GUIDELINES & PROTOCOLS

ADVISORY COMMITTEE

Palliative Care for the Patient with Incurable Cancer or Advanced Disease
Part 2: Pain and Symptom Management
Dyspnea

Effective Date: September 30, 2011

Scope

This section presents assessment and management strategies for dealing with dyspnea occurring in patients with cancer or advanced disease.

Salient Principle in this Section:

- Use opioids first line for pharmacological management of dyspnea

Included in this Section:

A - Dyspnea management algorithm
B - Dyspnea medication reference tables

Dyspnea Management (Refer Appendix A - Dyspnea Management Algorithm)

Definition: Breathing discomfort that varies in intensity but may not be associated with hypoxemia, tachypnea, or orthopnea. Occurs in up to 80% of patients with advanced cancer.[1]

Dyspnea Assessment

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

Dyspnea Management Strategies

- Proven therapy includes opioids for relief of dyspnea. Oxygen is only beneficial for relief of hypoxemia.[4]
- Adequate control of dyspnea relieves suffering and improves a patient's quality of life.[5]
- Treat reversible causes where possible and desirable, according to goals of care.
- Always utilize non-pharmacological treatment: education and comfort measures.
- Pharmacological treatment: Opioids, +/- benzodiazepines or neuroleptics, +/- steroids.

Drug	Comments
Opioids (drugs of first choice)	• 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 CO_2 levels.[3] • Nebulized forms have NOT been shown to be superior to oral opioids and are not recommended.[6]

Palliative Care Part 1: Approach to Care is available at www.bcguidelines.ca/guideline_palliative1.html,
Palliative Care Part 3: Grief and Bereavement is available at www.bcguidelines.ca/guideline_palliative3.html

BRITISH COLUMBIA MEDICAL ASSOCIATION
BRITISH COLUMBIA | Ministry of Health
BC Cancer Agency
CARE + RESEARCH
An agency of the Provincial Health Services Authority
Family Practice Oncology Network

Drug	Comments
Benzodiazepines	• Prescribe prn for anxiety and respiratory "panic attacks". • Lorazepam 0.5-2 mg SL q2-4h prn. • Consider SC midazolam in rare cases
Neuroleptics	• Methotrimeprazine 2.5-5 mg PO/SC q8h, then titrate to effect.
Corticosteroids	• Dexamethasone 8-24 mg PO/SC/IV qam depending on severity and cause of dyspnea. • Particularly for bronchial obstruction, lymphangetic carcinomatosis, and SVC syndrome; also for bronchospasm, radiation pneumonitis and idiopathic interstitial pulmonary fibrosis.
Supplemental O_2	• Indicated only for hypoxia (insufficient evidence of benefit otherwise).[5]

References

1. Kobierski, L et al. Hospice Palliative Care Program. Symptom Guidelines. Fraser Health Authority. 2009 April. Available at: www.fraserhealth.ca/professionals/resources/hospice_palliative_care/hospice_palliative_care_symptom_guidelines
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. 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.
5. Kobierski et al, "Dyspnea", Hospice Palliative Care Program Symptom Guidelines, Fraser Health Authority, 2006.
6. Fraser Health Authority. Hospice Palliative Care Symptom Guidelines - Dyspnea. 2009. Available at www.fraserhealth.ca/media/Dyspnea.pdf

Abbreviations

ABG arterial blood gas
BNP brain natiuretic peptide
CT computed tomography
ECG electrocardiogram
IV intravenous
PO by mouth
SC subcutaneous
SL sublingual
SVC superior vena cava

Appendices

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

This guideline is based on scientific evidence current as of the Effective Date.

The guideline was developed by the Family Practice Oncology Network and the Guidelines and Protocols Advisory Committee. The guideline was approved by the British Columbia Medical Association and adopted by the Medical Services Commission.

A mobile version of this and other guidelines is also available at www.BCGuidelines.ca

