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
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]

¹ BCGuidelines.ca: Palliative Care for the Patient with Incurable Cancer or Advanced Disease Part 2: Pain and Symptom Management – Constipation (2017)
Constipation Management Algorithm

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

Assessment (A1)
- Normal bowel habit
- Current bowel performance (A3)
  - Stool frequency
  - Stool consistency
  - Ease of evacuation

Obstructed bowel?
Yes
- Manage according to FPON guideline, Medical Management of Malignant Bowel Obstruction

No
- Constipation?
Yes
- TREATMENT needed (M2)
  1. Rectum empty; OR
  2. Contraindications to rectal intervention:
     - neutropenia (WBC <0.5) OR
     - thrombocytopenia (Plt <20)

No
- Constipation?
Yes
- TREATMENT needed (M2)

No
- Irritable bowel syndrome?
Yes
- Palliative Care Consult

No
- Osmotic Laxative (M4+5)
  - Lactulose or sorbitol
  - Polyethylene glycol
  - Escalating doses until satisfactory BM

No success
- Sennosides-based Protocol (M4+5)
  - Escalating doses until satisfactory BM
  - Maximum senna dose 36 mg tid
  - Add rectal measures at any time if indicated and no contraindications (M3)

No success
- Assess cause
- Hypomobility (e.g., ascites, autonomic neuropathy, abdominal cancer)
- Consider prokinetic agent (e.g., domperidone, metoclopramide)
- Add or switch to osmotic laxative

No success
- Opioid-induced (M9)
  - Consider switching to less constipating opioid (e.g., fentanyl)
  - Add or switch to osmotic laxative
  - Consider methylnaltrexone (or naloxegol)

*Contraindicated in patients with renal failure.
Resources

References

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

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

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

◊ Refer to guideline and/or algorithm for recommended order of use.
◊◊ 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 pharmacaformularysearch.gov.bc.ca
◊◊◊ Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
◊◊◊◊ 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]
◊◊◊◊◊ Contraindicated in patients with renal failure

BCGuidelines.ca: Palliative Care for the Patient with Incurable Cancer or Advanced Disease
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](http://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.
3. Avoid use of antipsychotics in patients diagnosed with Parkinson's disease or Lewy Body Dementia.
Delirium Management Algorithm

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

Assessment (A1-3)
- Level of consciousness
- Presence of hallucinations
- Fluctuation of mental confusion

Diagnosis
- Delirium*
- Depression*
- Dementia*

Delirium*
Non-Pharmacological Interventions
- Environment
- Lighting
- Safety

Assess and treat all reversible causes (M1)
- Full physical exam
- History
- Medication review
- Investigations as appropriate

Pharmacological Treatments

Hyperactive (agitated) patient
- Antipsychotic (M3)
  - Start with least sedating and work upwards until agitation controlled
    - haloperidol
    - risperidone
    - loxapine
    - olanzapine
    - quetiapine
    - methotrimeprazine
- AVOID benzodiazepines
- Reassess frequently

Hypoactive (obtunded) patient
- AVOID sedatives
- Haloperidol: minimum effective dose to control hallucinations

Hyperactive (agitated) patient and compromised patient or staff safety
- Sedate with benzodiazepine (M2) temporarily in addition to:
  - antipsychotic treatment AND
  - Palliative Care Consult

Palliative Care Consult
Contact local specialist or call hotline: 1-877-711-5757

Delirium not reversible
- Palliative sedation therapy
  - Reassess frequently

*For clinical features of dementia, depression and delirium, refer to BC Guidelines.ca – Cognitive Impairment – Recognition, Diagnosis and Management in Primary Care

Treat as appropriate
Refer to Palliative Care Part 2 – Depression Management Algorithm

Treat as appropriate
Refer to BC Guidelines.ca – Cognitive Impairment – Recognition, Diagnosis and Management in Primary Care

Treat as appropriate
Refer to BC Guidelines.ca – Cognitive Impairment – Recognition, Diagnosis and Management in Primary Care

BCGuidelines.ca: Palliative Care for the Patient with Incurable Cancer or Advanced Disease  
## Resources

### References


### 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

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose</th>
<th>Drug Plan Coverage</th>
<th>Approx. cost per 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>quetiapine</td>
<td>Seroquel®, G</td>
<td>Tabs: 25, 100, 200, 300 mg</td>
<td>12.5 to 50 mg PO daily to twice daily</td>
<td>No, Yes, LCA</td>
<td>$1–12 (G) $8–67</td>
</tr>
<tr>
<td>loxapine</td>
<td>G</td>
<td>Tabs: 2.5, 5, 10, 25, 50 mg</td>
<td>2.5 to 10 mg PO/SC daily to twice daily</td>
<td>Yes, LCA, Yes, LCA</td>
<td>$6–19 (G)</td>
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<tr>
<td>risperidone</td>
<td>Risperdal®, G</td>
<td>Tabs: 0.25, 0.5, 1, 2, 3, 4 mg</td>
<td>0.5 to 2 mg PO daily to twice daily</td>
<td>Yes, Yes</td>
<td>$7–37 (G) $11–62</td>
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<tr>
<td></td>
<td></td>
<td>Inj: 50 mg per mL</td>
<td></td>
<td>Yes, Yes</td>
<td>$543–1086 (G)</td>
</tr>
<tr>
<td>olanzapine</td>
<td>Zyprexa®, G</td>
<td>Tabs: 2.5, 5, 7.5, 10, 15, 20 mg</td>
<td>2.5 to 10 mg PO daily to twice daily</td>
<td>No</td>
<td>$10–83 (G) $59–470</td>
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<tr>
<td></td>
<td>Zyprexa Zydis®, G</td>
<td>ODT: 5, 10, 15, 20 mg</td>
<td></td>
<td>No, Special Authority, LCA</td>
<td>$10–83 (G) $117–467</td>
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<tr>
<td>Haloperidol</td>
<td>G</td>
<td>Tabs: 0.5, 1, 2, 5, 10 mg</td>
<td>Mild restlessness: 0.5 to 1.5 mg PO tid</td>
<td>Yes, LCA, Yes, LCA</td>
<td>$13–32 (G)</td>
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<tr>
<td></td>
<td></td>
<td>Inj: 5 mg per mL</td>
<td>Delirium and agitation: 0.5 to 5 mg PO q8h to q4h</td>
<td></td>
<td>$13–92 (G)</td>
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<td>Mild restlessness: 0.25 to 0.75 mg SC tid</td>
<td>Yes, LCA, Yes, LCA</td>
<td>$469 (G)</td>
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<tr>
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<td></td>
<td>Delirium and agitation: 0.5 to 5 mg SC q8h to q4h</td>
<td>Yes, LCA, Yes, LCA</td>
<td>$469–938 (G)</td>
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<tr>
<td>methotrimeprazine</td>
<td>G</td>
<td>Tabs: 2, 5, 25, 50 mg</td>
<td>Delirium: 10 to 50 mg SC q30min until relief then 10 to 50 mg PO/SC q8h to q4h</td>
<td>Yes, LCA, Yes, LCA</td>
<td>$20–76 (G)</td>
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<tr>
<td></td>
<td>Nozinan*</td>
<td>Inj: 25 mg per mL</td>
<td></td>
<td>Yes, Yes</td>
<td>$337–1347</td>
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### Other

