



B.C. INTER-PROFESSIONAL PALLIATIVE SYMPTOM MANAGEMENT GUIDELINES

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PAIN

DEFINITION

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.¹ This guideline does not address management of chronic pain. However, those with chronic pain may have acute pain as their disease advances which is addressed in this guideline.

Nociceptive pain arises from actual or threatened damage to non-neural tissue and is due to the activation of nociceptors.¹

Neuropathic pain is caused by a lesion or disease of the somatosensory nervous system.¹ It may be associated with abnormal sensations. **Hyperalgesia** is an increased perception or experience of painful stimuli. **Allodynia** is the experience of pain induced by non-painful stimuli. **Dysesthesias** are uncomfortable sensations that are perceived as abnormal and described using terms such as “burning”, “shock-like” or “electrical”. All three are indicative of neuropathic pain mechanisms.⁷⁰

Mixed pain has both nociceptive and neuropathic components.²

Total Pain, a term used often in palliative care, describes the multidimensional factors that contribute to the patient’s experience of pain and suffering.^{3,4}

Background pain is pain present for twelve or more hours per day during the previous week, or would be present if not taking analgesia.⁶⁶

Breakthrough pain (BT) is a transient exacerbation of pain that occurs either spontaneously, or in relation to a specific predictable or unpredictable trigger, despite relatively stable and adequately controlled background pain.⁶⁶ Different subtypes of breakthrough pain:

Incident pain is precipitated by a movement or a voluntary action, and is predictable or expected.^{67,68}

Spontaneous pain is not related to an identifiable precipitant, and so is unpredictable in nature.⁶⁶

End-of-Dose Failure describes an exacerbation of pain that occurs prior to the next dose of the background analgesic, and reflects declining levels of the background analgesic.⁶⁹

Breakthrough Dose (BTD) is an additional dose used to control breakthrough pain. It does not replace or delay the next routine dose. BTD is also known as a rescue dose.⁴⁴

Definition continued on [next page](#)

DEFINITION *CONTINUED*

Titration: Adjustments of analgesics to improve pain control and to minimize adverse effects

Total Daily Dose (TDD) is the 24 hour total of a drug that is taken for regular and breakthrough doses combined.⁴⁴

PREVALENCE

Pain at end of life is highly prevalent among all patient groups regardless of primary diagnosis.⁵ Although pain can be well or completely controlled in up to 90% of patients using standard therapies in accordance with well-publicized guidelines,⁶⁻¹³ pain still remains under-recognized and undertreated in many patient groups.¹⁴

IMPACT

Unrelieved pain has a significant impact on the physical, emotional and functional wellbeing of patients and caregivers.¹⁵⁻¹⁸ Access to appropriate assessment and treatment of pain should be considered an ethical imperative and human right.^{19, 20}

STANDARD OF CARE

Step 1 | Goals of care conversation

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

Step 2 | Assessment

- Perform a comprehensive pain assessment for each pain reported.
- For those unable to communicate verbally, assess for pain by non-verbal indicators, such as restlessness and rigidity, grimacing, and distressed vocalizations such as moaning and repeated calling out.²¹
- Use an observational pain rating scale to assess behavioral indicators of pain such as the Pain Assessment in Advanced Dementia Scale (PAINAD) Scale (see [Additional resources for management of pain](#) for link).²²

Pain Assessment: Using Mnemonic O, P, Q, R, S, T, U and V90

Mnemonic Letter	Assessment Questions <i>Whenever possible, ask the patient directly. Involve family as appropriate and desired by the patient.</i>
O nsset	When did it begin? How long does it last? How often does it occur?
P rovoking / P alliating	What brings it on? What makes it better? What makes it worse?
Q uality	What does it feel like? Can you describe it? If unable to describe, ask is the pain sharp, dull, aching, burning, or do they experience pins and needles?
R egion/ R adiation	Where is it? Does it spread anywhere? Use a body map to illustrate location and number of pain areas (see Pain extra resources or assessment tools for body map link).
S everity	How severe is this symptom? What would you rate it on a scale of 0-10 (0 being none and 10 being the worst possible)? Right now? At worst? On average? How bothered are you by this symptom? Are there any other symptom(s) that accompany this symptom? If the patient has difficulty using a numerical rating scale use an alternative such as the visual analogue scale (VAS) or verbal rating scale (VRS) (link in Pain extra resources or assessment tools). ^{1, 3, 23}
T reatment	What medications and treatments are you currently using? Are you using any non-prescription treatments, herbal remedies, or traditional healing practices? How effective are these? Do you have any side effects from the medications and treatments? What have you tried in the past? Do you have concerns about side effects or cost of treatments?
U nderstanding	What do you believe is causing this symptom? How is it affecting you and/or your family? What is most concerning to you? What are your beliefs about opioid/narcotic medications? (See Pain extra resources or assessment t ools for responses to common misconceptions.)
V alues	Are you having to make compromises such as decreasing activities or enduring side effects to deal with your pain? What overall goals do we need to keep in mind as we manage this symptom? What is your acceptable level for this symptom (0-10)? Are there any beliefs, views or feelings about this symptom that are important to you and your family?

