BCGuidelines.ca
Guidelines & Protocols Advisory Committee

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

Effective Date: February 22, 2017

Scope

This guideline presents strategies for the assessment and management of cancer pain, and symptoms associated with advanced disease, in patients ≥ 19 years of age. Part 2 is divided into seven sections, providing recommendations for evidence-based symptom management with algorithms to facilitate quick access to the information required. Hyperlinked notes in the algorithm refer back to more detailed information within each symptom section.

Key symptom areas addressed are:

- **Constipation:** Guideline | Medication Table
- **Delirium:** Guideline | Medication Table
- **Depression:** Guideline | Medication Table
- **Dyspnea:** Guideline | Medication Table
- **Fatigue and Weakness:** Guideline | Medication Table
- **Nausea and Vomiting:** Guideline | Medication Table
- **Pain:** Guideline | Equianalgesic Conversion for Morphine | Medication Table

British Columbia | Ministry of Health
doctors of bc
BC Cancer Agency
CARE + RESEARCH
An agency of the Provincial Health Services Authority
Family Practice Oncology Network

Part 2: Pain and Symptom Management
Constipation

Effective Date: February 22, 2017

Key Recommendations

- Prevent constipation by ordering a bowel protocol when regular opioid medication is prescribed.

Assessment

1. Understand the patient's bowel habits, both current and when previously well (e.g., frequency of bowel movements (BMs), stool size, consistency, and ease of evacuation). Consider using the bowel performance scale available at: http://www.bccancer.bc.ca/family-oncology-network-site/Documents/BPSConstipationScale.pdf
2. The goal is to restore a patient's normal BM frequency, consistency, and ease of passage.
3. For lower performance status patients (e.g., reduced food intake and activity), lower BM frequency is acceptable as long as there is no associated discomfort.

Management

1. There are many etiologies (e.g., reduced food/fluid/mobility and adverse effects of medications).
2. Exclude impaction when a patient presents already constipated. Abdominal x-ray can be useful when physical examination is inconclusive.
3. Minimize/avoid rectal interventions (enemas, suppositories, manual evacuation), except in crisis management. Note that rectal interventions are contraindicated when there is potential for serious infection (neutropenia) or bleeding (thrombocytopenia), or when there is rectal/anal disease.
4. When risk factors are ongoing, as they are in most cancer patients, suggest laxatives regularly versus prn. Adjust dose individually. Laxatives are most effective when taken via escalating dose according to response, termed "bowel protocol".
5. Sennosides (e.g., Senokot®) are the first choice of laxative for prevention and treatment. Patients with irritable bowel syndrome may experience painful cramps with stimulant laxatives and often prefer osmotic laxatives such as lactulose or polyethylene glycol (PEG). There is weak evidence that lactulose and sennosides are equally effective;[1] however lactulose can taste unpleasant and cause bloating.
6. If rectal measures are required, generally a stimulant suppository is tried first, then an enema as the next option.
7. The BC Palliative Care Drug Plan covers laxatives written on a prescription for eligible patients.
8. For patients with opioid-induced constipation, after a trial of first-line recommended stimulant laxatives and osmotic laxatives, methylnaltrexone (or nalaxegol) may be helpful. Cancer, GI malignancy, GI ulcer, Ogilvie's syndrome and concomitant use of certain medications (e.g., NSAIDs, steroids and bevacizumab) may increase the risk of GI perforation in patients receiving methylnaltrexone. [Health Canada MedEffect Notice: http://www.healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2010/14087a-eng.php]
9. A bowel protocol and patient handouts on constipation are available at: http://www.bccancer.bc.ca/health-professionals/networks/family-practice-oncology-network/guidelines-protocols.

Constipation Management Algorithm

Resources

References

1. Agra Y, Sacristán A, González M, et al. Efficacy of senna versus lactulose in terminal cancer patients treated with opioids. J Pain Symptom Manage. 1998;15(1):1-7.

Abbreviations

AEs	adverse effects
BM	bowel movement
GI	gastrointestinal
NSAIDs	non-steroidal anti-inflammatory drugs
PEG	polyethylene glycol

Appendices

Appendix A – Medications Used in Palliative Care for Constipation

Appendix A: Medications Used in Palliative Care for Constipation

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

LAXATIVES[A]						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
bisacodyl	Dulcolax®, G	**Tabs:** 5 mg	5 to 10 mg PO x 1 dose	Yes, LCA	No	$1 (G) $6 per 30 days
		Supp: 10 mg	10 mg PR x 1 dose			$0.51 (G) per supp
sennosides	Senokot®, G	**Tabs:** 8.6, 12 mg	2 tabs PO at bedtime to 3 tabs tid			$3–20 (G) $6–40 per 30 days
		Oral syrup: 8.8 mg per 5 mL	10 mL PO at bedtime to 15 mL tid	Yes, LCA	No	$14–72 per 30 days
glycerin supp[D]	G	**Supp:** 2.65 g	1 supp PR x 1 dose	Yes	No	$0.25 (G) per supp
lactulose	G	**Oral solution:** 667 mg per mL	15 mL PO daily to 30 mL PO bid	Yes, LCA	Special Authority, LCA	$7–28 (G) per 30 days
polyethylene glycol 3350 (PEG)[D]	Lax-A-Day®, Pegalax®, RestoraLAX®, G	**Powder:** 17g sachets	17 grams in 250 mL fluid PO daily	No	No	$20–25 per 30 days
sorbitol[D]	G	**Oral solution:** 70%	15 to 45 mL PO daily to qid	No	No	$10–136 (G) per 30 days
glycerin-sodium citrate-sodium lauryl sulfoacetate- sorbic acid-sorbitol[D]	Microlax®	**Micro-enema:** 5 mL	5 mL PR x 1 to 2 doses	Yes	No	$1.80 per micro-enema
phosphates enema[D, E]	Fleet enema®, G	**Enema:** 22 g per 100 mL	120 mL PR x 1 dose	Yes	No	$6 per enema
mineral oil enema[D]	Fleet Enema Mineral Oil®	**Enema:** 130 mL	120 mL PR x 1 dose	Yes	No	$8 per enema
methylnaltrexone[D]	Relistor®	**Inj:** 12 mg per 0.6 mL	8 to 12 mg SC every 2 days	No	No	$616 per 30 days
naloxegol	Movantik®	**Tabs:** 12.5, 25 mg	25 mg PO once daily	No	No	$193 per 30 days

Abbreviations: G generics; **LCA** subject to Low Cost Alternative Program; **PO** by mouth; **PR** per rectum; **SC** subcutaneous; **Supp** suppositories (rectal); **tabs** tablet

[A] Refer to guideline and/or algorithm for recommended order of use.
[B] 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
[C] Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
[D] Cancer, gastrointestinal malignancy, gastrointestinal ulcer, Ogilvie's syndrome and concomitant use of certain medications (e.g., NSAIDs, steroids and bevacizumab) may increase the risk of GI perforation in patients receiving methylnaltrexone. [Health Canada MedEffect Notice: http://www.healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2010/14087a-eng.php
[E] Contraindicated in patients with renal failure

Part 2: Pain and Symptom Management
Delirium Management

Effective Date: February 22, 2017

Key Recommendations

- Look for and treat reversible causes of delirium.
- Utilize neuroleptics first line for pharmacological treatment.

Definition

Delirium is a state of mental confusion that develops quickly, usually fluctuates in intensity, and results in reduced awareness of and responsiveness to the environment. It may manifest as disorientation, incoherence, and memory disturbance.

Assessment

1. Delirium may be hypoactive, hyperactive or mixed.
2. Look for underlying reversible cause (refer to Fraser Health Authority, Hospice Palliative Care Symptom Guidelines - Delirium/Restlessness at www.fraserhealth.ca/media/07FHSymptomGuidelinesDelirium.pdf)
3. Ascertain stage of illness and whether delirium is likely to be reversible, or terminal and irreversible.
4. Review advanced care plan and discuss goals of care with substitute decision maker.
5. Refer patient/family to Home and Community Care (see *Associated Document: Resource Guide for Practitioners*) or timely access to caregiver support and access to respite and/or hospice care.

Management

1. Treat reversible causes if consistent with goals of care.
2. Avoid initiating benzodiazepines for first line treatment.
3. Avoid use of antipsychotics in patients diagnosed with Parkinson's disease or Lewy Body Dementia.

Delirium Management Algorithm

Resources

References

1. Lawlor PG, Gagnon B, Mancini IL, Pereira JL, Hanson J, Suarez-Almazor ME, et al. Occurrence, causes, and outcome of delirium in patients with advanced cancer: a prospective study. Arch Intern Med. 2000 Mar 27;160(6):786–94.
2. Macleod AD. Delirium: the clinical concept. Palliat Support Care. 2006 Sep;4(3):305–12.
3. Gagnon P, Allard P, Mâsse B, DeSerres M. Delirium in terminal cancer: a prospective study using daily screening, early diagnosis, and continuous monitoring. J Pain Symptom Manage. 2000 Jun;19(6):412–26.
4. Canadian Coalition for Seniors' Mental Health. Guidelines on the Assessment and Treatment of Delirium in Older Adults at the End of Life [Internet]. 2010. Available from: http://ccsmh.ca/wp-content/uploads/2016/03/NatlGuideline_DeliriumEOLC.pdf
5. Brown S, Degner LF. Delirium in the terminally-ill cancer patient: aetiology, symptoms and management. Int J Palliat Nurs. 2001 Jun;7(6):266–8, 270–2.
6. Leonard M, Raju B, Conroy M, Donnelly S, Trzepacz PT, Saunders J, et al. Reversibility of delirium in terminally ill patients and predictors of mortality. Palliat Med. 2008 Oct;22(7):848–54.