<table>
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<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose</th>
<th>Drug Plan Coverage</th>
<th>Approx. cost per 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>phenobarbital</td>
<td>G</td>
<td>Inj: 30 mg per mL, 120 mg per mL</td>
<td>Epilepsy/terminal agitation: 60 mg SC bid up to 120 mg tid</td>
<td>Yes, Yes</td>
<td>$14–15 per 1 ml ampule (G)</td>
</tr>
</tbody>
</table>

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

* Refer to guideline and/or algorithm for recommended order of use.
* 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
* Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
* This indication (i.e., delirium) used in practice, but not approved for marketing by Health Canada
* This route of administration used in practice, but not approved for marketing by Health Canada
* 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, 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 screening question
“Have you been depressed most of the time for the past two weeks?”

Assess if depression (A1)
- Hopelessness
- Worthlessness
- Helplessness
- Guilt
- Lack of reactivity
- Suicidal ideation (A2)

Review risk factors for depression (A6)

Vegetative symptoms
Due to progressive life-limiting illness (A5)
- Insomnia
- Anorexia
- Weight loss
- Fatigue
- Impaired concentration

Depression (A4)
- Unsure of diagnosis (M3) OR Suicidal (A2) OR Delusional (vs. depression)

Assess for and manage pain and other symptoms
Palliative Care Consult for refractory symptoms

Normal Grief (vs. depression)

Non-Pharmacological Treatment for Depression (M1)
- Exercise, rest, nutrition, social and spiritual support
- Psychotherapy
- Cognitive Behavioural Therapy

Pharmacological Treatment for Depression (M2)

< 1 month

Life expectancy

1–3 months

> 3 months

Psychostimulant (M7)
- For rapid onset
- Not if agitation, confusion, insomnia, anxiety, paranoia, cardiac comorbidity

Combination Treatment (M8)
Psychostimulant + Antidepressant

Antidepressant (M4)

First line (M5):
- SSRI or
- SSNRI or
- NaSSA

Second line:
- TCA (M6)

Yes
Age > 65

No

Modafanil

Methyphenidate OR Dextroamphetamine OR Modafanil

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

References

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](http://www.hc-sc.gc.ca/dhp-mps/prodpharma/databasdon/index-eng.php)

### ANTIDEPRESSANTS\(^{A,B}\)

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name/ Available Dosage Forms</th>
<th>Standard Adult Dose(^c) (palliative)</th>
<th>Drug Plan Coverage(^d)</th>
<th>Approx. cost per 30 days(^e)</th>
<th>Therapeutic Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NaSSA: Noradrenergic and Specific Serotonergic Antidepressant</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 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 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 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 | $5–58 (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 | |
<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name/ Available Dosage Forms</th>
<th>Standard Adult Dosec (palliative)</th>
<th>Drug Plan Coveraged</th>
<th>Approx. cost per 30 daysE</th>
<th>Therapeutic Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>desipramine</td>
<td>G Tabs: 10, 25, 50, 75, 100 mg</td>
<td>Start: 10 to 25 mg PO qAMG</td>
<td>Yes, LCA</td>
<td>$22–29 (G)</td>
<td>• increase dose every 3 to 7 days until goal reached</td>
</tr>
<tr>
<td></td>
<td>Goal: 50 to 75 mg PO qAMG</td>
<td>Max: 200 mg PO qAMG</td>
<td>Yes, LCA</td>
<td></td>
<td>• may help neuropathic pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• useful for night-time sedation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• anticholinergic side effects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• desipramine and nortriptyline least anticholinergic of TCAs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• monitor for postural hypotension</td>
</tr>
<tr>
<td>nortriptyline</td>
<td>Aventyl®, G Caps: 10, 25 mg</td>
<td>Start: 10 to 25 mg PO at bedtime</td>
<td>Yes, LCA</td>
<td>$33–49 (G)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Goal: 50 to 75 mg PO at bedtime</td>
<td>Max: 150 mg PO at bedtime</td>
<td>Yes, LCA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose (note age specific recommendations)</th>
<th>Drug Plan Coveragea</th>
<th>Approx. cost per 30 daysc</th>
</tr>
</thead>
<tbody>
<tr>
<td>methylphenidate</td>
<td>Ritalin®, G</td>
<td>IR tabs: 5, 10, 20 mg</td>
<td><strong>Age over 65 years:</strong> Not recommended</td>
<td>Yes, LCA</td>
<td>$6–18 (G) $14–41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Age 18 to 65 years:</strong> Start: 5 mg PO bid (AM and noon); use 2.5 mg for frail patients Max: 15 mg PO bid (AM and noon)</td>
<td>Yes, LCA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biphentin®</td>
<td>SR caps: 10, 15, 20 mg</td>
<td>Once dose stabilized on IR, give equivalent daily dose as SR or XR form once daily in AM</td>
<td>No</td>
<td>$23–59</td>
</tr>
<tr>
<td></td>
<td>Concerta®</td>
<td>XR tabs: 18, 27, 36, 54 mg</td>
<td></td>
<td>No</td>
<td>$71–93</td>
</tr>
<tr>
<td></td>
<td>Ritalin-SR®, G</td>
<td>SR tabs: 20 mg</td>
<td></td>
<td>Yes, LCA</td>
<td>$9 (G) $24</td>
</tr>
<tr>
<td>dextroamphetamine</td>
<td>Dexedrine®, G</td>
<td>IR tabs: 5</td>
<td><strong>Age over 65 years:</strong> Not recommended</td>
<td>No</td>
<td>$18–134 (G) $24–188</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SR caps: 10, 15 mg</td>
<td><strong>Age 18 to 65 years:</strong> 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</td>
<td>No</td>
<td>$33–135</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>modafinil</td>
<td>Alertec®, G</td>
<td>Tabs: 100 mg</td>
<td><strong>Age over 65 years:</strong> Start: 100 mg PO qAM Max: 100 mg PO bid (AM and noon)</td>
<td>No</td>
<td>$30–60 (G) $45–90</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Age 18 to 65 years:</strong> Start: 100 mg PO bid (AM and noon) Max: 200 mg PO bid (AM and noon)</td>
<td>Special Authoritya', LCA</td>
<td>$60–120 (G) $90–180</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Comments</th>
</tr>
</thead>
</table>
| **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 CO₂ 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**

