dysfunction may require reduced dosages; consult most current product monograph for this information: <http://www.hc-sc.gc.ca/dhp-mps/prodpharma/databasdon/index-eng.php>

OPIOIDS ^A						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose (opioid-naïve) ^B	Drug Plan Coverage ^C		Approx. cost per 30 days ^D
				Palliative Care	Fair PharmaCare	
hydromorphone	Dilaudid®, G	IR tabs: 1, 2, 4, 8 mg	0.5-1 mg PO q4h	Yes, LCA	Yes, LCA	\$9–18 (G) \$9–18
		Inj: 2 mg/mL	0.25-0.5 mg SC q4h	Yes	Yes	\$1–2 per amp (2 mg/mL)
morphine	MS-IR®, Statex®	IR tabs: 5, 10, 20, 25, 30, 50 mg	2.5-5 mg PO q4h	Yes, LCA	Yes, LCA	\$11–21
		Inj: 1, 2, 5, 10, 15, 25, 50 mg per mL	Crisis dyspnea: 5 mg IV/SC q5– 2.5-5 mg PO. Titrate to q4h 10 min. Double dose if no effect every third dose	Yes	Yes	\$2 per amp (10 mg/mL)
oxycodone	Oxy IR®, Supeudol®, G IR tabs: 5, 10, 20 mg	IR tabs: 5, 10, 20 mg	2.5-5 mg PO. Titrate to q4h	Yes, LCA	Yes, LCA	\$13–25 (G) \$26–53

Morphine Equivalence Table (for chronic dosing)			
DRUG	SC/IV (mg)	PO (mg)	COMMENTS
morphine	10	30 ^A	
hydromorphone	2	4	
oxycodone	not available in Canada	20	

^A Health Canada recommends using a conversion of 10 mg SC/IV morphine = 30 mg PO (1:3) Refer to <http://www.healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2010/14603a-eng.php>

BENZODIAZEPINES						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage ^c		Approx. cost per 30 days ^d
				Palliative Care	Fair PharmaCare	
lorazepam	Ativan®, G	Tabs: 0.5, 1, 2 mg	0.5-2 mg PO/ sublingual q2-4h PRN	Yes, LCA	Yes, LCA	\$0.04–0.08 (G) \$0.04–0.10 per tablet
		Sublingual tabs: 0.5, 1, 2 mg		Yes, LCA	Yes, LCA	\$0.10–0.20 (G) \$0.13–0.25 per tablet
		Inj: 4 mg per mL	0.5-2 mg SC ^e q2-4h PRN	Yes	Yes	\$22.90 per 1 mL vial
midazolam	G	Inj: 1 mg per mL, 5 mg per mL	2.5-5 mg SC ^e q5-15 min prn	Yes, LCA	No	\$0.84/mL (1 mg/mL vial) \$4.43/mL (5 mg/ mL vial)
NEUROLEPTICS						
metho- trimeprazine	G	Tabs: 2, 5, 25, 50 mg	2.5-5 mg PO q8h, titrate to effect	Yes, LCA	Yes, LCA	\$5–10 (G)
	Nozinan®	Inj: 25 mg/mL	6.25 mg SC q8h, titrate to effect	Yes	Yes	\$3.74/amp (25 mg/mL)
CORTICOSTEROIDS						
dexamethasone	G	Tabs: 0.5, 0.75, 2, 4 mg	8-24 mg PO/SC ^e /IV every morning, taper if possible	Yes, LCA	Yes, LCA	\$20–59 (G)
		Inj: 4, 10 mg per mL		Yes, LCA	Yes, LCA	\$54–328 (G)
MEDICATIONS FOR RESPIRATORY SECRETIONS						
atropine	G	Inj: 0.4, 0.6 mg per mL	0.2-0.8 mg SC q4h and q1h PRN	Yes	Yes	\$2.50–5 (G) per dose
		Drops: 1% solution	1 to 4 drops sublingual ^e q4h prn	No	Yes	\$3.75 per 5 mL bottle
glycopyrrolate	G	Inj: 0.2 mg per mL	0.2-0.4 mg SC ^e / sublingual ^e /PO ^e q4h to q8h	Yes	Yes	\$26–52 (G) per 24 h

Abbreviations: G generics; h hour; inj injection; IR Immediate Release; PO by mouth; PRN as needed; SC subcutaneous; SR slow release; tabs tablets

^a Not an exhaustive list. Other opioids may be appropriate.

^b For opioid-tolerant patients, increase current dose by 25-50%.

^c PharmaCare coverage as of October 2016 (subject to revision). Obtain current coverage, eligibility, and coverage information from the online BC PharmaCare Formulary Search page at pharmacareformularysearch.gov.bc.ca

^d Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).

^e This route of administration is used in practice, but not approved for marketing for this indication by Health Canada