Abbreviations

IM	intramuscular
IV	intravenous
PO	by mouth
SC	subcutaneous

Appendices

Appendix A – Medications Used in Palliative Care for Delirium and Terminal Agitation

Associated Document

- BCguidelines.ca – Palliative Care: Resource Guide for Practitioners

Appendix A: Medications Used in Palliative Care for Delirium and Terminal Agitation

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

ANTIPSYCHOTICS[A]						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
quetiapine[D]	Seroquel®, G	**Tabs:** 25, 100, 200, 300 mg	12.5 to 50 mg PO daily to twice daily	No	Yes, LCA	$1–12 (G) $8–67
loxapine[D]	G	**Tabs:** 2.5, 5, 10, 25, 50 mg	2.5 to 10 mg PO/SC daily to twice daily	Yes, LCA	Yes, LCA	$6–19 (G)
		Inj: 50 mg per mL		Yes	Yes	$543–1086 (G)
risperidone[D]	Risperdal®, G	**Tabs:** 0.25, 0.5, 1, 2, 3, 4 mg	0.5 to 2 mg PO daily to twice daily	Yes	Yes	$7–37 (G) $11–62
	Risperdal M-tab®, G	**ODT:** 0.5, 1, 2, 3, 4 mg		Yes	Yes	$18–66 (G) $27–73
olanzapine[D]	Zyprexa®, G	**Tabs:** 2.5, 5, 7.5, 10, 15, 20 mg	2.5 to 10 mg PO daily to twice daily	No	Special Authority, LCA	$10–83 (G) $59–470
	Zyprexa Zydis®, G	**ODT:** 5, 10, 15, 20 mg		No	Special Authority, LCA	$10–83 (G) $117–467
Haloperidol	G	**Tabs:** 0.5, 1, 2, 5, 10 mg	***Mild restlessness:*** 0.5 to 1.5 mg PO tid	Yes, LCA	Yes, LCA	$13–32 (G)
			Delirium and agitation: 0.5 to 5 mg PO q8h to q4h			$13–92 (G)
		Inj: 5 mg per mL	***Mild restlessness:*** 0.25 to 0.75 mg SC[E] tid	Yes, LCA	Yes, LCA	$469 (G)
			Delirium and agitation: 0.5 to 5 mg SC[E] q8h to q4h			$469–938 (G)
metho-trimeprazine[D]	G	**Tabs:** 2, 5, 25, 50 mg	**Delirium:** 10 to 50 mg SC[E] q30min until relief then 10 to 50 mg PO/SC[E] q8h to q4h	Yes, LCA	Yes, LCA	$20–76 (G)
	Nozinan®	**Inj:** 25 mg per mL		Yes	Yes	$337–1347
OTHER						
phenobarbital[F]	G	**Inj:** 30 mg per mL, 120 mg per mL	Epilepsy/terminal agitation: 60 mg SC[E] bid up to 120 mg tid	Yes	Yes	$14–15 per 1 ml ampule (G)

Abbreviations: G generics; **Inj** Injection; **LCA** subject to Low Cost Alternative Program; **ODT** oral disintegrating tablets; **PO** by mouth; **SC** subcutaneous; **tabs** tablets

[A] Refer to guideline and/or algorithm for recommended order of use.
[B] 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
[C] Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
[D] This indication (i.e., delirium) used in practice, but not approved for marketing by Health Canada
[E] This route of administration used in practice, but not approved for marketing by Health Canada.
[F] This indication (i.e., terminal agitation) used in practice, but not approved for marketing by Health Canada

Part 2: Pain and Symptom Management
Depression

Effective Date: February 22, 2017

Key Recommendations

- Before diagnosing and treating major depressive disorder, first effectively treat pain and other symptoms, then differentiate the symptoms of depression from normal grieving.
- When prescribing antidepressants for this group of patients, select antidepressants with the least drug interactions.

Assessment

1. Depression occurs in 13–26% of patients with terminal illness,[1, 2] can amplify pain and other symptoms, and is often recognized too late in a patient's life.
2. Patients are at high risk of suicide and have an increased desire for hastened death.[3]
3. A useful depression screening question is, "Have you been depressed most of the time for the past two weeks?"[4]
4. A diagnosis of depression in the terminally ill may be made when at least two weeks of depressed mood is accompanied by symptoms of hopelessness, helplessness, worthlessness, guilt, lack of reactivity, or suicidal ideation.
5. DSM-IV criteria for depression are not very helpful because vegetative symptoms like anorexia, weight loss, fatigue, insomnia, and impaired concentration may accompany end stage progressive illness.
6. Risk factors for depression include:
    - personal or family history of depression;
    - social isolation, concurrent illnesses (e.g., COPD, CHF);
    - alcohol or substance abuse;
    - poorly controlled pain;
    - advanced stage of illness;
    - certain cancers (head and neck, pancreas, primary or metastatic brain cancers);
    - chemotherapy agents (vincristine, vinblastine, asparagines, intrathecal methotrexate, interferon, interleukin);
    - corticosteroids (especially after withdrawal); and
    - abrupt onset of menopause (e.g., withdrawal of hormone replacement therapy, use of tamoxifen).

Management

1. Non-pharmacological treatments are the mainstay of treatment for the symptom of depression without a diagnosis of primary affective disorder.
2. Treatment of pain and other reversible physical symptoms should occur before initiating antidepressant medication.
3. If a diagnosis of primary affective disorder is uncertain in a depressed patient, consider psychiatric referral and a trial of antidepressant medication (refer to *Appendix A: Medications Used in Palliative Care for Depression*). Consider drug interactions, adverse side effect profiles, and beneficial side effects when choosing an antidepressant.
4. In the terminally ill, start with half the usual recommended starting dose of antidepressant.[5]
5. First line therapy is with a selective serotonin reuptake inhibitor (SSRI),[2] selective serotonin norepinephrine reuptake inhibitor (SSNRI), or noradrenergic and specific serotonergic antidepressant (NaSSA).

6. Tricyclic antidepressants (especially nortryptiline and desipramine) can be considered due to their co-analgesic benefit for neuropathic pain (refer to *Appendix A – Medications Used in Palliative Care for Depression*). Avoid with constipation, urinary retention, dry mouth, orthostatic hypotension, or cardiac conduction delays.
7. When anticipated survival time is short, consider psychostimulants due to their more immediate onset of effect,[2] but avoid them in the presence of agitation, confusion, insomnia, anxiety, paranoia, or cardiac comorbidity.
8. If life expectancy is 1–3 months, start a psychostimulant and an antidepressant together and then withdraw the stimulant while titrating the antidepressant upwards.

Depression Management Algorithm

Hyperlinks indicate additional information available in guideline sections above:
A = Assessment
M = Management

See also the associated BC Guidelines.ca – *Major Depressive Disorder in Adults – Diagnosis and Management*

Resources

References

1. Lloyd-Williams M, Friedman T. Depression in palliative care patients – a prospective study. Eur J Cancer Care 2001;10:270-4.
2. Fraser Health Authority. Hospice Palliative Care Symptom Guidelines. Depression. c2006. Available from: http://www.fraserhealth.ca/media/08FHSymptomGuidelinesDepression.pdf.
3. Breitbart W, Rosenfeld B, Pessin H, et al. Depression, hopelessness, and desire for hastened death in terminally ill patients with cancer. JAMA 2000;284:2907-11.
4. Chochinov HM, Wilson KG, Enns M, et al. "Are you depressed?" Screening for depression in the terminally ill. Am J Psychiatry 1997;154:674-6.
5. Rodin G, Katz M, Lloyd N, et al. The management of depression in cancer patients: A clinical practice guideline. Cancer Care Ontario. 2006 Oct.