**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

**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)

---

**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

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

---

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

**Refractory dyspnea**

**Palliative Care Consult**

**Unremitting dyspnea**

**Palliative Sedation**

---

**BCGuidelines.ca: Palliative Care for the Patient with Incurable Cancer or Advanced Disease**  
References


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

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose (opioid-naïve)</th>
<th>Drug Plan Coverage</th>
<th>Approx. cost per 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydromorphone</td>
<td>Dilaudid®, G</td>
<td>IR tabs: 1, 2, 4, 8 mg</td>
<td>0.5-1 mg PO q4h</td>
<td>Yes, LCA</td>
<td>$9–18 (G)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inj: 2 mg/mL</td>
<td>0.25-0.5 mg SC q4h</td>
<td>Yes</td>
<td>$1–2 per amp (2 mg/mL)</td>
</tr>
<tr>
<td>morphine</td>
<td>MS-IR®, Statex®</td>
<td>IR tabs: 5, 10, 20, 25, 30, 50 mg</td>
<td>2.5-5 mg PO q4h</td>
<td>Yes, LCA</td>
<td>$11–21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inj: 1, 2, 5, 10, 15, 25, 50 mg per mL</td>
<td>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</td>
<td>Yes</td>
<td>$2 per amp (10 mg/mL)</td>
</tr>
<tr>
<td>oxycodone</td>
<td>Oxy IR®, Supeudol®, G</td>
<td>IR tabs: 5, 10, 20 mg</td>
<td>2.5-5 mg PO. Titrate to q4h</td>
<td>Yes, LCA</td>
<td>$13–25 (G)</td>
</tr>
</tbody>
</table>

Morphine Equivalence Table (for chronic dosing)

<table>
<thead>
<tr>
<th>DRUG</th>
<th>SC/IV (mg)</th>
<th>PO (mg)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>morphine</td>
<td>10</td>
<td>30⁴</td>
<td></td>
</tr>
<tr>
<td>hydromorphone</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>oxycodone</td>
<td>not available in Canada</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

* 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
<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose</th>
<th>Drug Plan Coveragec</th>
<th>Approx. cost per 30 daysD</th>
</tr>
</thead>
<tbody>
<tr>
<td>lorazepam</td>
<td>Ativan®, G</td>
<td>Tabs: 0.5, 1, 2 mg</td>
<td>0.5-2 mg PO/sublingual q2-4h PRN</td>
<td>Yes, LCA</td>
<td>Yes, LCA $0.04–0.08 (G)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sublingual tabs: 0.5, 1, 2 mg</td>
<td></td>
<td>Yes, LCA</td>
<td>$0.10–0.20 (G)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inj: 4 mg per mL</td>
<td>0.5-2 mg SCq2-4h PRN</td>
<td>Yes</td>
<td>$22.90 per 1 mL vial</td>
</tr>
<tr>
<td>midazolam</td>
<td>G</td>
<td>Inj: 1 mg per mL, 5 mg per mL</td>
<td>2.5-5 mg SCq5-15 min prn</td>
<td>Yes, LCA</td>
<td>No $0.84/mL (1 mg/mL vial)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>methotrimeprazine</td>
<td>G</td>
<td>Tabs: 2, 5, 25, 50 mg</td>
<td>2.5-5 mg PO q8h, titrate to effect</td>
<td>Yes, LCA</td>
<td>Yes, LCA $5–10 (G)</td>
</tr>
<tr>
<td>Nozinan®</td>
<td></td>
<td>Inj: 25 mg/mL</td>
<td>6.25 mg SC q8h, titrate to effect</td>
<td>Yes</td>
<td>$3.74/amp (25 mg/amp)</td>
</tr>
<tr>
<td>dexamethasone</td>
<td>G</td>
<td>Tabs: 0.5, 0.75, 2, 4 mg</td>
<td>8-24 mg PO/SC/IV every morning, taper if possible</td>
<td>Yes, LCA</td>
<td>Yes, LCA $20–59 (G)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inj: 4, 10 mg per mL</td>
<td></td>
<td>Yes, LCA</td>
<td>Yes, LCA $54–328 (G)</td>
</tr>
<tr>
<td>atropine</td>
<td>G</td>
<td>Inj: 0.4, 0.6 mg per mL</td>
<td>0.2-0.8 mg SC q4h and q1h PRN</td>
<td>Yes</td>
<td>Yes $2.50–5 (G) per dose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drops: 1% solution</td>
<td>1 to 4 drops sublingualq4h prn</td>
<td>No</td>
<td>$3.75 per 5 mL bottle</td>
</tr>
<tr>
<td>glycopyrrolate</td>
<td>G</td>
<td>Inj: 0.2 mg per mL</td>
<td>0.2-0.4 mg SC/sublingualq4h to q8h</td>
<td>Yes</td>
<td>Yes $26–52 (G) per 24 h</td>
</tr>
</tbody>
</table>

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.
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.

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

Muscle Weakness (A1)
Localized Weakness
- Cerebral metastases
- Cerebral vascular accident
- Radiculopathy
Generalized Weakness
- Deconditioning
- Paraneoplastic syndrome
- Polymyalgia
- Polymyositis
- Steroid induced myopathy
- Steroid withdrawal, abrupt

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 weakness

Palliative Care Consult for refractory symptoms

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)

No

Terminal phase of illness?