Symptom Assessment: Physical assessment as appropriate for symptom

Completion of a comprehensive pain assessment will determine the etiology and type of pain to enable appropriate treatment for each type/location of pain reported. Ongoing documentation of assessment findings, treatment plan and patient response is essential to find trends for effective team communication and optimal care. **Place in a readily visible and consistent location.**

Diagnostics: consider goals of care before ordering diagnostic testing

Pain etiologies, types and sites will determine investigation and imaging requirements.

First, determine if an emergency situation exists. **If so, refer the patient immediately to the acute hospital setting** for further investigations and treatment of the underlying cause while proceeding to treat the pain.

Pain emergencies

Spinal cord compression, bone fracture or impending fracture of weight-bearing bone, infection/abscess, obstructed or perforated viscus, an ischemic process, or superior vena cava obstruction.²³

Step 3 | Determine possible causes and reverse as possible if in keeping with goals of care (For more details, see [Underlying causes and possible medications for pain in palliative care](#)):

Assess each reported pain fully, based on pathophysiology, before discussing treatment options.³⁹

PRINCIPLES OF MANAGEMENT







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

- Pain rarely occurs in isolation in patients with advanced disease.^{4, 25}
- Conduct a multidimensional assessment for prompt recognition and treatment of pain to improve comfort and quality of life.^{1, 26}
- Educate patients about their pain and involve them in decision-making about their pain management plan.^{2, 27-29}
- Reassess pain at regular and frequent intervals: at expected peak action time of analgesic, following the start of new treatment, with each new report of pain, with any change in the presentation of pain, and when pain is not relieved by previously effective strategies.^{30, 31}
- Seek consultation if pain is not improving with titration, adequately relieved within 72 hours, or for pain that is not managed after applying standard analgesic guidelines and interventions.
- Assess and treat other symptoms to maximize patient comfort.
- The 3 practices of assessment, documentation and decision making need to be routinely linked for a consistent approach to pain management.⁸⁹
- Clinicians are encouraged to consider the use of traditional, Western and non-pharmacologic strategies to optimize pain management.³²
- The concept of total pain reminds us that a unilateral pharmacological approach will not be adequate to address the multiple factors that influence pain and suffering. An inter-professional approach to pain management is recommended whenever possible.³³

Step 4 | Interventions




LEGEND FOR USE OF BULLETS

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

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

Non-pharmacological interventions

Non-pharmacological pain strategies that may be available in the home or residential care facilities include but are not limited to:

-  **Physical:** such as physio, exercise, massage, positioning, application heat/cold. Note: use with caution with frail elderly.
-  **Psychological:** such as relaxation, meditation, cognitive therapy.³²
-  **Relevant spiritual and cultural practices.**

For additional information on non-pharmacological interventions, see National Centre for Complementary and Alternative Medicine (link in [Additional resources for management of pain](#)).

Non-pharmacological interventions continued on [next page](#)

Non-pharmacological interventions *continued*

Interventions requiring additional equipment or transfer to acute care







Transcutaneous Electrical Nerve Stimulation (TENS), acupuncture, acupressure.

Specialized Medical therapies include (All require consultation with palliative specialist for appropriate referrals):

- Palliative radiation
- Palliative surgery
- Neuroaxial analgesia
- Cementoplasty

Pharmacological interventions


1) Considerations before choosing an analgesic

-  Match pain causes to drug treatment choice considerations (see [Medications for management of pain based on type of pain](#) for possible causes).
-  Use patient specific goals and preferences to aid drug selection.
-  Review health performance status, medical conditions, organ impairments, allergies. Determine if they may limit drug options. Consider drug limiting factors including interactions, concerns about medication use, adherence, risk of misuse or abuse.
-  Discuss and resolve concerns about tolerance, fears, addiction and side effects.³⁹ (See [Pain extra resources or assessment tools](#) - Response to Common Misconceptions About Opioid Analgesics)
-  Ensure patient access to prescribed medications, considering cost and ability to access medications in their care setting. Activate drug benefit coverage for BC PharmaCare Palliative Care Benefits program appropriately.
-  Assess and actively treat other symptoms that can potentially make pain perception worse, such as nausea or constipation. Refer to other management guidelines for more information.