Abbreviations

CHF	congestive heart failure
COPD	chronic obstructive pulmonary disease
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders 4th edition
NaSSA	noradrenergic & specific serotonergic antidepressant
SSRI	selective serotonin reuptake inhibitor
SSNRI	selective serotonin norepinephrine reuptake inhibitor
TCA	tricyclic antidepressant

Appendices

Appendix A – Medications Used in Palliative Care for Depression

Appendix A: Medications Used in Palliative Care for Depression

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

ANTIDEPRESSANTS[A, B]						
Generic Name	Trade Name/ Available Dosage Forms	Standard Adult Dose[C] (palliative)	Drug Plan Coverage[D]		Approx. cost per 30 days[E]	Therapeutic Considerations
			Palliative Care	Fair PharmaCare		
NaSSA: Noradrenergic and Specific Serotonergic Antidepressant						
mirtazapine	**Remeron®, G** **Tabs:** 15, 30, 45 mg	**Start:** 7.5 to 15 mg PO at bedtime **Goal:** 15 to 45 mg PO at bedtime **Max:** 60 mg[F] PO at bedtime	Yes, LCA	Yes, LCA	$3–9 (G) $27–80	• Useful for night-time sedation • Rapid dissolve formulation
	Remeron RD® ODT: 15, 30, 45 mg		Yes, LCA	Yes, LCA	$3–9 (G) $16–47	
SSNRI: Selective Serotonin Norepinephrine Reuptake Inhibitors						
venlafaxine XR	**Effexor XR®, G** **XR caps:** 37.5, 75, 150 mg	**Start:** 37.5 mg PO qAM **Goal:** 75 to 225 mg PO qAM **Max:** 375 mg[F] PO daily	Yes, LCA	Yes, LCA	$11–32 (G) $64–191	• May cause nausea
duloxetine	**Cymbalta® Caps:** 30 mg, 60 mg	**Start:** 30 mg PO qAM **Goal:** 30 to 60 mg PO qAM **Max:** 120[F] mg PO qAM	No	No	$62–127	• Effective for diabetic neuropathy • Should not be given to individuals with chronic hepatic disease or excessive alcohol consumption
desvenlafaxine	**Pristiq® XR** tabs: 50, 100 mg	**Start:** 50 mg PO once daily **Goal:** 50 to 100 mg PO once daily **Max:** 100 mg PO daily	No	No	$89	• Should not be discontinued abruptly
SSRI: Selective Serotonin Reuptake Inhibitors						
citalopram	**Celexa®, G** **Tabs:** 10, 20, 40 mg	**Start:** 10 mg PO qAM **Goal:** 10 to 40 mg PO qAM **Max:** 60 mg PO qAM	Yes, LCA	Yes, LCA	$5–$8 (G) $22–45	• Least pharmacokinetic drug interactions
escitalopram	**Cipralex®, G** **Tabs:** 10, 20 mg	**Start:** 5 mg PO qAM **Goal:** 5 to 20 mg PO qAM **Max:** 30 mg[F] PO qAM	Yes	Yes	$6–12 (G) $29–62	
	ODT: 10, 20 mg		No	No	$29–62	

ANTIDEPRESSANTS[A, B]						
Generic Name	Trade Name/ Available Dosage Forms	Standard Adult Dose[C] (palliative)	Drug Plan Coverage[D]		Approx. cost per 30 days[E]	Therapeutic Considerations
			Palliative Care	Fair PharmaCare		
TCA: Tricyclic Antidepressants						
desipramine	**G Tabs:** 10, 25, 50, 75, 100 mg	**Start:** 10 to 25 mg PO qAM[G] **Goal:** 50 to 75 mg PO qAM[G] **Max:** 200 mg PO qAM[G]	Yes, LCA	Yes, LCA	$22–29 (G)	• increase dose every 3 to 7 days until goal reached • may help neuropathic pain • useful for night-time sedation • anticholinergic side effects • desipramine and nortriptyline least anticholinergic of TCAs • monitor for postural hypotension
nortriptyline	**Aventyl®, G Caps:** 10, 25 mg	**Start:** 10 to 25 mg PO at bedtime **Goal:** 50 to 75 mg PO at bedtime **Max:** 150 mg PO at bedtime	Yes, LCA	Yes, LCA	$33–49 (G) $33–49	

Abbreviations: caps capsules; **G** generics available; **IR** immediate release; **LCA** subject to Low Cost Alternative Program; **max** maximum dose; **ODT** oral disintegrating tablet; **PO** by mouth; **qAM** every morning; **SR** sustained release; **tabs** tablets; **XR** extended release

[A] Refer to guideline and/or algorithm for recommended order of use.
[B] Not a complete list of antidepressants
[C] Start doses listed are recommended starting doses for geriatric patients (half the recommended doses for adults), except for duloxetine
[D] 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
[E] Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
[F] This maximum dose used in palliative care, but not approved for marketing by Health Canada
[G] Bedtime dosing may be appropriate for patients experiencing sedation with desipramine

PSYCHOSTIMULANTS[A]						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose (note age specific recommendations)	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
methylphenidate[D]	Ritalin®, G	**IR tabs:** 5, 10, 20 mg	**Age over 65 years:** Not recommended	Yes, LCA	Yes, LCA	$6–18 (G) $14–41
			Age 18 to 65 years: Start: 5 mg PO bid (AM and noon); use 2.5 mg for frail patients Max: 15 mg PO bid (AM and noon)			
	Biphentin®	**SR caps:** 10, 15, 20, 30 mg	**Once dose stabilized on IR, give equivalent daily dose as SR or XR form once daily in AM**	No	No	$23–59
	Concerta®	**XR tabs:** 18, 27, 36, 54 mg		No	Special Authority[E]	$71–93
	Ritalin-SR®, G	**SR tabs:** 20 mg		No	Yes, LCA	$9 (G) $24
dextro-amphetamine[D]	Dexedrine®, G	**IR tabs:** 5	**Age over 65 years:** Not recommended	No	Yes	$18–134 (G) $24–188
		SR caps: 10, 15 mg	**Age 18 to 65 years:** Start: 2.5 mg PO bid (AM then in 4 to 6 h) Max: 20 mg PO bid (AM then in 4 to 6 h			
			Once dose stabilized on IR, give equivalent daily dose as SR form once daily in AM	No	Yes	$33–135
modafinil[D]	Alertec®, G	**Tabs:** 100 mg	**Age over 65 years:** Start: 100 mg PO qAM Max: 100 mg PO bid (AM and noon)	No	Special Authority[F], LCA	$30–60 (G) $45–90
			Age 18 to 65 years: Start: 100 mg PO bid (AM and noon) Max: 200 mg PO bid (AM and noon)			$60–120 (G) $90–180

Abbreviations: caps capsules; **G** generics; **h** hours; **IR** immediate release; **LCA** subject to Low Cost Alternative Program; **max** maximum dose; **PO** by mouth; **qAM** every morning; **SR** sustained release; **tabs** tablets; **XR** extended release

[A] Refer to guideline and/or algorithm for recommended order of use.
[B] 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
[C] Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
[D] This indication (i.e. depression) used in practice, but not approved for marketing by Health Canada
[E] Special authority required to obtain coverage for Concerta® for ADHD as second line treatment
[F] Special authority required to obtain coverage for modafinil for patients with narcolepsy

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)	• 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.[7]
2. Benzodiazepines	• 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	• Methotrimeprazine 2.5-5 mg PO/SC q8h, then titrate to effect.
4. Corticosteroids	• 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	• 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

Dyspnea screen
(0–10 scale)

Assessment
- History
- Physical assessment
- Laboratory investigation (**A4**)
- Imaging (**A5**)

Identify and treat reversible causes

Reversible Causes of Dyspnea

Cardiovascular
- Anemia
- Arrhythmia
- Heart failure
- Deconditioning
- Myocardial ischemia
- Pericardial effusion
- Pulmonary emboli

Respiratory
- Bronchial obstruction
- Bronchospasm/asthma
- COPD/emphysema
- Infection
- Interstitial Fibrosis
- Lymphangitic carcinomatosis
- Pleural effusion
- Radiation pneumonitis

Other
- Anxiety/panic disorder
- Ascites
- Cachexia
- Neuromuscular disease

Treat hypoxemia with supplemental oxygen (M2)
(if present)

Treat symptoms of dyspnea

Comfort measures (M5)
1. Air flow (fan) / environment
2. Positioning
3. Loose clothing
4. Relaxation
5. Modify lifestyle

Education (patient and caregiver)
- Breath control
- Energy conservation
- Use of breakthrough medications
- Proper inhaler technique

Pharmacological Treatments

Baseline dyspnea
Opioid (**P1**)
+/- Neuroleptic (**P3**)
+/- Steroid (**P4**)
+/- Benzodiazepine (**P2**) (for anxiety)

Incident dyspnea
Timed opioid (PO/SC/SL) (**P1**)
Neuroleptic (SC) (**P3**)

Crisis dyspnea
Opioid (IV/SC) (**P1**) and
Benzodiazepine (IV/SC) (**P2**)

Refractory dyspnea

Palliative Care Consult

Unremitting dyspnea

Palliative Sedation

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 natiuretic 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-tolerent 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

Part 2: Pain and Symptom Management
Fatigue and Weakness

Effective Date: February 22, 2017

Key Recommendations

- Except when a patient is dying, recognize that fatigue is a treatable symptom with a major impact on quality of life.

Definition

Fatigue is a subjective perception/experience related to disease, emotional state and/or treatment. Fatigue is a multidimensional symptom involving physical, emotional, social and spiritual well-being and affecting quality of life.[1]

Assessment

1. Assess whether symptom is fatigue or weakness (generalized or localized).
2. Distinguish fatigue from depression.
3. Look for reversible causes of fatigue or weakness (refer to *Fraser Health, Hospice Palliative Care Symptom Guidelines, Fatigue*, available at www.fraserhealth.ca/media/11FHSymptomGuidelinesFatigue.pdf).

Management

1. After treating reversible causes and providing non-pharmacological treatment recommendations, consider pharmacological treatment (refer to *Appendix A: Medications Used in Palliative Care for Fatigue)*, if consistent with patient's goals of care.