Yes

Methylphenidate OR Dextroamphetamine OR Modafanil (only if fatigue > 6/10)

Steroids (may be useful)
References


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

<table>
<thead>
<tr>
<th>PSYCHOSTIMULANTS&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose (note age specific recommendations)</th>
<th>Drug Plan Coverage&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Approx. cost per 30 days&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>methylphenidate&lt;sup&gt;o&lt;/sup&gt;</td>
<td>Ritalin®, G</td>
<td>IR tabs: 5, 10, 20 mg</td>
<td>Age over 65 years: Not recommended</td>
<td>Yes, LCA</td>
<td>$6–18 (G) $14–41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>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)</td>
<td>Yes, LCA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>$23–59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Biphentin&lt;sup&gt;®&lt;/sup&gt;</td>
<td>SR caps: 10, 15, 20, 30 mg</td>
<td>Once dose stabilized on IR, give equivalent daily dose as SR or XR form once daily in AM</td>
<td>No</td>
<td>$71–93</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Concerta&lt;sup&gt;®&lt;/sup&gt;</td>
<td>XR tabs: 18, 27, 36, 54 mg</td>
<td></td>
<td>Special Authority&lt;sup&gt;e&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ritalin-SR®, G</td>
<td>SR tabs: 20 mg</td>
<td></td>
<td>Yes, LCA</td>
<td>$9 (G) $24</td>
</tr>
<tr>
<td></td>
<td>dexethamphetamine&lt;sup&gt;o&lt;/sup&gt;</td>
<td>Dexedrine®, G</td>
<td>IR tabs: 5 mg</td>
<td>Age over 65 years: Not recommended</td>
<td>No</td>
<td>$18–134 (G) $24–188</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>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)</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td>$33–135</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Special Authority&lt;sup&gt;f&lt;/sup&gt;, LCA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>modafinil&lt;sup&gt;o&lt;/sup&gt;</td>
<td>Alertec®, G</td>
<td>Tabs: 100 mg</td>
<td>Age over 65 years: Not recommended</td>
<td>No</td>
<td>$30–60 (G) $45–90</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Age 18 to 65 years: Start: 100 mg PO qAM Max: 100 mg PO bid (AM and noon)</td>
<td>Special Authority&lt;sup&gt;f&lt;/sup&gt;, LCA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td>$60–120 (G) $90–180</td>
</tr>
</tbody>
</table>

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

<sup>a</sup> Refer to guideline and/or algorithm for recommended order of use.
<sup>b</sup> 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
<sup>c</sup> Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).
<sup>o</sup> This indication (i.e. depression) used in practice, but not approved for marketing by Health Canada
<sup>e</sup> Special authority required to obtain coverage for Concerta® for ADHD as second line treatment
<sup>f</sup> 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.
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)

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)

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**
  
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GI</td>
<td>gastrointestinal</td>
</tr>
<tr>
<td>IV</td>
<td>intravenous</td>
</tr>
<tr>
<td>N&amp;V</td>
<td>nausea &amp; vomiting</td>
</tr>
<tr>
<td>SC</td>
<td>subcutaneous</td>
</tr>
</tbody>
</table>

- **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:
  o For ambulatory patients, consider using chest (subclavicular area), back (infrascapular area) and upper abdominal wall (avoiding waist).
  o For bed-bound patients, use medial or lateral thighs or upper abdomen.
  o 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/prodpha...databasdon/index-eng.php](http://www.hc-sc.gc.ca/dhp-mps/prodpharma/databasdon/index-eng.php)

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose</th>
<th>Drug Plan Coverage†</th>
<th>Approx. cost per 30 days ‡</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>ANTI-EMETICS</strong></td>
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</tr>
</tbody>
</table>

### 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/SCq6h 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
- **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)**
  - **Inj:** 25 mg per mL
    - 6.25 to 25 mg SCq4h 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 SCq3–q6h
      - Yes, LCA
      - Yes, LCA
  - **$13–175 (G)**

### Haloperidol
- **E**
  - **Tabs:** 0.5, 1, 2, 5, 10 mg
    - 0.5 mg PO/SCq3–q4h 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
    - 2 mg PO/SCq3–q6h daily to 8 mg bid (AM & noon)
      - Yes, LCA
      - Yes, LCA
  - **$154–207 (G)**

### Dexamethasone
- **G**
  - **Tabs:** 0.5, 0.75, 2, 4 mg
    - 2 mg PO/SCq3–q4h to 2 mg q6h
      - Yes, LCA
      - Yes, LCA
  - **$16–124 (G)**
  - **Inj:** 4, 10 mg per mL
    - Yes, LCA
    - Yes, LCA
  - **$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
- **Transderm V**
  - **Patch:** 1.5 mg
    - 1 to 2’ 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
  - **$562–124 (G)**
  - **$118–235**
  - **Zyprexa Zydis®, G**
    - **ODT:** 5, 10, 15, 20 mg
      - $63–125 (G)
      - $117–234
<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose</th>
<th>Drug Plan Coverage(^b)</th>
<th>Approx. cost per 30 days(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>octreotide</strong>(^f)</td>
<td>Sandostatin*, G</td>
<td><strong>Inj</strong>: 50, 100, 200, 500 mcg per mL</td>
<td>50 to 200 mcg SC q8h</td>
<td>Yes, LCA</td>
<td>$170–616 (G) $485–1761</td>
</tr>
<tr>
<td></td>
<td>Sandostatin LAR®</td>
<td><strong>Inj LAR</strong>: 10, 20, 30 mg per vial</td>
<td>10 to 30 mg IM every 4 weeks</td>
<td>No</td>
<td>$1427–2365</td>
</tr>
<tr>
<td><strong>ondansetron</strong></td>
<td>Zofran®, G</td>
<td><strong>IR tabs</strong>: 4, 8 mg</td>
<td>4 to 8 mg PO/SC q8h to q12h</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>ODT</strong>: 4, 8 mg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Inj</strong>: 2mg per mL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>granisetron</strong></td>
<td>G</td>
<td><strong>Tab</strong>: 1 mg</td>
<td>1 mg to 2 mg PO/IV/SC(^d) daily or 1 mg bid</td>
<td>No</td>
<td>Special Authority, LCA</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Inj</strong>: 1 mg per mL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cannabidiol, D-9-T</strong></td>
<td>Sativex®</td>
<td><strong>Buccal spray</strong>: single combination product strength</td>
<td>1 spray buccally/sublingual BID, increase by 1 spray per day up to 8 to 12 sprays per day</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>aprepitant</strong></td>
<td>Emend®</td>
<td><strong>Caps</strong>: 80, 125 mg</td>
<td>125 mg PO to start, then 80 mg PO once daily</td>
<td>No</td>
<td>Special Authority</td>
</tr>
</tbody>
</table>

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

- Physical Exam
  Look for signs of tumour progression, trauma, or neuropathic etiology: hypo- or hyperesthesia, 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

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

<sup>a</sup> Fentanyl is primarily (75%) cleared as inactive metabolites by the kidney and methadone is cleared hepatically.