Pharmacological interventions continued on [next page](#)



Pharmacological interventions *continued*

2) Assess substance/opioid misuse risk



- 
 All patients being considered for opioid therapy should be evaluated for substance use disorder.⁴⁰ Prescribers should be familiar with the BC College of Physicians Professional Standards and Guidelines: Safe Prescribing of Drugs with Potential for Misuse/Diversion (link in [Additional resources for management of pain](#))⁴¹ However, **the College recognizes that these standards may not apply to treatment of palliative, nursing home and end-of-life patients.**⁴¹ If opioid misuse or abuse expected, complete a risk assessment prior to treatment.³⁰ The Opioid Risk Tool is one of several useful tools ([Pain extra resources or assessment tools](#) for link).⁴² Patient self-reports of substance misuse are variable and consideration of urine drug testing has been recommended.⁴⁰

Treatment with an opioid analgesic is not contraindicated in a patient with a history of substance use disorder but requires a comprehensive treatment plan.⁴⁰



3) Initiation of analgesics (see [Medications for management of pain based on type of pain](#) for detailed pharmacological information and [Additional resources for management of pain](#) for additional resources such as use of fentanyl patch and equianalgesic tables)

- 
 Integrate non-pharmacological treatments and adjuvant analgesics concurrent with analgesics for all levels of pain: mild, moderate or severe.
- 
 Treatment choices are guided by pain intensity on a scale with 0-10 with 0 being none and 10 being the worst possible; **however, when pain is expected to worsen, choosing from options for more intense pain may avoid a future medication switch.**⁴⁴

Mild pain (patient rating of 1 to 4/10)



- 
 Acetaminophen or non-steroidal anti-inflammatories (NSAIDs).
- 
 Acetaminophen and NSAIDs may be used together for mild acute pain.⁴³

Moderate pain (patient rating of 5 to 6/10)




- 
 Acetaminophen combined with oxycodone, tramadol, or tapentadol.⁴⁵⁻⁴⁸ Ensure acetaminophen daily intake limits not exceeded.
- 
 Switch from compound immediate release products to a single sustained release opioid.^{50,51}

Pharmacological interventions continued on [next page](#)




Pharmacological interventions *continued*

-  Switching from codeine to other opioids has shown improvement in pain control.⁵⁰
-  **Avoid codeine.** It is not preferred due to:
 - Unpredictable safety and efficacy due to variable liver metabolism amongst individuals.^{46, 49, 87}
 - Possible interactions with other medications causing variable metabolism.⁸⁸
 - It is often not sufficient for cancer pain and as intensity increases, a switch will need to be made.

Severe pain (patient rating of 7 to 10/10)




-  First line options are oral morphine, hydromorphone or oxycodone. They are similarly effective for cancer pain.^{45, 52-54}
-  Use opioids with the lowest cost when all other considerations are equal.⁴⁵
-  Consider hospital or inpatient hospice admission for acute, severe pain or pain crisis.³⁰

Initiation of Analgesics Clinical Review Points (also see Fraser Health Opioid principles link in [Additional resources for management of pain](#))





-  **START LOW** – Start with low doses, especially with impaired renal or liver function and in the elderly.
-  **GO SLOW** - Titrate doses gradually to analgesic response or until patient experiences unacceptable side effects. (See titration section below). May begin with less frequent dosing (e.g., q6h instead of q4h).
-  **BY MOUTH** - While the oral route is most common as the safest and least invasive administration method, other routes (IV, subcutaneous, rectal, transdermal, transmucosal) can be used as indicated to maximize patient comfort.^{55, 57}

Pharmacological interventions continued on [next page](#)




Pharmacological interventions *continued*

- 
BY THE CLOCK - Regular/fixed administration schedule, such as every 4 or 6 hours, rather than only “on demand”,²⁴ including waking from sleep for a scheduled dose. Once pain control achieved, switch to long acting agents to improve compliance and sleep.⁵⁵
- 
PLAN FOR ADVERSE EFFECTS – Anticipate, monitor and manage analgesic adverse effects, including starting laxatives proactively.
- 
PLAN FOR BREAKTHROUGH PAIN - When starting an opioid, use immediate release with breakthrough doses (BTD) until dose is stabilized to enable timely and effective titration.^{44, 46, 55}

Breakthrough dosing











- 
 Breakthrough doses are generally 10% of the total regular daily opioid dose.⁵⁶
- 
 Use immediate release opioids every hour orally or every 30 minutes subcutaneously PRN
- 
 Use of the same opioid for breakthrough pain doses and the regularly scheduled opioid improves the ease and clarity for determining future dose titrations.
- 
 Reassess when 3 or more breakthrough doses used per 24 hours (See titration section below).