Fatigue and Weakness Management Algorithm

Hyperlinks indicate additional information available in guideline sections above:
A = Assessment
M = Management

Fatigue Screen
Numeric Rating Scale
(0–10 scale)

↓

Fatigue Assessment
- History
- Physical Exam
- Labs

↓

Assess for and treat persisting pain, dyspnea, and nausea contributing to fatigue

↓

Assess for other causes of fatigue and treat, if appropriate
- Reversible causes of fatigue
- Depression
- Muscle weaknesss

↓

Palliative Care Consult for refractory symptoms

↓

Reversible Causes of Fatigue (A3)
- Anemia
- Dehydration
- Hypokalemia
- Hyponatremia
- Hypomagnesemia
- Hypo/hypercalcemia
- Hypothyroidism
- Medicationinduced
- Alcohol/drugabuse
- Infection
- Sleepdisorder
- Obstructive sleep apnea
- Chronic fatigue syndrome

Distinguish fatigue from depression
See BCGuidelines.ca – *Palliative Care Part 2 – Depression Management Algorithm*

Muscle Weakness (A1)

Localized Weakness
- Cerebral metastases
- Cerebral vascular accident
- Radiculopathy

Generalized Weakness
- Deconditioning
- Paraneoplastic syndrome
- Polymyalgia
- Polymyositis
- Steroid induced myopathy
- Steroid withdrawal, abrupt

Non-pharmacological Treatments

General measures
- Individualized graded exercise program
- Nutrition
- Assessment by Home and Community Care for support in home

Education of patient and caregivers
- Normalize
- Energy conservation
- Sleep hygiene
- Fatigue scale

Stress management
- Cognitive behavioural interventions
- Support groups

↓

Pharmacological treatments (M1)

↓

Terminal phase of illness?

No →
Methylphenidate OR
Dextroamphetamine OR
Modafanil (only if fatigue > 6/10)

Yes →
Steroids
(may be useful)

Resources

References

1. Ferrell BR, Grant M, Dean GE, Funk B, Ly J. Bone tired: The experience of fatigue and impact on quality of life. Oncology Nursing Forum. 1996;23(10):1539-47.

Appendices

Appendix A – Medications Used in Palliative Care for Fatigue

Appendix A: Medications Used in Palliative Care for Fatigue

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

PSYCHOSTIMULANTS[A]						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose (note age specific recommendations)	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
methylphenidate[D]	Ritalin®, G	**IR tabs:** 5, 10, 20 mg	**Age over 65 years:** Not recommended	Yes, LCA	Yes, LCA	$6–18 (G) $14–41
			Age 18 to 65 years: Start: 5 mg PO bid (AM and noon); use 2.5 mg for frail patients Max: 15 mg PO bid (AM and noon)			
	Biphentin®	**SR caps**: 10, 15, 20, 30 mg	**Once dose stabilized on IR, give equivalent daily dose as SR or XR form once daily in AM**	No	No	$23–59
	Concerta®	**XR tabs:** 18, 27, 36, 54 mg		No	Special Authority[E]	$71– 93
	Ritalin-SR®, G	**SR tabs:** 20 mg		No	Yes, LCA	$9 (G) $24
dextro-amphetamine[D]	Dexedrine®, G	**IR tabs:** 5 mg	**Age over 65 years:** Not recommended	No	Yes	$18–134 (G) $24–188
			Age 18 to 65 years: Start: 2.5 mg PO bid (AM then in 4 to 6 h) Max: 20 mg PO bid (AM then in 4 to 6 h			
		SR caps: 10, 15 mg	Once dose stabilized on IR, give equivalent daily dose as SR form once daily in AM	No	Yes	$33–135
modafinil[D]	Alertec®, G	Tabs: 100 mg	**Age over 65 years:** Start: 100 mg PO qAM Max: 100 mg PO bid (AM and noon)	No	Special Authority[F], LCA	$30–60 (G) $45–90
			Age 18 to 65 years: Start: 100 mg PO bid (AM and noon) Max: 200 mg PO bid (AM and noon)			$60–120 (G) $90–180

Abbreviations: caps capsules; **G** generics; **h** hours; **IR** immediate release; **LCA** subject to Low Cost Alternative Program; **max** maximum dose; **PO** by mouth; **qAM** every morning; **SR** sustained release; tabs tablets; **XR** extended release

[A] Refer to guideline and/or algorithm for recommended order of use.
[B] 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
[C] Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
[D] This indication (i.e. depression) used in practice, but not approved for marketing by Health Canada
[E] Special authority required to obtain coverage for Concerta® for ADHD as second line treatment
[F] Special authority required to obtain coverage for modafinil for patients with narcolepsy

Part 2: Pain and Symptom Management
Nausea and Vomiting

Effective Date: February 22, 2017

Key Recommendations

- Select anti-nausea medication based on the etiology of the nausea and vomiting.

Assessment

1. Nausea and vomiting are common, but can be controlled with antiemetics.
2. Identify and discontinue medications that may be the cause.
3. Further assessment may include lab tests and imaging to investigate (e.g., GI tract disturbance, electrolyte/calcium imbalance, intracranial disease, and sepsis).
4. Good symptom control may require rehydration, which can be carried out in the home, hospice, or residential care facility using hypodermoclysis, a simple, safe and effective technique that avoids venous access (refer to *Appendix A – Hypodermoclysis Protocol*).

Management

1. Non-pharmacological: modifications to diet (e.g., small bland meals) and environment (e.g., control smells and noise), relaxation and good oral hygiene, and acupressure (for chemotherapy-induced acute nausea, but not for delayed symptoms).
2. Pharmacological: match treatment to cause (e.g., if opioid-induced, metoclopramide (sometimes IV or SC initially) and domperidone are most effective). Most drugs are covered by the BC Palliative Care Drug Plan, except olanzapine and ondansetron (refer to *Appendix B – Medications Used in Palliative Care for Nausea and Vomiting*).
3. Consider pre-emptive use of anti-nauseates in opioid-naive patients.

Nausea and Vomiting Management Algorithm

Hyperlinks indicate additional information available in guideline sections above:
A = Assessment
M = Management

Ongoing Comprehensive Assessment

- History
- Physical examination
- Appropriate investigations (bloodwork and investigations as required) (**A3**)

↓

Patient and Family Education

- Non-pharmacological measures e.g., environmental modification (consider smells, noise, etc.); good oral hygiene; acupressure; fizzy drinks; visualization, distraction, relaxation
- Consultation with a registered dietitian at www.healthlinkbc.ca/dietitian/
- General supportive measures, e.g., food modification, restricted intake, sips, cool and bland food, avoiding lying flat after eating

↓

Treat Underlying Causes (A4)

e.g., hypercalcemia, urosepsis, constipation, uremia, increased intracranial pressure, bowel obstruction, dehydration, medication adverse effects

↓

Treat Disease-specific Issues

i.e., match medications to etiology (**M2+3**)

↓

Gastroenterological

Distension or lumen compression:
- metoclopramide
- domperidone
- methotrimeprazine

Obstruction
- haloperidol
- octreotide

Opioid-induced
- metoclopramide
- domperidone
- methylnaltrexone

Other vagal stimuli:
- methotrimeprazine
- olanzapine
- prochlorperazine
- ondansetron

Chemical (drugs/toxins)
- aprepitant
- haloperidol
- prochlorperazine
- methotrimeprazine
- ondansetron
- olanzapine
- granisetron

Vestibular & motion-related
- dimenhydrinate
- scopolamine

Central nervous system

Emotional/anxiety:
- lorazepam
- nabilone/sativex™

Increased ICP:
- dexamethasone
- dimenhydrinate

Cause unknown
- haloperidol
- methotrimeprazine
- metoclopramide
- olanzapine
- cannabinoids (nabilone/ nabiximols/ medicinal cannabis)

↓

Re-evaluate Drug Effect

- Consider increasing dose, trying another drug from the same class, or adding another class of drug.
- Re-evaluate patient's status and hydration.

Resources

Abbreviations

GI	gastrointestinal
IV	intravenous
N&V	nausea & vomiting
SC	subcutaneous

Appendices

Appendix A – Hypodermoclysis Protocol
Appendix B – Medications Used in Palliative Care for Nausea and Vomiting

Appendix A: Hypodermoclysis Protocol

Hypodermoclysis is a simple, safe and effective technique for subcutaneously administering fluids to a patient who requires hydration. It avoids the need for venous access in patients who, at the end of life, often have very poor veins. In the home/hospice/residential care facility settings, it can be carried out without the need for fully IV credentialed nursing staff. Refer to the local Home and Community Care office (refer *Associated Document: Resource Guide for Practitioners*) for when and how to refer.

There are two critical considerations regarding initiating hypodermoclysis in palliative patients:

1. Objectives and timelines must be clear and agreed upon by the family and caregivers.
2. Will adding fluids to a patient whose organ function is failing precipitate cardiac failure and/or cause or worsen lung secretions?