<sup>b</sup> Morphine is the least preferred in renal failure because of renally cleared active metabolites.

<sup>c</sup> Meperidine (Demerol®) should not be used for the treatment of chronic pain.

<sup>d</sup> 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.

<sup>e</sup> 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.

<sup>f</sup> 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.

---

<sup>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.</sup>
3. Addressing Adverse Effects from Opioids

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

<table>
<thead>
<tr>
<th>Adverse Effect</th>
<th>Intervention</th>
</tr>
</thead>
</table>
| 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 modafinil. |
| 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

**Bone**
- Cementoplasty
- NSAIDs*
- Bisphosphonates
- Calcitonin
- Acetaminophen
- Corticosteroids*

**Soft Tissue**
- NSAIDs*
- Corticosteroids*
- Skeletal muscle relaxants

Add adjuvants appropriate to type of pain

**Nociceptive Pain**
- Treat underlying disease, if possible (e.g., radiotherapy for bony metastases)
- Psychosocial support
- Consider non-pharmacological therapies, (e.g., massage, relaxation, acupuncture, TENS)

**Opioid Switch (M2)**
Morphine, hydromorphone, fentanyl, oxycodone, buprenorphine, methadone

**Non-cancer Pain**
Treat as appropriate

Start opioid therapy (M1)
morphine, hydromorphone, oxycodone

**Neuropathic Pain**
- Tricyclic antidepressants
- Anticonvulsants
- Clonazepam
- Cannabinoids
- Corticosteroids*
- Sodium channel blocker

**Visceral Pain**
- Corticosteroids*
- Anti-spasmodics

**Pain Assessment (A)**
- History
- Physical exam
- Appropriate investigations
- Psychosocial assessment
- Addiction screening

**Opioid Switch (M2)**
Morphine, hydromorphone, fentanyl, oxycodone, buprenorphine, methadone

**Lidocaine infusion or ketamine**

Consider Anesthesia Consult
Epidural, intrathecal, anesthetic nerve block, neurolysis

*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

<table>
<thead>
<tr>
<th>DRUG</th>
<th>SC/IV (mg)</th>
<th>PO (mg)</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>morphine</td>
<td>10</td>
<td>30&lt;sup&gt;A&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>codeine</td>
<td>120 (SC only)</td>
<td>200</td>
<td>metabolized to morphine</td>
</tr>
<tr>
<td>fentanyl patch</td>
<td></td>
<td></td>
<td>see table below – useful when PO / PR routes not an option</td>
</tr>
<tr>
<td>fentanyl</td>
<td>0.1 (100 mcg)</td>
<td>NA</td>
<td>usually dosed prn less than 1 hour effect</td>
</tr>
<tr>
<td>hydromorphone</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>oxycodone</td>
<td>not available in Canada</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>sufentanil</td>
<td>0.01 – 0.04 (10 – 40 mcg)</td>
<td>NA</td>
<td>usually dosed prn less than 1 hour effect</td>
</tr>
</tbody>
</table>

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


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

Breakthrough should be 10% of the total daily opioid dose

<table>
<thead>
<tr>
<th>Patch Strength mcg/hour</th>
<th>Oral Morphine Immediate Release (mg)</th>
<th>Oral Hydromorphone Immediate Release (mg)</th>
<th>Oral Oxycodone Immediate Release (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>5</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td>25</td>
<td>10</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>37</td>
<td>15</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>50</td>
<td>20</td>
<td>4</td>
<td>12.5</td>
</tr>
<tr>
<td>62</td>
<td>25</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>75</td>
<td>25</td>
<td>5</td>
<td>17.5</td>
</tr>
<tr>
<td>87</td>
<td>30</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>100</td>
<td>35</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td>112</td>
<td>40</td>
<td>8</td>
<td>27.5</td>
</tr>
<tr>
<td>125</td>
<td>45</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>137</td>
<td>50</td>
<td>10</td>
<td>32.5</td>
</tr>
<tr>
<td>150</td>
<td>55</td>
<td>11</td>
<td>35</td>
</tr>
<tr>
<td>162</td>
<td>60</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td>175</td>
<td>65</td>
<td>13</td>
<td>42.5</td>
</tr>
<tr>
<td>187</td>
<td>70</td>
<td>14</td>
<td>45</td>
</tr>
<tr>
<td>200</td>
<td>70</td>
<td>14</td>
<td>47.5</td>
</tr>
<tr>
<td>212</td>
<td>75</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>225</td>
<td>80</td>
<td>16</td>
<td>55</td>
</tr>
<tr>
<td>237</td>
<td>85</td>
<td>17</td>
<td>57.5</td>
</tr>
<tr>
<td>250</td>
<td>90</td>
<td>18</td>
<td>60</td>
</tr>
<tr>
<td>262</td>
<td>95</td>
<td>19</td>
<td>62.5</td>
</tr>
<tr>
<td>275</td>
<td>100</td>
<td>20</td>
<td>65</td>
</tr>
<tr>
<td>287</td>
<td>105</td>
<td>21</td>
<td>70</td>
</tr>
<tr>
<td>300</td>
<td>110</td>
<td>22</td>
<td>72.5</td>
</tr>
</tbody>
</table>