4) **Titration:** Adjustments to improve pain control and to minimize adverse effects

- 
 Use practice tools to monitor pain rating, adverse effects, and track patient goal attainment. A suitable numerical or descriptive pain rating scale should be used consistently.
- 
 Follow sedation levels using a tool such as the Pasero Opioid-Induced Sedation Scale⁷⁸ (see [Pain Extra resources or assessment tools](#)), especially during titration of opioid doses.
- 
 Individualize dosing readjustments balancing effectiveness and tolerability.

Pharmacological interventions continued on [next page](#)

Pharmacological interventions *continued*








-  Following selection of a starting opioid dose, adjustment is almost always required.⁴⁶
-  Titrate with caution in patients with risk factors such as decreased renal/hepatic function, chronic lung disease, upper airway compromise, sleep apnea, or poor performance status.³⁰
-  Adjustment may require a dose adjustment of both the regular dose as well as the BTD.
-  Dose adjustments should not be made more frequently than every 24 hours.⁴⁴ However, severe or crisis pain may require more aggressive titration.⁴⁴
-  The rapidity of the dose escalation should be related to the pain severity, expected onset and duration of analgesics, and ability to monitor during dose titration.³⁰
-  Individualized dosing readjustments can use fixed dose increases, e.g., a 30-50% opioid dose increase, or base increased regular analgesic dose on quantity of BTD.
-  Adverse effects from opioids can be managed by dose reduction, changing to a different opioid or route of administration, or symptomatic management, e.g., anti-emetic use.⁵⁹
-  Impaired swallowing capacity can require a conversion of oral opioids to subcutaneous or intravenous routes; reduce parenteral doses by half for chronic pain, reflecting potency differences.⁴⁴
-  Monitor for excessive opioid doses; effects often are sedation or confusion.
-  Addressing opioid-induced neurotoxicity will require strategies including lowering doses, a switch (rotation) to a different opioid, hydration and consultation. Refer to the Twitching/Myoclonus/Seizures guideline for myoclonus management.

See additional resources in [Additional resources for management of pain for pain and opioid management guidelines](#).

Pharmacological interventions continued on [next page](#)

Pharmacological interventions *continued*

5) Adjuvant Analgesics to improve pain control

- 
 Optimize the opioid regimen before introducing an adjuvant analgesic in cancer pain.⁶²
- 
 Adjuvant analgesics are medications that have a primary indication other than pain, but have analgesic effects in some types of painful conditions.⁶⁰ They include: anticonvulsants, antidepressants, corticosteroids, muscle relaxants, topical NSAIDs/opioids, bone modifying drugs. See [Medications for management of pain based on type of pain](#) for detailed medication list.
- 
 Use appropriate adjuvant analgesics at any pain severity level.⁶¹
- 
 Select based on predominating pain type, symptoms, comorbidities, supporting clinical evidence, potential adverse effects, drug interactions, ease of administration and cost.
- 
 The adjuvant analgesic with the greatest benefit and least risk should be administered as first-line treatment.⁶² Often this is an anticonvulsant such as gabapentin, or an antidepressant such as nortriptyline for treatment of cancer-related neuropathic pain.⁶³
- 
 Doses should be increased until the analgesic effect is achieved, adverse effects become unmanageable, or the conventional maximum dose is reached.³⁰ Reassess regularly and taper or discontinue ineffective medications.^{30, 56}
- 
 Consider combination therapy with two or more drugs in the event of partial response to single drug therapy.⁶⁴ However, avoid initiating and titrating several adjuvants concurrently.⁶² Opioid rotation within an adjuvant combination is suggested as a further progressive pain strategy.⁶⁵

6) Utilize Consultation Services – when to consider calling for help!