Procedure:

- A 23-25 gauge butterfly needle is inserted under the skin at a 30–45 degree angle. Ask patients which site is preferred of the following choices:
  - For ambulatory patients, consider using chest (subclavicular area), back (infrascapular area) and upper abdominal wall (avoiding waist).
  - For bed-bound patients, use medial or lateral thighs or upper abdomen.
  - Avoid previously irradiated skin, anterior or lateral thigh if edema is present, abdomen if ascites is present, breast tissue, lateral placement near the shoulder, arms, and perineum/groin.
- The fluids used are commonly normal saline (0.9%), normal saline/dextrose (2/3-1/3) and Ringer's Lactate. Dextrose cannot be used as a hypodermoclysis solution.
- The infusion rate can be up to 75 ml/hr. Solutions are infused by gravity, i.e., a pump is usually not necessary.
- Some patients may only require 1 litre 3–4 times per week, rather than daily administration. A smaller volume (1 liter per day) is often adequate to maintain hydration in terminally ill patients requiring hydration for symptom control.
- Potassium chloride up to 40 mEq per litre may be added to the solution. Do not mix hypodermoclysis solutions with other medications. If medications are being administered by the SC route, use separate site(s).
- Change the solution bag every 24 hours. Change the tubing every 72 hours. Change the SC site if painful, red, hard or leaking.

Subcutaneous hypodermoclysis sites may last up to seven days. Daily assessment of client condition and insertion site is necessary.

Appendix B: Medications Used in Palliative Care for Nausea and Vomiting

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

ANTI-EMETICS[A]						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
dimenhydrinate	Gravol®, G	**IR caps/tabs:** 15, 50 mg	50 mg PO q6h to q4h	Yes, LCA	No	$3–4 (G)
		L/A caplets: 100 mg	100 mg PO q12h to q8h	Yes	No	$22–33
		Inj: 50 mg per mL	50 mg IM/IV/SC[D] q6h to q4h	Yes, LCA	No	$140–210 (G) $157–235
		Supps: 25, 50, 100 mg	50 to 100 mg PR q12h to q8h	Yes	No	$35–53 (G) $38–100
domperidone	G	**Tab:** 10 mg	10 to 20 mg PO tid to qid	Yes, LCA	Yes, LCA	$6–16 (G)
methotrimeprazine	G	**Tabs:** 2, 5, 25, 50 mg	5 to 12.5 mg PO q4h to q24h	Yes, LCA	Yes, LCA	$3–25 (G)
	Nozinan®	**Inj:** 25 mg per mL	6.25 to 25 mg SC[D] q4h to q24h	Yes	Yes	$112–673
metoclopramide	G	**Tab:** 5, 10 mg	5 to 20 mg PO qid	Yes, LCA	Yes, LCA	$8–16 (G)
		Inj: 5 mg per mL	10 to 20 mg SC[D]/IV q6h	Yes, LCA	Yes, LCA	$13–1759 (G)
haloperidol[E]	G	**Tabs:** 0.5, 1, 2, 5, 10 mg	0.5 mg PO/SC[D]/IV bid to 2.5 mg q6h	Yes, LCA	Yes, LCA	$8–31 (G)
		Inj: 5 mg per mL		Yes, LCA	Yes, LCA	$312–625 (G)
prochlorperazine	G	Tabs: 5, 10 mg	5 to 10 mg PO/PR tid-qid	Yes, LCA	Yes, LCA	$16–27 (G)
		Supp: 10 mg				$154–207 (G)
dexamethasone	G	**Tabs:** 0.5, 0.75, 2, 4 mg	2 mg PO/SC[D]/ IV daily to 8 mg bid (AM & noon)	Yes, LCA	Yes, LCA	$16–124 (G)
		Inj: 4, 10 mg per mL				$6–22 (G)
nabilone	Cesamet®, G	**Caps:** 0.25, 0.5, 1 mg	1 to 2 mg PO bid	No	Yes, LCA	$100–201 (G) $430–861
scopolamine[E]	Transderm V®	**Patch:** 1.5 mg	1 to 2[F] patches applied to skin every 72 hours	Yes	Yes	$44–88
olanzapine	Zyprexa®, G	**Tab:** 2.5, 5, 7.5, 10, 15, 20 mg	5 to 10 mg PO q8h prn	No	Special Authority, LCA	$62–124 (G) $118–235
	Zyprexa Zydis®, G	**ODT:** 5, 10, 15, 20 mg				$63–125 (G) $117–234

ANTI-EMETICS[A]						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
octreotide[E]	Sandostatin®, G	**Inj:** 50, 100, 200, 500 mcg per mL	50 to 200 mcg SC q8h	Yes, LCA	No	$170–616 (G) $485–1761
	Sandostatin LAR®	**Inj LAR:**10, 20, 30 mg per vial	10 to 30 mg IM every 4 weeks	No	No	$1427–2365
ondansetron	Zofran®, G	**IR tabs:** 4, 8 mg	4 to 8 mg PO/SC q8h to q12h	No	Special Authority, LCA	$212–485 (G) $868–1987
		ODT: 4, 8 mg				$212–485 (G) $848–1941
		Inj: 2mg per mL				$448–1343 G) $692–2077
granisetron	G	**Tab:** 1 mg	1 mg to 2 mg PO/IV/SC[D] daily or 1 mg bid	No	Special Authority, LCA	$554–1108 (G)
		Inj: 1 mg per mL		No	No	$1134–2264 (G)
cannabidiol, D-9-T	Sativex®	**Buccal spray:** single combination product strength	1 spray buccally/ sublingual BID, increase by 1 spray per day up to 8 to 12 sprays per day	No	No	$588–882
aprepitant	Emend®	**Caps:** 80, 125 mg	125 mg PO to start, then 80 mg PO once daily	No	Special Authority	$1050

Abbreviations: caps capsules; **D-9-T** Delta-9-Tetrahydrocannabinol; **G** generics; **Inj** injection; **IM** intramuscular; **IR** immediate release; **IV** intravenous; **LCA** subject to Low Cost Alternative Program; **L/A** Long acting (combined immediate and sustained release); **LAR** slow release (injection); **PR** per rectum; **ODT** orally disintegrating tablet; **PO** by mouth; **SC** subcutaneous; **supps** suppositories (rectal); **tabs** tablets

[A] Refer to guideline and/or algorithm for recommended order of use.
[B] 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
[C] Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
[D] This route of administration commonly used in Palliative Care, but not approved by Health Canada
[E] This indication (i.e. nausea and vomiting) used in practice, but not approved for marketing by Health Canada.
[F] Dose of 2 patches of scopolamine transdermal patch (applied simultaneously) used in practice, but not approved for marketing by Health Canada.

Part 2: Pain and Symptom Management
Pain Management

Effective Date: February 22, 2017

Key Recommendations

- Follow opioid management principles.
- Utilize adjuvant medication for pain-specific management.

Assessment

Signs and Symptoms

Use the OPQRSTUV mnemonic to assess pain:

Table 1: Pain Assessment using Acronym O,P,Q,R,S,T,U,V

O	Onset	e.g., When did it start? Acute or gradual onset? Pattern since onset?
P	Provoking / palliating	What brings it on? What makes it better or worse, e.g., rest, meds?
Q	Quality	Identify neuropathic pain (burning, tingling, numb, itchy, etc.)
R	Region / radiation	Primary location(s) of pain, radiation pattern(s)
S	Severity	Use verbal descriptors and/or 1–10 scale
T	Treatment	Current and past treatment; side effects
U	Understanding	Meaning of the pain to the sufferer, "total pain"
V	Values	Goals and expectations of management for this symptom

Physical Exam

Look for signs of tumour progression, trauma, or neuropathic etiology: hypo- or hyper-esthesia, allodynia (pain from stimuli not normally painful).

Management

- Continuous pain requires continuous analgesia; prescribe regular dose versus prn.
- Start with regular short-acting opioids and titrate to effective dose over a few days before switching to slow release opioids.
- Once pain control is achieved, long-acting (q12h oral or q3days transdermal) agents are preferred to regular short-acting oral preparations for better compliance and sleep.
- Always provide appropriate breakthrough doses of opioid medication, ~10% of total daily dose dosed q1h prn.
- Incident pain (e.g., provoked by activity) may require up to 20% of the total daily dose, given prior to the precipitating activity.
- Use appropriate adjuvant analgesics at any step (e.g., NSAIDs, corticosteroids).
- Record patient medications consistently.

1. Opioid Selection

Issue	Preferred Opioid Medication	Avoid
Difficult constipation	fentanyl transdermal or methadone[a]	
Renal failure	fentanyl transdermal or methadone[a]	morphine[b], codeine, meperidine[c]
Compliance and convenience	time release formulations (e.g., morphine, hydromorphone, oxycodone)	
Neuropathic pain	oxycodone or methadone[d] (anecdotal evidence)	
Opioid naïve	low dose morphine, hydromorphone or oxycodone	fentanyl transdermal patch (risk of delayed absorption and overdose potential), sufentanil
Injection route (e.g., SC)	morphine, hydromorphone, second line: methadone by buccal or rectal route[e]	oxycodone (injectable) is not available in Canada
Patient is at extreme risk of respiratory depression	Buprenorphine transdermal patch[f]	

[a] Fentanyl is primarily (75%) cleared as inactive metabolites by the kidney and methadone is cleared hepatically.
[b] Morphine is the ***least*** preferred in renal failure because of renally cleared active metabolites.
[c] Meperidine (Demerol®) should not be used for the treatment of chronic pain.
[d] If a patient in your practice is started on methadone by a palliative care physician, in order to renew prescriptions, it is possible to obtain individual patient methadone prescribing authorization through the College of Physicians and Surgeons of British Columbia.
[e] When changing from oral route to buccal or rectal route, use 1:1 dosing with the oral 10mg/ml concentrated solution, and modify if needed depending on effect. If larger doses are required, a more concentrated solution may be compounded, up to a maximum of 40mg/ml.[*] Island Health hospital pharmacy will concentrate to 50mg/ml.
[f] Not covered by BC Pharmacare.