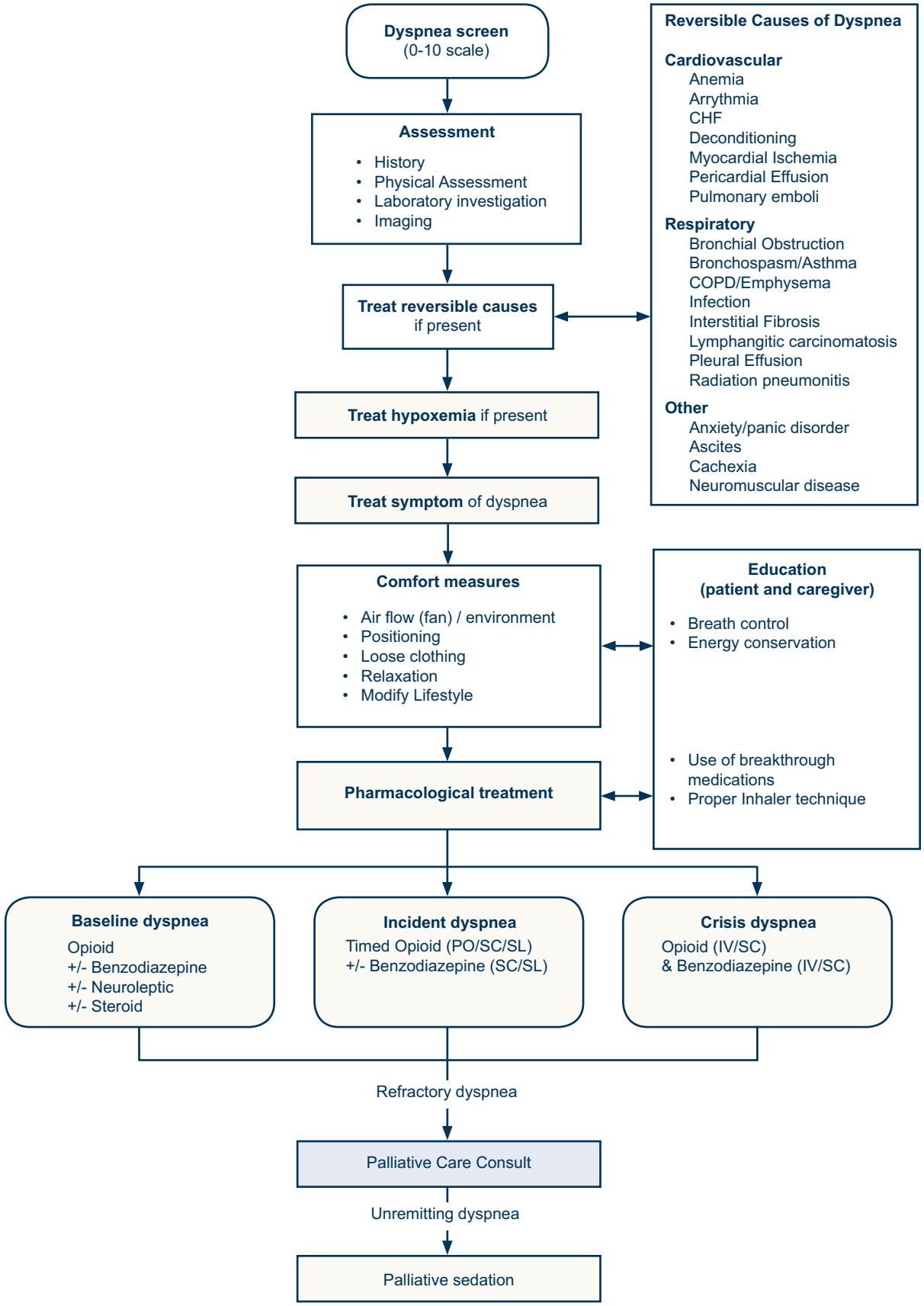
The principles of the Guidelines and Protocols Advisory Committee are to:

- encourage appropriate responses to common medical situations
- recommend actions that are sufficient and efficient, neither excessive nor deficient
- permit exceptions when justified by clinical circumstances

Contact Information

Guidelines and Protocols Advisory Committee
PO Box 9642 STN PROV GOVT
Victoria BC V8W 9P1
E-mail: hlth.guidelines@gov.bc.ca
Web site: www.BCGuidelines.ca

Appendix A: Dyspnea Management Algorithm



Appendix B: Medications[α] Used in Palliative Care for Dyspnea and Respiratory Secretions

[α]Refer to guideline and/or algorithm for recommended order of use.

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 information: http://webprod.hc-sc.gc.ca/dpd-bdpp/index-eng.jsp

OPIOIDS*						
Generic Name	**Trade Name**	**Available Dosage Forms**	**Standard Adult Dose (opioid-naïve)[A]**	**Drug Plan Coverage[B]**		**Approx. cost per 30 days**
				Palliative Care	**Fair PharmaCare**	
hydromorphone	Dilaudid®, G	**IR tabs:** 1, 2, 4, 8 mg	0.5-1 mg PO q4h	Yes, LCA	Yes, LCA	$7-15 (G) $8-17
morphine	M.O.S.®, MS-IR®, Statex®, G	**IR tabs:** 5, 10, 25, 30, 40, 50, 60 mg	2.5-5 mg PO q4h	Yes, LCA	Yes, LCA	$10-21 (G) $11-24
	G	**Inj:** 1, 2, 5, 10, 15, 25, 50 mg per mL	**Crisis dyspnea:** 5 mg IV/SC q5-10 min. Double dose if no effect every third dose	Yes	Yes	$1amp(10mg/ml)
oxycodone	Oxy IR®, Supeudol®, G	**IR tabs:** 5, 10, 20 mg	2.5-5 mg PO. Titrate to q4h	Yes, LCA	Yes, LCA	$23 (G) – 50