- For **unrelieved pain**. Pain should improve on titration within 72 hours.
- For **rapidly escalating pain**, not responding to opioid titration, to point of concern or suffering.
- **Specific situations** such as: unmanageable adverse effects, toxicity, special patient populations (e.g., moderate to severe renal or liver impairment), safety concerns, substance abuse.

Pharmacological interventions continued on [next page](#)

Pharmacological interventions *continued*

- **Use of methadone, ketamine, lidocaine or interventional treatment strategies.** See [Additional resources for management of pain](#) for additional resources for **prescription of methadone for analgesia**; these medications can be prescribed by family physicians.
- Need of **qualified specialists** such as pain specialists, oncologists, orthopedics, anaesthesiologists.

Patient and family education

- Instruct patients/families to contact clinician if pain or side effects worsen.
- Encourage patients to report their pain.^{3, 27, 34-36} Inform patients they have the right to receive adequate pain management. Reassure them their report of pain will be believed and acted upon.³⁷
- If patient and family disagree about the use of pain medication, explore their understanding and come to agreement, especially if family members are administering analgesics.
- Accurate and reliable information should be given regarding opioid treatment; detect and correct false beliefs or misunderstandings that may affect adherence to the treatment, its effectiveness, and patient safety.³⁸ (see [Pain extra resources or assessment tools](#) for detailed responses to common misconceptions.)
- Give an explanation for the cause of each pain and reassurance that pain can usually be very well controlled.²³
- Identify the three simple stepwise goals for pain management:³³
 - A good night's sleep.
 - Pain control during the day while at rest.
 - Pain control when active and ambulatory.
- Describe the 3 common side effects for opioid naïve patients: cognitive (confusion or sedation), nausea and constipation. Explain that cognitive and nausea side effects commonly improve and disappear in 3 to 7 days. Elicit level of patient and family willingness to tolerate short term side effects during the titration phase. Constipation will need ongoing management.
- Teach patients and families how to use an appropriate pain assessment tool, and encourage patients to keep a pain diary (see [Additional resources for management of pain](#) for link) and record scheduled and breakthrough analgesia usage.

Patient and family education continued on [next page](#)

Patient and family education *continued*

- Explain how to use pain medication effectively.²⁸
 - What the medications are and why they have been prescribed.
 - How and when they should be taken.
 - Potential adverse effects and how they can be managed if they occur.
 - Medication safety processes.
 - How prescriptions are filled.
 - Safe handling, storage, and pharmacy take-back disposal of analgesics, particularly opioids.³⁰

ADDITIONAL RESOURCES FOR MANAGEMENT OF PAIN

Resources specific to pain

- BC College of Physicians Professional Standards and Guidelines: Safe prescribing of drugs with potential for misuse/diversion
 - <https://www.cpsbc.ca./files/pdf/PSG-Safe-Prescribing.pdf>
- College of Physicians and Surgeons of British Columbia Controlled Drug Resources
 - <https://www.cpsbc.ca/programs/drug-programs/prp/prp-guidelines>
- College of Physicians and surgeons of British Columbia: Methadone for analgesia (Click on “Resources” - includes an online module)
 - <https://www.cpsbc.ca/programs/drug-programs/mmp>
- National Centre for Complementary and Alternative Medicine
 - <https://nccih.nih.gov/health/integrative-health#types>
- Fraser Health: Opioid Principles Jan 2016
 - http://www.fraserhealth.ca/media/HPC_SymptomGuidelines_Opioid.pdf
(includes use of the World Health Organization (WHO) analgesic ladder, guidance for Fentanyl patches, titration and equi-analgesic tables)
- Pain Assessment in Advanced Dementia (PAINAD)
 - <http://bcbpsd.ca/docs/part1/Final%20Provincial%20PAINAD%20Scale.pdf>

Additional resources for management of pain continued on [next page](#)

ADDITIONAL RESOURCES FOR MANAGEMENT OF PAIN

CONTINUED

- methadone for analgesia
→ <https://www.cpsbc.ca/files/pdf/DP-Methadone-for-Analgesia-Guidelines.pdf>