2. Opioid Switching ("rotation")

- Switch to another opioid when inadequate analgesia is obtained despite dose-limiting adverse effects (AEs). This allows for clearance of opioid metabolites and possibly more effective opioid receptor agonist profile from the new drug.
- Switch to an equianalgesic dose of the second opioid, bearing in mind that published ratios are only a guide and that reassessment and dose modification are required.
- When switching because of AEs (e.g., delirium or generalized hyperalgesia), determine the equianalgesic dose and reduce this dose by 25%. Observe closely, allowing for onset of the new and wearing-off of the previous drug.
- Refer to *Appendix A – Equianalgesic Conversion for Morphine*.

[*] Hawley, Wing, and Nayar, Methadone for Pain: What to Do When the Oral Route Is Not Available. J Pain Symptom Manage. 2015 Jun 49(6):e4-6.

3. Addressing Adverse Effects from Opioids

If the AE is not managed symptomatically and persists for more than one week, switch to another opioid.

Adverse Effect	Intervention
Constipation	• Stepwise escalation of regular oral stimulant or osmotic laxative on opioid initiation. • Consider methylnaltrexone* for refractory cases. • See *Palliative Care Part 2: Pain and Symptom Management – Constipation*.
Nausea	• Resolves after ~ 1 week. Consider metoclopramide* first line; avoid dimenhydrinate (Gravol®).
Sedation	• Stimulants may be helpful if sedation persists, e.g., methylphenidate, dextroamphetamine, or modafanil.
Myoclonus	• May respond to benzodiazepines, but may be a sign of opioid toxicity requiring hydration, opioid dose reduction or rotation.
Delirium	• Assess for other causes, e.g., hypercalcemia, UTI.
Pruritus, sweating	• Try opioid rotation.

4. Adjuvant Analgesics

- Select based on type of pain and AE profile. Optimize dosing of one drug before trying another. Discontinue adjuvant drug if ineffective.

5. Severe opioid-resistant cancer pain

- Consult a palliative care specialist for advice.

* *Cancer, GI malignancy, GI ulcer, Ogilvie's syndrome and concomitant use of certain medications (e.g. NSAIDs, steroids, and bevacizumab) may increase the risk of GI perforation in patients receiving methylnaltrexone. [Health Canada MedEffect Notice: http://www.healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2010/14087a-eng.php]*

Cancer Pain Management Algorithm

Hyperlinks indicate additional information available in guideline sections above:
A = Assessment
M = Management

*Use gastric cytoprotection (refer to *Appendix B – Medications Used In Palliative Care for Pain Management: Gastric Cytoprotection*)

Resources

Abbreviations

AEs	adverse effects
GI	gastrointestinal
NSAIDs	non-steroidal anti-inflammatory drugs
SC	subcutaneous
TENS	transcutaneous electrical nerve stimulation
UTI	urinary tract infection

Appendices

Appendix A – Equianalgesic Conversion for Morphine and Fentanyl Transdermal Patch
Appendix B – Medications Used in Palliative Care for Pain Management

Appendix A: Equianalgesic Conversion for Morphine

Morphine Equivalence Table (for chronic dosing)			
DRUG	**SC/IV (mg)**	**PO (mg)**	**COMMENTS**
morphine	10	30[A]	
codeine	120 (SC only)	200	metabolized to morphine
fentanyl patch	see table below – useful when PO / PR routes not an option		
fentanyl	0.1 (100 mcg)	NA	usually dosed prn less than 1 hour effect
hydromorphone	2	4	
oxycodone	not available in Canada	20	
sufentanil	0.01 – 0.04 (10 – 40 mcg)	NA	usually dosed prn less than 1 hour effect

[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

Fentanyl Transdermal Patch Equianalgesic Conversion[A, B, C, D]			
Morphine PO (mg/day)	**Hydromorphone PO (mg/day)**	**Oxycodone PO (mg/day)**	**Fentanyl Patch (mcg/hr)**
45 – 59	6 – 11	30 – 44	12[E]
60 – 134	12 – 26	45 – 89	25
135 – 179	27 – 35	90 – 119	37
180 – 224	36 – 44	120 – 149	50
225 – 269	45 – 53	150 – 179	62
270 – 314	54 – 62	180 – 209	75
315 – 359	63 – 71	210 – 239	87
360 – 404	72 – 80	240 – 269	100
405 – 449	81 – 89	270 – 299	112
450 – 494	90 – 98	300 – 329	125
495 – 539	99 – 107	330 – 359	137
540 – 584	108 – 116	360 – 389	150
585 – 629	117 – 125	390 – 419	162
630 – 674	126 – 134	420 – 449	175
675 – 719	135 – 143	450 – 479	187
720 – 764	144 – 152	480 – 509	200
765 – 809	153 – 161	510 – 539	212
810 – 854	162 – 170	540 – 569	225
855 – 899	171 – 179	570 – 599	237
900 – 944	180 – 188	600 – 629	250
945 – 989	189 – 197	630 – 659	262
990 – 1034	198 – 206	660 – 689	275
1035 – 1079	207 – 215	690 – 719	287
1080 – 1124	216 – 224	720 – 749	300

[A] Adapted from Fraser health Hospice Palliative Care Program Principles of Opioid Management, Appendix A – Fentanyl Transdermal. September 10, 2015 [cited April 6, 2016]. Available from: http://www.fraserhealth.ca/media/HPC_SymptomGuidelines_Opioid.pdf

[B] Initiation of fentanyl in patients who are opioid-naïve is contraindicated at any dose.

[C] The conversion table is unidirectional only and should **ONLY** be used to convert adult patients from their current oral or parenteral opioid analgesic to the approximate fentanyl transdermal patch for use in chronic pain.

[D] Do not convert patients previously on codeine or tramadol to fentanyl transdermal patch due to significant inter-patient variability in metabolism, safety, and effectiveness of these drugs.

[E] Health Canada recommends that 12 mcg/hr patches be used for dose titration or adjustments, not as the initiating dose.

Approximate Breakthrough Doses Recommended for Fentanyl Transdermal Patch[A] Breakthrough should be 10% of the total daily opioid dose			
Patch Strength mcg/hour	**Oral Morphine Immediate Release (mg)**	**Oral Hydromorphone Immediate Release (mg)**	**Oral Oxycodone Immediate Release (mg)**
12	5	1	2.5
25	10	2	5
37	15	3	10
50	20	4	12.5
62	25	5	15
75	25	5	17.5
87	30	6	20
100	35	7	25
112	40	8	27.5
125	45	9	30
137	50	10	32.5
150	55	11	35
162	60	12	40
175	65	13	42.5
187	70	14	45
200	70	14	47.5
212	75	15	50
225	80	16	55
237	85	17	57.5
250	90	18	60
262	95	19	62.5
275	100	20	65
287	105	21	70
300	110	22	72.5

[A] Adapted from Fraser Health Hospice Palliative Care Program Principles of Opioid Management, Appendix A – Fentanyl Transdermal. September 10, 2015 [cited April 6, 2016]. Available from: http://www.fraserhealth.ca/media/HPC_SymptomGuidelines_Opioid.pdf