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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<br>(<sup>a</sup>) | Drug Plan Coverage<br>(<sup>b</sup>)<br>Palliative Care | Fair PharmaCare | Approx. cost per 30 days<br>(<sup>c</sup>)<br>  
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>acetaminophen</td>
<td>Tylenol®, Panadol®, G (OTC)</td>
<td>IR tabs, caplet:&lt;br&gt;325, 500 mg</td>
<td>325 to 650 mg PO q4-6 h (max: 4000 mg daily)</td>
<td>Yes, LCA</td>
<td>No</td>
<td>$2–5 (G)&lt;br&gt;$10–30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SR tabs:&lt;br&gt;650 mg</td>
<td>650 to 1300 mg PO q8h (max: 4000 mg daily)</td>
<td>Yes</td>
<td>No</td>
<td>$11–22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supps:&lt;br&gt;325, 650 mg</td>
<td>650 mg PR q4-6h (max: 4000 mg daily)</td>
<td>Yes</td>
<td>No</td>
<td>$103–155 (G)</td>
</tr>
<tr>
<td>celecoxib</td>
<td>Celebrex®, G</td>
<td>Caps:&lt;br&gt;100, 200 mg</td>
<td>100 to 200 mg PO bid</td>
<td>Yes, LCA</td>
<td>Special Authority, LCA</td>
<td>$9–18 (G)&lt;br&gt;$46–91</td>
</tr>
<tr>
<td>diclofenac</td>
<td>Voltaren®, G</td>
<td>IR tabs:&lt;br&gt;25, 50 mg</td>
<td>75 mg daily in 3 divided doses (max: 100 mg daily)</td>
<td>Yes, LCA</td>
<td>Yes, RDP</td>
<td>$5–13 (G)&lt;br&gt;$69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SR tabs:&lt;br&gt;75, 100 mg</td>
<td>75 to 100 mg PO once daily (max: 100 mg daily)</td>
<td>Yes, LCA</td>
<td>Yes, RDP</td>
<td>$8–13 (G)&lt;br&gt;$39–56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supps:&lt;br&gt;50, 100 mg</td>
<td>50 mg PR bid (max: 100 mg daily)</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
<td>$28 (G)&lt;br&gt;$104</td>
</tr>
<tr>
<td>ibuprofen</td>
<td>Advil®, Motrin®, G</td>
<td>Tabs:&lt;br&gt;200&lt;sup&gt;d&lt;/sup&gt;, 300&lt;sup&gt;d&lt;/sup&gt;, 400&lt;sup&gt;d&lt;/sup&gt;, 600 mg</td>
<td>200 to 400 mg PO q4h (max: 2400 mg per day)</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
<td>$16–20 (G)&lt;br&gt;$19–35</td>
</tr>
<tr>
<td>indomethacin</td>
<td>G</td>
<td>Caps:&lt;br&gt;25, 50 mg</td>
<td>25 to 50 mg PO tid</td>
<td>No</td>
<td>Yes, RDP</td>
<td>$8–14 (G)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supps:&lt;br&gt;50, 100 mg</td>
<td>50 to 100 mg PR bid</td>
<td>No</td>
<td>Yes</td>
<td>$57 (G)</td>
</tr>
<tr>
<td>ketorolac</td>
<td>Toradol®, G</td>
<td>Tabs:&lt;br&gt;10 mg</td>
<td>10 mg PO qid (max duration: 5 days)</td>
<td>No</td>
<td>No</td>
<td>$10 (G)&lt;br&gt;$15 per 5 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inj:&lt;br&gt;10, 30 mg per mL</td>
<td>10 to 30 mg IM/IV/SC&lt;sup&gt;c&lt;/sup&gt; q6h (max duration: 2 days)</td>
<td>No</td>
<td>No</td>
<td>$6–18 (G)&lt;br&gt;$11–32 per 2 days</td>
</tr>
<tr>
<td>naproxen</td>
<td>Naprosyn®, G</td>
<td>IR tabs:&lt;br&gt;250, 375, 500 mg</td>
<td>250 to 500 mg PO bid</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
<td>$7–14 (G)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EC tabs:&lt;br&gt;250, 375, 500 mg</td>
<td></td>
<td>Yes, RDP</td>
<td>Yes, RDP</td>
<td>$7–14 (G)&lt;br&gt;$71</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SR tab:&lt;br&gt;750 mg</td>
<td>750 mg PO daily</td>
<td>Yes, RDP</td>
<td>Yes, RDP</td>
<td>$48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supps:&lt;br&gt;500 mg</td>
<td>500 mg PR bid</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
<td>$68 (G)</td>
</tr>
<tr>
<td>naproxen sodium</td>
<td>Aleve®, G (OTC)</td>
<td>Tabs:&lt;br&gt;220 mg</td>
<td>220 mg PO bid</td>
<td>No</td>
<td>No</td>
<td>$4 (G)&lt;br&gt;$8</td>
</tr>
</tbody>
</table>

**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

<sup>a</sup> Preferred route of administration for acetaminophen and NSAIDs is oral or rectal.

<sup>b</sup> 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

<sup>c</sup> Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).