BENZODIAZEPINES						
Generic Name	**Trade Name**	**Available Dosage Forms**	**Standard Adult Dose**	**Drug Plan Coverage[B]**		**Approx. cost**
				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) $0.08-0.16 per tablet
		Sublingual tabs: 0.5, 1, 2 mg		Yes	Yes	$0.12-0.23 per tablet
		Inj: 4 mg per mL	0.5-2 mg SC[+] q2-4h PRN	Yes	Yes	$2.93 per vial
midazolam	G	**Inj:** 1 mg per mL, 5 mg per mL	2.5-5 mg SC[+] q5-15 min prn	Yes	No	$1.45/mL (1 mg/mL vial) $3.92/mL (5 mg/mL vial)

NEUROLEPTICS						
Generic Name	**Trade Name**	**Available Dosage Forms**	**Standard Adult Starting Dose**	**Drug Plan Coverage[B]**		**Approx. cost per 30 days**
				Palliative Care	**Fair PharmaCare**	
metho-trimeprazine	Nozinan®, G	**Tabs:** 2, 5, 25, 50 mg	2.5-5 mg PO q8h, titrate to effect	Yes, LCA	Yes, LCA	$1-2 (G)
	Nozinan®	**Inj:** 25 mg/mL	6.25 mg SC q8h, titrate to effect	Yes	Yes	$3.5/amp (25 mg/mL)

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 information: http://webprod.hc-sc.gc.ca/dpd-bdpp/index-eng.jsp

CORTICOSTEROIDS						
Generic Name	**Trade Name**	**Available Dosage Forms**	**Standard Adult Dose**	**Drug Plan Coverage[B]**		**Approx. cost per 30 days**
				Palliative Care	**Fair PharmaCare**	
dexamethasone	G	**Tabs:** 0.5, 0.75, 2, 4 mg	8-24 mg PO/SC/IV every morning, taper if possible	Yes, LCA	Yes, LCA	$36-55 (G)
		Inj: 4, 10 mg per mL				$101-304 (G)

MEDICATIONS FOR RESPIRATORY SECRETIONS						
Generic Name	**Trade Name**	**Available Dosage Forms**	**Standard Adult Dose**	**Drug Plan Coverage[B]**		**Approx. cost**
				Palliative Care	**Fair PharmaCare**	
atropine	G	**Inj:** 0.4, 0.6 mg per mL	0.2-0.8 mg SC q4h and q1h PRN	Yes	Yes	$1.5-2 (G) per dose
		Drops: 1% solution	1 to 4 drops sublingual[+] q4h prn	No	Yes	$3.15 per 5 mL bottle
glycopyrrolate	G	**Inj:** 0.2 mg per mL	0.2-0.4 mg SC[+]/sublingual[+]/PO[+] q4h to q8h	Yes	Yes	$11-45 (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

* Not an exhaustive list. Other opioids may be appropriate.
[A] For opioid-tolerent patients, increase current dose by 25-50%.
[B] PharmaCare coverage and cost as of November 2010 (subject to revision). Cost does not include dispensing fee. Generic and brand name cost separated as indicated by (G). Obtain coverage, eligibility, medication coverage information and explanations in Palliative Care Part 2 - Information about Provincial Drug Coverage
[+] This route of administration is used in practice, but not approved for marketing for this indication by Health Canada

References

Cardario. Drug Information Reference. Vancouver: The BC Drug and Poison Information Centre, 2003.

Fraser Health [page on the internet]. Vancouver: Fraser Health; c2009 [cited 2010 Aug 11]. Hospice Palliative Care Symptom Guidelines. Available from: www.fraserhealth.ca/professionals/hospice_palliative_care/

Hospital Pharmacists' Special Interest Group in Palliative Care. Care Beyond Cure: Management of Pain and Other Symptoms. Montreal: Association des pharmaciens des etablissements de santé du Quebec, 2009.

Repchinsky C, editor. Compendium of Pharmaceuticals and Specialties. 2010. Toronto: Canadian Pharmacists Association, 2010.

Rostom A, Dube C, Wells GA, Tugwell P, Welch V, Jolicoeur E, McGowan J, Lanas A. Prevention of NSAID-induced gastroduodenal ulcers. *Cochrane Database of Systematic Reviews* 2002, Issue 4. Art. No.: CD002296. DOI: 10.1002/14651858.CD002296. [Content updated 2010].

Semla TP, Beizer JL, Higbee MD. Geriatric dosage handbook. 15th ed. Hudson(OH):Lexi-Comp, 2010.

Twycross R, Wilcock A, Dean M, et al. Palliative Care Formulary. Canadian Edition. Nottingham: Palliativedrug.com Ltd, 2010.