Appendix B: Medications Used in Palliative Care for Pain Management

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

ACETAMINOPHEN, NSAIDs						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose[A]	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
acetaminophen	Tylenol®, Panadol®, G (OTC)	**IR tabs, caplet:** 325, 500 mg	325 to 650 mg PO q4-6 h (max: 4000 mg daily)	Yes, LCA	No	$2–5 (G) $10–30
		SR tabs: 650 mg	650 to 1300 mg PO q8h (max: 4000 mg daily)	Yes	No	$11–22
		Supps: 325, 650 mg	650 mg PR q4-6h (max: 4000 mg daily)	Yes	No	$103–155 (G)
celecoxib	Celebrex®, G	**Caps:** 100, 200 mg	100 to 200 mg PO bid	Yes, LCA	Special Authority, LCA	$9–18 (G) $46–91
diclofenac	Voltaren®, G	**IR tabs:** 25, 50 mg	75 mg daily in 3 divided doses (max: 100 mg daily)	Yes, LCA	Yes, RDP	$5–13 (G) $69
		SR tabs: 75, 100 mg	75 to 100 mg PO once daily (max: 100 mg daily)	Yes, LCA	Yes, RDP	$8–13 (G) $39–56
		Supps: 50, 100 mg	50 mg PR bid (max: 100 mg daily)	Yes, LCA	Yes, LCA	$28 (G) $104
ibuprofen	Advil®, Motrin®, G	**Tabs:** 200[D], 300[D], 400[D], 600 mg	200 to 400 mg PO q4h (max: 2400 mg per day)	Yes, LCA	Yes, LCA	$16–20 (G) $19–35
indomethacin	G	**Caps:** 25, 50 mg	25 to 50 mg PO tid	No	Yes, RDP	$8–14 (G)
		Supps: 50, 100 mg	50 to 100 mg PR bid	No	Yes	$57 (G)
ketorolac	Toradol®, G	**Tabs:** 10 mg	10 mg PO qid (max duration: 5 days)	No	No	$10 (G) $15 per 5 days
		Inj: 10, 30 mg per mL	10 to 30 mg IM/IV[E]/SC[E] q6h (max duration: 2 days)	No	No	$6–18 (G) $11–32 per 2 days
naproxen	Naprosyn®, G	**IR tabs:** 250, 375, 500 mg	250 to 500 mg PO bid	Yes, LCA	Yes, LCA	$7–14 (G)
		EC tabs: 250, 375, 500 mg		Yes, RDP	Yes, RDP	$7–14 (G) $71
		SR tab: 750 mg	750 mg PO daily	Yes, RDP	Yes, RDP	$48
		Supps: 500 mg	500 mg PR bid	Yes, LCA	Yes, LCA	$68 (G)
naproxen sodium	Aleve®, G (OTC)	**Tabs:** 220 mg	220 mg PO bid	No	No	$4 (G) $8

Abbreviations: caps capsules; **EC** enteric coated; **G** generics; **IM** intravenous; **Inj** injection; **IR** Immediate Release; **IV** intravenous; **LCA** subject to Low Cost Alternative Program; **max** maximum dose; **PO** by mouth; **PR** per rectum; **OTC** over the counter (non-prescription); **RDP** subject to reference drug program; **SR** slow release; **SC** subcutaneous; **supps** suppositories (rectal); **tabs** tablets

[A] Preferred route of administration for acetaminophen and NSAIDs is oral or rectal.
[B] 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
[C] Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
[D] Available OTC
[E] This route of administration is used in practice, but not approved for marketing for this indication by Health Canada.

OPIOIDS						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose[A]	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
fentanyl[D]	Duragesic MAT®, G	**Patch:** 12, 25, 37, 50, 75, 100 mcg per hour	12 to 100 mcg/hour applied to skin every 72 hours	Yes, LCA	Special Authority, LCA	$24–130 (G) $71–552
	G	**Inj:** 50 mcg per mL	25 to 100 mcg sublingual* per dose PRN Patient must be alert and able to hold liquid under tongue for 3–5 minutes.	Yes	No	$3–6 (G) per dose
	Abstral®, Fentora®	**Sublingual tablets:** 100, 200, 300, 400, 600, 800 mcg	Titrate using the following doses 100, 200, 300, 400, 600, and 800 mcg with at least 2 hours between doses until adequate analgesia with tolerable side-effects is obtained within 30 minutes. (max: 800 mcg per dose)	No	No	$12–31 per single tablet dose
hydromorphone	Dilaudid®, G	**IR tabs:** 1, 2, 4, 8 mg	2 to 8 mg PO q4h	Yes, LCA	Yes, LCA	$18–68 (G) $26–65
	Hydromorph Contin®	**SR caps:** 3, 4.5, 6, 9, 12, 18, 24, 30 mg	3 to 30 mg PO q12h	Yes	Special authority	$47–272
	Jurnista®	**SR tabs:** 4, 8, 16, 32 mg	4 to 64 mg PO once daily	Yes	Special authority	$43–688
	G	**Inj:** 2, 10, 20, 50, 100 mg per mL	2 to 10 mg SC q4h	Yes, LCA	Yes, LCA	$381–1900 (G)
morphine	MS-IR®, Statex®	**IR tabs:** 5, 10, 20, 25, 30, 50 mg	5 to 60 mg PO q4h	Yes, LCA	Yes, LCA	$21–88
	MS Contin®, G	**SR tabs:** 15, 20, 30, 60, 100, 200 mg	15 to 200 mg PO q12h	Yes, LCA	Yes, LCA	$9–71 (G) $46–351
	M-Eslon® E	**SR caps:** 10, 15, 30, 60, 100, 200 mg	10 to 200 mg PO q12h	Yes, LCA	Yes, LCA	$17–71
	Kadian®	**SR tabs:** 10, 20, 50, 100 mg	20 to 400 mg once daily	Yes	Yes	$21–319
	G	**Inj:** 1, 2, 5, 10,15, 25, 50 mg per mL	2 to 25 mg SC q4h	Yes	Yes	$46–291
methadone	Metadol®	**Tabs:** 1, 5, 10, 25 mg	varies widely	Yes	No	$60–343
	Methadose®	**Oral solution:** 10 mg per mL	varies widely	Yes	Yes	$8–58
	Compounded	**Oral solution:** up to 50 mg per mL	buccal or rectal use only dosage varies widely	Special authorization	Special authorization	$30–60
oxycodone	Oxy.IR®, Supeudol®, G	**IR tabs:** 5, 10, 20 mg	5 to 20 mg PO q4h	Yes, LCA	Yes, LCA	$25–36 (G) $52–135
	OxyNEO® (tamper resistant formulation)	**SR tabs:** 10, 15, 20, 30, 40, 60, 80 mg	10 to 80 mg PO q12h	Yes	No	$59–284
	G (not tamper resistant)	**SR tabs:** 5, 10, 15, 20, 30, 40, 60, 80 mg	5 to 80 mg PO q12h	No	No	$20–137

OPIOIDS						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose[A]	Drug Plan Coverage[B]		Approx. cost per 30 days[C]
				Palliative Care	Fair PharmaCare	
sufentanil[F]	G	**Inj:** 50 mcg per mL	For incident pain: 12.5 mcg sublingualG /dose PRN; incremental doses titrated q2h PRN up to 75 mcg Patient must be alert and able to hold liquid under tongue for 3–5 minutes.	Yes	Yes	$15 (G) per dose
buprenorphine	BuTrans®	5, 10, 20 mcg per hour	5 to 20 mcg/hour applied to skin every 7 days	No	No	$55–182

Abbreviations: caps capsules; **EC** enteric coated; **G** generics; **IM** intravenous; **Inj** injection; **IR** Immediate Release; **IV** intravenous; **LCA** subject to Low Cost Alternative Program; **max** maximum dose; **PO** by mouth; **PR** per rectum; **OTC** over the counter (non-prescription); **RDP** subject to reference drug program; **SR** slow release; **SC** subcutaneous; **supps** suppositories (rectal); **tabs** tablets

[A] Dosage requirements may go beyond range shown in table i.e. there is no maximum dose for opioids, unless limited by side effects or toxicity.

[B] 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

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

[D] Fentanyl transdermal patches should only to be initiated in patients using at least 60 mg morphine equivalents per day for at least one week.

[E] M-Eslon® capsules may be open and the contents sprinkled over soft food (e.g., pudding or apple sauce)

[F] Sufentanil is a potent opioid; initiation by a primary care provider for opiate naïve patients is not recommended, instead refer for Palliative Care Consult. Sublingual sufentanil may be considered for patients receiving at least 60 mg PO morphine equivalents over the last 7 days. Refer to Fraser health Hospice Palliative Care Program Principles of Opioid Management, http://www.fraserhealth.ca/media/HPC_SymptomGuidelines_Opioid.pdf

[G] This route of administration is used in practice, but not approved for marketing for this indication by Health Canada

NEUROPATHIC PAIN ADJUVANTS						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[A]		Approx. cost per 30 days[B]
				Palliative Care	Fair PharmaCare	
cannabidiol, D-9-T	Sativex®	**Buccal spray:** single combination product strength	1 spray buccally/sublingual BID, increase by 1 spray per day up to 8 to 12 sprays per day	No	No	$588–882
clonazepam[C]	Rivotril®, G	**Tabs:** 0.25, 0.5, 1, 2 mg	0.5 mg PO at bedtime, up to 2 mg qid	Yes, LCA	Yes, LCA	$2–11 (G) $8–52
desipramine[C]	G	**Tabs:** 10, 25, 50, 75, 100 mg	10 to 25 mg PO at bedtime; increase q3-7 days up to 150 mg per day	Yes, LCA	Yes, LCA	$12–59 (G)
dexamethasone[C]	G	**Tabs:** 0.5, 0.75, 2, 4 mg	2 mg PO/SCE daily to 8 mg bid (am & noon)	Yes, LCA	Yes, LCA	$16–124 (G)
		Inj: 4, 10 mg per mL		Yes, LCA	Yes, LCA	$6–22 (G)
duloxetine[C]	Cymbalta®	**Caps:** 30, 60 mg	30 to 60 mg PO daily	No	No	$62–126
gabapentin[C]	Neurontin®, G	**Tabs:** 100, 300, 400, 600, 800 mg	300 to 1200 mg PO tid	Yes, LCA	Yes, LCA	$18–63 (G) $44–380
nabalone[C]	Cesamet®, G	**Caps:** 0.25, 0.5, 1 mg	0.5 mg PO at bedtime, increase q7 days up to 1 mg bid	No	Yes, LCA	$25–101 (G) $108–403
nortriptyline[C]	Aventyl®, G	**Caps:** 10, 25 mg	10 to 150 mg PO at bedtime	Yes, LCA	Yes, LCA	$4–43 (G) $7–87
pregabalin[C]	Lyrica®, G	**Caps:** 25, 50, 75, 150, 225, 300 mg	75 mg PO bid, increase q7 days up to 300 mg bid	No	No, LCA	$81–112 (G) $112–154
topiramate[C]	Topamax®, G	**Tabs:** 25, 100, 200 mg	25 mg PO daily, increase q7 days up to 200 mg bid	No	Yes, LCA	$8–46 (G) $43–243
		Sprinkle caps: 15, 25 mg		No	Yes	$42–675
valproic acid[C]	Depakene®, G	**Caps:** 250, 500 mg	250 mg PO at bedtime increase q3 days up to 500 mg tid	Yes, LCA	Yes, LCA	$9–54 (G) $19–113

Abbreviations: caps capsule; **G** generics; **Inj** injection; **LCA** subject to Low Cost Alternative Program; **PO** by mouth; **SC** subcutaneous; **tabs** tablets; **D-9-T** Delta-9-Tetrahydrocannabinol

[A] 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

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

[C] This indication (i.e. neuropathic pain) not approved by Health Canada.