<sup>d</sup> Available OTC

<sup>e</sup> This route of administration is used in practice, but not approved for marketing for this indication by Health Canada.
<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose</th>
<th>Drug Plan Coverage</th>
<th>Approx. cost per 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>fentanylP</td>
<td>Duragesic MAT®, G</td>
<td><strong>Patch:</strong> 12, 25, 37, 50, 75, 100 mcg per hour</td>
<td>12 to 100 mcg/hour applied to skin every 72 hours</td>
<td>Yes, LCA</td>
<td>$24–130 (G) $71–552</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Inj:</strong> 50 mcg per mL</td>
<td>25 to 100 mcg sublingual* per dose PRN Patient must be alert and able to hold liquid under tongue for 3–5 minutes.</td>
<td>Yes</td>
<td>$3–6 (G) per dose</td>
</tr>
<tr>
<td></td>
<td>Abstral®, Fentora®</td>
<td><strong>Sublingual tablets:</strong> 100, 200, 300, 400, 600, 800 mcg</td>
<td>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)</td>
<td>No</td>
<td>$12–31 per single tablet dose</td>
</tr>
<tr>
<td>hydromorphone</td>
<td>Dilaudid®, G</td>
<td><strong>IR tabs:</strong> 1, 2, 4, 8 mg</td>
<td>2 to 8 mg PO q4h</td>
<td>Yes, LCA</td>
<td>$18–68 (G) $26–65</td>
</tr>
<tr>
<td></td>
<td>Hydromorph Contin®</td>
<td><strong>SR caps:</strong> 3, 4, 5, 6, 9, 12, 18, 24, 30 mg</td>
<td>3 to 30 mg PO q12h</td>
<td>Yes</td>
<td>$47–272</td>
</tr>
<tr>
<td></td>
<td>Jurnista®</td>
<td><strong>SR tabs:</strong> 4, 8, 16, 32 mg</td>
<td>4 to 64 mg PO once daily</td>
<td>Yes</td>
<td>$43–688</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td><strong>Inj:</strong> 2, 10, 20, 50, 100 mcg per mL</td>
<td>2 to 10 mg SC q4h</td>
<td>Yes, LCA</td>
<td>$381–1900 (G)</td>
</tr>
<tr>
<td>morphine</td>
<td>MS-IR®, Statex®</td>
<td><strong>IR tabs:</strong> 5, 10, 20, 25, 30, 50 mg</td>
<td>5 to 60 mg PO q4h</td>
<td>Yes, LCA</td>
<td>$21–88</td>
</tr>
<tr>
<td></td>
<td>MS Contin®, G</td>
<td><strong>SR tabs:</strong> 15, 20, 30, 60, 100, 200 mg</td>
<td>15 to 200 mg PO q12h</td>
<td>Yes, LCA</td>
<td>$9–71 (G) $46–351</td>
</tr>
<tr>
<td></td>
<td>M-Eslon® E</td>
<td><strong>SR caps:</strong> 10, 15, 30, 60, 100, 200 mg</td>
<td>10 to 200 mg PO q12h</td>
<td>Yes, LCA</td>
<td>$17–71</td>
</tr>
<tr>
<td></td>
<td>Kadian®</td>
<td><strong>SR tabs:</strong> 10, 20, 50, 100 mg</td>
<td>20 to 400 mg once daily</td>
<td>Yes</td>
<td>$21–319</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td><strong>Inj:</strong> 1, 2, 5, 10, 15, 25, 50 mcg per mL</td>
<td>2 to 25 mg SC q4h</td>
<td>Yes, LCA</td>
<td>$46–291</td>
</tr>
<tr>
<td>methadone</td>
<td>Metadol*</td>
<td><strong>Tabs:</strong> 1, 5, 10, 25 mg</td>
<td>varies widely</td>
<td>Yes</td>
<td>$60–343</td>
</tr>
<tr>
<td></td>
<td>Methadose*</td>
<td><strong>Oral solution:</strong> 10 mg per mL</td>
<td>varies widely</td>
<td>Yes</td>
<td>$8–58</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Compounded</strong></td>
<td><strong>Oral solution:</strong> up to 50 mg per mL</td>
<td>Special authorization</td>
<td>$30–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Special authorization</td>
<td></td>
</tr>
<tr>
<td>oxycodone</td>
<td>OxyIR®, Supeudol®, G</td>
<td><strong>IR tabs:</strong> 5, 10, 20 mg</td>
<td>5 to 20 mg PO q4h</td>
<td>Yes, LCA</td>
<td>$25–36 (G) $52–135</td>
</tr>
<tr>
<td></td>
<td>OxyNEO* (tamper resistant formulation)</td>
<td><strong>SR tabs:</strong> 10, 15, 20, 30, 40, 60, 80 mg</td>
<td>10 to 80 mg PO q12h</td>
<td>Yes</td>
<td>$59–284</td>
</tr>
<tr>
<td></td>
<td>G (not tamper resistant)</td>
<td><strong>SR tabs:</strong> 5, 10, 15, 20, 30, 40, 60, 80 mg</td>
<td>5 to 80 mg PO q12h</td>
<td>No</td>
<td>$20–137</td>
</tr>
</tbody>
</table>
# OPIOIDS

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Drug Plan Coverage&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Approx. cost per 30 days&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>sufentanil</em></td>
<td>G</td>
<td>Inj: 50 mcg per mL</td>
<td>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.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><em>buprenorphine</em></td>
<td>BuTrans®</td>
<td>5, 10, 20 mcg per hour</td>
<td>5 to 20 mcg/hour applied to skin every 7 days</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

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**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

<sup>a</sup> 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.

<sup>b</sup> 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

<sup>c</sup> Cost as of October 2016 and does not include retail markups or pharmacy fees. Generic and brand name cost separated as indicated by (G).

<sup>d</sup> M-Eslon® capsules may be open and the contents sprinkled over soft food (e.g., pudding or apple sauce)

<sup>e</sup> Fentanyl transdermal patches should only be initiated in patients using at least 60 mg morphine equivalents per day for at least one week.

<sup>f</sup> Sufentanil is a potent opioid; initiation by a primary care provider for opiate naive 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](http://www.fraserhealth.ca/media/HPC_SymptomGuidelines_Opioid.pdf)

<sup>g</sup> This route of administration is used in practice, but not approved for marketing for this indication by Health Canada
# NEUROPATHIC PAIN ADJUVANTS

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose</th>
<th>Drug Plan Coverage (^A)</th>
<th>Approx. cost per 30 days (^B)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>cannabidiol, D-9-T</strong></td>
<td>Sativex(^a)</td>
<td><strong>Buccal spray:</strong> single combination product strength</td>
<td>1 spray buccally/sublingual BID, increase by 1 spray per day up to 8 to 12 sprays per day</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>clonazepam(^c)</strong></td>
<td>Rivotril(^c), G</td>
<td><strong>Tabs:</strong> 0.25, 0.5, 1, 2 mg</td>
<td>0.5 mg PO at bedtime, up to 2 mg qid</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td><strong>desipramine(^c)</strong></td>
<td>G</td>
<td><strong>Tabs:</strong> 10, 25, 50, 75, 100 mg</td>
<td>10 to 25 mg PO at bedtime; increase q3-q7 days up to 150 mg per day</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td><strong>dexamethasone(^c)</strong></td>
<td>G</td>
<td><strong>Tabs:</strong> 0.5, 0.75, 2, 4 mg</td>
<td>2 mg PO/SCE daily to 8 mg bid (am &amp; noon)</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td><strong>duloxetine(^c)</strong></td>
<td>Cymbalta(^b)</td>
<td><strong>Caps:</strong> 30, 60 mg</td>
<td>30 to 60 mg PO daily</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>gabapentin(^c)</strong></td>
<td>Neurontin(^c), G</td>
<td><strong>Tabs:</strong> 100, 300, 400, 600, 800 mg</td>
<td>300 to 1200 mg PO tid</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td><strong>nabalone(^c)</strong></td>
<td>Cesamet(^c), G</td>
<td><strong>Caps:</strong> 0.25, 0.5, 1 mg</td>
<td>0.5 mg PO at bedtime, increase q7 days up to 1 mg bid</td>
<td>No</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td><strong>nortriptyline(^c)</strong></td>
<td>Aventyl(^c), G</td>
<td><strong>Caps:</strong> 10, 25 mg</td>
<td>10 to 150 mg PO at bedtime</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td><strong>pregabalin(^c)</strong></td>
<td>Lyrica(^c), G</td>
<td><strong>Caps:</strong> 25, 50, 75, 150, 225, 300 mg</td>
<td>75 mg PO bid, increase q7 days up to 300 mg bid</td>
<td>No</td>
<td>No, LCA</td>
</tr>
<tr>
<td><strong>topiramate(^c)</strong></td>
<td>Topamax(^c), G</td>
<td><strong>Tabs:</strong> 25, 100, 200 mg</td>
<td>25 mg PO daily, increase q7 days up to 200 mg bid</td>
<td>No</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td><strong>Sprinkle caps:</strong></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>valproic acid(^c)</strong></td>
<td>Depakene(^c), G</td>
<td><strong>Caps:</strong> 250, 500 mg</td>
<td>250 mg PO at bedtime increase q3 days up to 500 mg tid</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
</tr>
</tbody>
</table>