General Resources

- **Provincial Palliative Care Line** – for **physician** advice or support, call **1 877 711-5757** In ongoing partnership with the Doctors of BC, the toll-free Provincial Palliative Care Consultation Phone Line is staffed by Vancouver Home Hospice Palliative Care physicians 24 hours per day, 7 days per week to assist physicians in B.C. with advice about symptom management, psychosocial issues, or difficult end-of-life decision making.
- BC Centre for Palliative Care: Serious Illness Conversation Guide
→ <http://www.bc-cpc.ca/cpc/>
- BC Guidelines: Palliative Care for the Patient with Incurable Cancer or Advanced Disease
→ <http://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/palliative-care>
- BC Palliative Care Benefits: Information for prescribers
→ <http://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/pharmacare/prescribers/plan-p-bc-palliative-care-benefits-program>
- National Centre for Complementary and Alternative Medicine (NCCAM) for additional information on the use of non-pharmacological interventions
→ <https://nccih.nih.gov/>
- Canadian Association of Psychosocial Oncology: Pan-Canadian Practice Guideline: Screening, Assessment and Management of Psychosocial Distress, Depression and Anxiety in Adults with Cancer
→ http://www.capo.ca/wp-content/uploads/2015/11/FINAL_Distress_Guideline1.pdf
- Fraser Health psychosocial care guideline
→ <https://www.fraserhealth.ca/media/psychosocial%20care.pdf>

Additional resources for management of pain continued on [next page](#)

ADDITIONAL RESOURCES FOR MANAGEMENT OF PAIN

CONTINUED

Resources specific to health organization/region

- Fraser Health
 - <http://www.fraserhealth.ca/health-professionals/professional-resources/hospice-palliative-care/>
- First Nations Health Authority
 - <http://www.fnha.ca/>
- Interior Health
 - <https://www.interiorhealth.ca/YourCare/PalliativeCare/Pages/default.aspx>
- Island Health
 - http://www.viha.ca/pal_eol/
- Northern Health
 - <https://www.northernhealth.ca/Professionals/PalliativeCareEndofLifeCare.aspx>
- Providence Health
 - <http://hpc.providencehealthcare.org/>
- Vancouver Coastal Health
 - <http://www.vch.ca/your-care/home-community-care/care-options/hospice-palliative-care>

Resources specific to patient population

- ALS Society of Canada: A Guide to ALS patient care for primary care physicians
 - <https://als.ca/wp-content/uploads/2017/02/A-Guide-to-ALS-Patient-Care-For-Primary-Care-Physicians-English.pdf>
- ALS Society of British Columbia 1-800-708-3228
 - www.alsbc.ca
- BC Cancer Agency: Symptom management guidelines
 - <http://www.bccancer.bc.ca/health-professionals/clinical-resources/nursing/symptom-management>

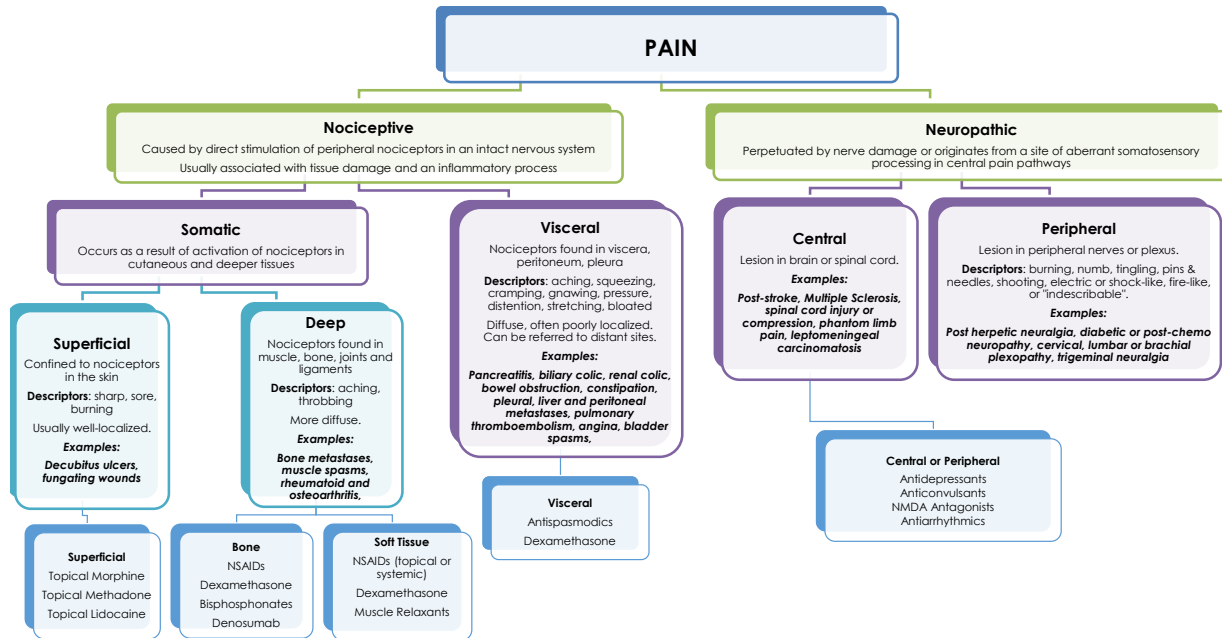
ADDITIONAL RESOURCES FOR MANAGEMENT OF PAIN