[D] This route of administration is used in practice, but not approved by Health Canada.

Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[A]		Approx. cost per 30 days[B]
				Palliative Care	Fair PharmaCare	
ANTISPASMODICS						
belladonna & opium	G	**Supps:** Belladonna 15 mg, Opium 65 mg	1 supp PR qid	Yes	Yes	$620 (G)
hyoscine butylbromide	Buscopan®	**Tabs:** 10 mg	10 mg PO qid up to 60 mg per day	Yes	Yes	$45–68
	Buscopan®, G	**Inj:** 20 mg per mL	10 to 20 mg SC q6h (max: 100 mg per day)	Yes	Yes, LCA	$697 (G) $732
SKELETAL MUSCLE RELAXANTS						
baclofen	Lioresal®, G	Tabs: 10, 20 mg	5 mg PO bid increase q3 days up to 20 mg tid	Yes, LCA	Yes, LCA	$5–30 (G) $27–157
cyclobenzaprine	G	Tabs: 10 mg	5 mg PO tid to 10 mg qid	No	Yes, LCA	$18–48 (G)
tizanidine	G	Tabs: 4 mg	2 mg PO daily increase q3-4 days up to 4 to 12 mg tid	No	Special Authority, LCA	$11–201 (G)

Abbreviations: G generics; **inj** injection; **LCA** subject to Low Cost Alternative Program; **max** maximum dose; **PO** by mouth; **SC** subcutaneous; **supps** suppositories (rectal); **tabs** tablets

[A] 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

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

GASTRIC CYPROTECTION and DYSPEPSIA						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[A]		Approx. cost per 30 days[B]
				Palliative Care	Fair PharmaCare	
Pantoprazole magnesium	Tecta®, G	**EC Tabs:** 40 mg	40 mg PO once daily	Yes, LCA	Special Authority, RDP, LCA	$6 (G) $24
rabeprazole	Pariet®, G	**EC Tabs:** 10, 20 mg	10 to 20 mg PO once daily	Yes, LCA	Special Authority, RDP, LCA	$4–8 (G) $28–56
pantoprazole	Pantoloc®, G	**EC Tabs:** 20, 40 mg	40 mg PO once daily	Yes, LCA	Special Authority, RDP, LCA	$12(G)
		Inj: 40 mg	40 mg IV once daily	No	No	$355 (G)
ranitidine	Zantac®, G	**Tabs:** 75[C], 150[C], 300	150 mg PO bid or 300 mg PO at bedtime	Yes, LCA	Yes, RDP, LCA	$12 (G) $12
		Inj: 25 mg per mL	50 mg SC[D] q8H	Yes, LCA	Yes, LCA	$272 (G) $276
lansoprazole	Prevacid®, G	**DR Caps:** 15, 30 mg	15 to 30 mg PO once daily	No	Special Authority, RDP, LCA	$13 (G) $65
		Fas Tabs: 15, 30 mg				$65
omeprazole	Losec®, G	**DR Caps:** 10, 20 mg	20 mg PO once daily	No	Special Authority, RDP, LCA	$13–26 (G) $37
Omeprazole magnesium	Losec®, G	**DR Tabs:** 10, 20 mg	20 mg PO once daily	No	Special Authority, RDP, LCA	$13–35 (G) $61–77
esomeprazole	Nexium®, G	**DR Tabs:** 20, 40 mg	20 to 40 mg PO once daily	No	Special Authority, RDP, LCA	$16 (G) $71
		DR Granules: 10 mg		No	No	$141–285
misoprostol	G	**Tabs:** 100, 200 mcg	100 to 200 mcg PO qid	No	Yes, LCA	$34–57 (G)

Abbreviations: caps capsule; **DR** delayed release; **EC** enteric coated; **FasTabs** delayed-release tablets; **G** generics; **Inj** injection; **IV** intravenous; **LCA** subject to Low Cost Alternative Program; **PO** by mouth; **RDP** subject to Reference Drug Program; **SC** subcutaneous; **tabs** tablets

[A] 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

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

[C] Available OTC

[D] This route of administration is used in practice, but not approved for marketing for this indication by Health Canada

BONE PAIN ADJUVANTS for Nociceptive bone pain (without hypercalcemia) For treating malignancy related hypercalcemia see www.bccancer.bc.ca/HPI/ChemotherapyProtocols/SupportiveCare/default.htm						
Generic Name	Trade Name	Available Dosage Forms	Standard Adult Dose	Drug Plan Coverage[A]		Approx. cost per 30 days[B]
				Palliative Care	Fair PharmaCare	
calcitonin	Calcimar®	**Inj:** 200 units per mL (2 mL multi-dose vial)	***Nociceptive bone pain:*** 50 units SC at bedtime up to 200 units bid	No	Yes	$232-3717
clodronate	Bonefos®, Clasteon®	**Caps:** 400 mg	800 mg PO bid or 1600 mg PO daily (max: 3200 mg per day)	Yes, LCA	Yes, LCA	$157 (Clasteon®) $254 (Bonefos®)
denosumab	Xgeva®	**Inj:** 120 mg per 1.7 mL	120 mg SC once every 4 weeks	Yes	No	$360
pamidronate	Aredia®, G	**Inj:** 90 mg per 10 mL	90 mg IV monthly	Yes, LCA	Special Authority, LCA	$281 (G) $541
zoledronic acid	Zometa®, G	**Inj:** 4 mg per 5 mL	4 mg IV monthly	Yes, LCA	No	$314 (G) $616

Abbreviations: caps capsule; **G** generics; **Inj** injection; **IV** intravenous; **LCA** subject to Low Cost Alternative Program; **max** maximum dose; **PO** by mouth; **SC** subcutaneous

[A] PharmaCare coverage as of October 2016 (subject to revision). Obtain current coverage, eligibility, and coverage information from the PharmaCare Benefits Lookup website at https://pcbl.hlth.gov.bc.ca/PharmaCare/benefitslookup/

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

References

1. Cardario. Drug Information Reference. Vancouver: The BC Drug and Poison Information Centre, 2003.
2. 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/
3. 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.
4. Repchinsky C, editor. Compendium of Pharmaceuticals and Specialties. 2010. Toronto: Canadian Pharmacists Association, 2010.
5. 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].
6. Semla TP, Beizer JL, Higbee MD. Geriatric dosage handbook. 15th ed. Hudson(OH):Lexi-Comp, 2010.
7. Twycross R, Wilcock A, Dean M, et al. Palliative Care Formulary. Canadian Edition. Nottingham: Palliativedrug.com Ltd, 2010.

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/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 Jan;148(2):141-6.
5. Li M, Kennedy EB, Byrne N, et al. The Management of Depression in Patients with Cancer. Cancer Care Ontario. 2015 May. Available at: https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=340750
6. Brietbart W, Dickerman AL. Assessment and management of depression in palliative care. UpToDate. 2008 Jan 31; 16.1.
7. Lorenz KA, Lynn J, Dy SM, et al. Evidence for improving palliative care at the end of life: A systematic review. Ann Intern Med. 2008 Jan 15;148(2):147-159.

This guideline is based on scientific evidence current as of the effective date.

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

THE GUIDELINES AND PROTOCOLS ADVISORY COMMITTEE

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

Email:hlth.guidelines@gov.bc.ca
Website: www.BCGuidelines.ca

Disclaimer

The Clinical Practice Guidelines (the "Guidelines") have been developed by the Guidelines and Protocols Advisory Committee on behalf of the Medical Services Commission. The Guidelines are intended to give an understanding of a clinical problem, and outline one or more preferred approaches to the investigation and management of the problem. The Guidelines are not intended as a substitute for the advice or professional judgment of a health care professional, nor are they intended to be the only approach to the management of clinical problem. **We cannot respond to patients or patient advocates requesting advice on issues related to medical conditions. If you need medical advice, please contact a health care professional.**