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**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.
<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose</th>
<th>Drug Plan Coveragea</th>
<th>Approx. cost per 30 daysb</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANTISPASMODICS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>belladonna &amp; opium</td>
<td>G</td>
<td>Supps: Belladonna 15 mg, Opium 65 mg</td>
<td>1 supp PR qid</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>hyoscine butylbromide</td>
<td>Buscopan*</td>
<td>Tabs: 10 mg</td>
<td>10 mg PO qid up to 60 mg per day</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Buscopan*, G</td>
<td>Inj: 20 mg per mL</td>
<td>10 to 20 mg SC q6h (max: 100 mg per day)</td>
<td>Yes</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td><strong>SKELETAL MUSCLE RELAXANTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>baclofen</td>
<td>Lioresal*, G</td>
<td>Tabs: 10, 20 mg</td>
<td>5 mg PO bid increase q3 days up to 20 mg tid</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td>cyclobenzaprine</td>
<td>G</td>
<td>Tabs: 10 mg</td>
<td>5 mg PO tid to 10 mg qid</td>
<td>No</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td>tizanidine</td>
<td>G</td>
<td>Tabs: 4 mg</td>
<td>2 mg PO daily increase q3-4 days up to 4 to 12 mg tid</td>
<td>No</td>
<td>Special Authority, LCA</td>
</tr>
</tbody>
</table>

**GASTRIC CYPROTECTION and DYSPESIA**

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
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<th>Approx. cost per 30 daysb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantoprazole magnesium</td>
<td>Tecta*, G</td>
<td>EC Tabs: 40 mg</td>
<td>40 mg PO once daily</td>
<td>Yes, LCA</td>
<td>Special Authority, RDP, LCA</td>
</tr>
<tr>
<td>rabeprazole</td>
<td>Pariet*, G</td>
<td>EC Tabs: 10, 20 mg</td>
<td>10 to 20 mg PO once daily</td>
<td>Yes, LCA</td>
<td>Special Authority, RDP, LCA</td>
</tr>
<tr>
<td>pantoprazole</td>
<td>Pantoloc*, G</td>
<td>EC Tabs: 20, 40 mg</td>
<td>40 mg PO once daily</td>
<td>Yes, LCA</td>
<td>Special Authority, RDP, LCA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inj: 40 mg</td>
<td>40 mg IV once daily</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>ranitidine</td>
<td>Zantac*, G</td>
<td>Tabs: 75C, 150C, 300 mg</td>
<td>150 mg PO bid or 300 mg PO at bedtime</td>
<td>Yes, LCA</td>
<td>Yes, RDP, LCA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inj: 25 mg per mL</td>
<td>50 mg SC 3q8H</td>
<td>Yes, LCA</td>
<td>Yes, LCA</td>
</tr>
<tr>
<td>lansoprazole</td>
<td>Prevacid*, G</td>
<td>DR Caps: 15, 30 mg</td>
<td>15 to 30 mg PO once daily</td>
<td>No</td>
<td>Special Authority, RDP, LCA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fas Tabs: 15, 30 mg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>omeprazole</td>
<td>Losec*, G</td>
<td>DR Caps: 10, 20 mg</td>
<td>20 mg PO once daily</td>
<td>No</td>
<td>Special Authority, RDP, LCA</td>
</tr>
<tr>
<td>Omeprazole magnesium</td>
<td>Losec*, G</td>
<td>DR Tabs: 10, 20 mg</td>
<td>20 mg PO once daily</td>
<td>No</td>
<td>Special Authority, RDP, LCA</td>
</tr>
<tr>
<td>esomeprazole</td>
<td>Nexium*, G</td>
<td>DR Tabs: 20, 40 mg</td>
<td>20 to 40 mg PO once daily</td>
<td>No</td>
<td>Special Authority, RDP, LCA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DR Granules: 10 mg</td>
<td></td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>misoprostol</td>
<td>G</td>
<td>Tabs: 100, 200 mcg</td>
<td>100 to 200 mcg PO qid</td>
<td>No</td>
<td>Yes, LCA</td>
</tr>
</tbody>
</table>

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

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BONE PAIN ADJUVANTS for Nociceptive bone pain (without hypercalcemia)

For treating malignancy related hypercalcemia see www.bccancer.bc.ca/HPI/ChemotherapyProtocols/SupportiveCare/default.htm

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Available Dosage Forms</th>
<th>Standard Adult Dose</th>
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<th>Approx. cost per 30 days[^B]</th>
</tr>
</thead>
<tbody>
<tr>
<td>calcitonin</td>
<td>Calcimar®</td>
<td>Inj: 200 units per mL (2 mL multi-dose vial)</td>
<td><strong>Nociceptive bone pain:</strong> 50 units SC at bedtime up to 200 units bid</td>
<td>No</td>
<td>$232-3717</td>
</tr>
<tr>
<td>clodronate</td>
<td>Bonefos*, Clasteon*</td>
<td>Caps: 400 mg</td>
<td>800 mg PO bid or 1600 mg PO daily (max: 3200 mg per day)</td>
<td>Yes, LCA</td>
<td>$157 (Clasteon*) $254 (Bonefos*)</td>
</tr>
<tr>
<td>denosumab</td>
<td>Xgeva®</td>
<td>Inj: 120 mg per 1.7 mL</td>
<td>120 mg SC once every 4 weeks</td>
<td>Yes</td>
<td>$360</td>
</tr>
<tr>
<td>pamidronate</td>
<td>Aredia*, G</td>
<td>Inj: 90 mg per 10 mL</td>
<td>90 mg IV monthly</td>
<td>Yes, LCA</td>
<td>$281 (G) $541</td>
</tr>
<tr>
<td>zoledronic acid</td>
<td>Zometa*, G</td>
<td>Inj: 4 mg per 5 mL</td>
<td>4 mg IV monthly</td>
<td>Yes, LCA</td>
<td>$314 (G) $616</td>
</tr>
</tbody>
</table>

[^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**

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

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