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- BC Renal Agency: Conservative care pathway and symptom management
 - <http://www.bcrenalagency.ca/health-professionals/clinical-resources/palliative-care>
- BC's Heart Failure Network: Clinical practice guidelines for heart failure symptom management
 - <http://www.bcheartfailure.ca/for-bc-healthcare-providers/end-of-life-tools/>
- Canuck Place Children's Hospice
 - <https://www.canuckplace.org/resources/for-health-professionals/>
 - 24 hr line – 1.877.882.2288
 - Page a Pediatric Palliative care physician – 1-604-875-2161 (request palliative physician on call)
- Together for short lives: Basic symptom control in pediatric palliative care
 - http://www.togetherforshortlives.org.uk/professionals/resources/2434_basic_symptom_control_in_paediatric_palliative_care_free_download

UNDERLYING CAUSES AND POSSIBLE MEDICATIONS FOR PAIN IN PALLIATIVE CARE⁷²

Algorithm created by Dr Nicola Macpherson, MD FRCPC (Anesthesiology), DABHPM. Hospice Palliative Care Physician, Fraser Health, British Columbia, Canada. Adapted with permission



Medications for management of pain based on type of pain continued on [next page](#)

MEDICATIONS FOR MANAGEMENT OF PAIN BASED ON TYPE OF PAIN

Drug, Action	Dose, Therapeutic Range ⁷³	Onset, Adverse Effects, Precautions and Dosing Concerns ⁷³⁻⁷⁵
1. Pain		
Acetaminophen	500 to 1g PO, PR q6h to q4h	Caution in renal impairment and severe hepatic impairment, particularly when associated with alcohol dependence and malnutrition. Maximum 4 g per day or 3 g in the elderly. ^{76,77}
	650 to 1300 mg SR PO q8h	
NSAIDs		Avoid in frail elderly, cardiac, renal and hepatic dysfunction, or active peptic ulcers.
Diclofenac	50 mg PO, PR q12h or q8h	Maximum 150 mg per day
	75 SR PO q12h or 100 mg daily	
	50 to 100 mg PR q8h	
Ibuprofen	400 to 800 mg PO q8h	Maximum 2400 mg per day
COX-2 Inhibitors		Contraindicated if established ischaemic heart disease, peripheral arterial disease or cerebrovascular disease.
Celecoxib	200 to 400 mg PO daily or q12h	Maximum 400 mg per day
Meloxicam	7.5 to 15 mg PO daily	Maximum 15 mg per day
Corticosteroids		Start at a high dose then reduce to a maintenance level. <u>Stop if no response within 7 to 10 days.</u> Taper steroid dose gradually if used for more than 3 weeks or if stopping doses greater than 4 mg per day.
Dexamethasone	<u>High Dose:</u> 8 mg PO, SC once daily or twice daily	Hyperglycemia, anxiety, steroid psychosis, myopathy.
	<u>Low Dose:</u> 2 to 6 mg PO, SC daily	Long-term adverse effects are significant; therefore, avoid prolonged use. Avoid concomitant use with NSAIDs.

Medications for management of pain based on type of pain continued on [next page](#)

MEDICATIONS FOR MANAGEMENT OF PAIN BASED ON TYPE OF PAIN *CONTINUED*

Drug, Action	Dose, Therapeutic Range ⁷³	Onset, Adverse Effects, Precautions and Dosing Concerns ⁷³⁻⁷⁵
2. Superficial Somatic Pain		
Topical NSAIDs		
Diclofenac Sodium	Apply 1.5% cream topically	Do not apply on an open wound, or on areas of infection or rash. Apply to affected area up to 4 times per day.
Diclofenac Gel	Apply 1.16 to 5% cream topically	
Ketoprofen	Apply 5 to 20% cream topically	
Topical Opioids	Apply topical morphine 0.1% (1 mg per mL) in hydrogel once to twice daily	The amount of gel applied varies according to the size and the site of the inflammation or ulcer. The topical morphine is kept in place with gauze or a non-absorbable dressing.
3. Deep Somatic Bone Pain		
Bisphosphonates - bone modifying agent		
Clodronate	900 mg IV every 4 weeks	Adverse effects include: osteonecrosis of the jaw, renal impairment, or hypocalcemia. Transient mild flu-like symptoms for 1 to 2 days may occur after administration. Monitor renal function and calcium with each treatment. <u>Dental review is necessary before initiation.</u> Use with extreme caution in renal impairment, dose adjustment required.
	1600 to 2400 mg PO daily	
Pamidronate	60 to 90 mg IV every 3 to 4 weeks	
Zoledronic Acid	4 mg IV every 4 weeks	
Monoclonal Antibody - bone modifying agent		
Denosumab	120 mg SC every 4 weeks	Monitor calcium levels prior to administration. <u>Dental review is necessary before initiation.</u> No dose adjustment required for renal impairment.
4. Deep Somatic Soft Tissue Pain		
Skeletal Muscle Relaxant		
Diazepam	2 to 10 mg PO at night	Useful for painful muscle spasm. Adverse effects include drowsiness and ataxia. Caution in elderly patients.

Medications for management of pain based on type of pain continued on [next page](#)

MEDICATIONS FOR MANAGEMENT OF PAIN BASED ON TYPE OF PAIN *CONTINUED*

Drug, Action	Dose, Therapeutic Range ⁷³	Onset, Adverse Effects, Precautions and Dosing Concerns ⁷³⁻⁷⁵
Baclofen	5 mg PO q12h or q8h	Start at 5 mg daily and increase to 15 mg daily in divided doses. Maximum recommended dose 100 mg daily. Monitor liver function tests periodically. Abrupt cessation associated with seizures. Adverse effects include drowsiness.
Tizanidine	2 to 8 mg PO q8h or q6h	Start at 2 mg daily and increase by 2 mg every 3 to 4 days according to response. Maximum recommended total daily dose 36 mg.
5. Visceral Pain		
Anticholinergics		
Hyoscine butylbromide	20 mg SC q6h	Monitor for peripheral antimuscarinic effects which may include: blurred vision, dry mouth, constipation and urinary retention. Does not cross the blood brain barrier; therefore, does not cause sedation. Maximum recommended total daily dose 300 mg.
	60 to 120 mg CSCI daily	
6. Neuropathic Pain		
Antidepressants		First line for neuropathic pain
TCAs		Starting dose 10 to 25 mg at bedtime. Titrate slowly every 3 to 7 days by 10 to 25 mg as tolerated. Target therapeutic dose range 75 to 150 mg daily. Monitor for anticholinergic effects: drowsiness, constipation, dry mouth, urinary retention. Avoid if poor cardiac function, severe prostatic hypertrophy, or glaucoma. Positive effects on mood and sleep may be desirable.
Amitriptyline	75 to 150 mg PO at bedtime	
Nortriptyline	75 to 150 mg PO at bedtime	
SNRIs		Safer and better tolerated than TCAs, but limited evidence of analgesic efficacy. Initiate venlafaxine at 37.5 mg daily for one week.
Duloxetine	60 to 120 mg PO daily	
Venlafaxine	75 to 225 mg PO daily	

Medications for management of pain based on type of pain continued on [next page](#)

MEDICATIONS FOR MANAGEMENT OF PAIN BASED ON TYPE OF PAIN *CONTINUED*

Drug, Action	Dose, Therapeutic Range ⁷³	Onset, Adverse Effects, Precautions and Dosing Concerns ⁷³⁻⁷⁵
Anticonvulsants		First line for neuropathic pain
Gabapentin	300 to 800 mg PO every q8h to q6h	Starting dose 100 to 300 mg at bedtime. Titrate slowly every 1 to 7 days by 100 to 300 mg as tolerated. Target therapeutic dose ranges from 900 to 3600 mg daily in 3 to 4 divided doses. <u>An adequate trial should include 1 to 2 weeks at the maximum-tolerated dose.</u> Monitor for somnolence, dizziness, and ataxia. Slower titration for the elderly or medically frail. Dose adjustment required for those with renal insufficiency.
Pregabalin	150 to 300 mg PO q12h	Starting dose 75 mg twice daily. Titrate slowly every 3 to 7 days. Target therapeutic dose ranges from 50 to 150 mg daily in divided doses. Monitor for somnolence, dizziness, and ataxia. Slower titration for the elderly or medically frail. Dose adjustment required for those with renal impairment.
<i>Analgesic Adjuvants for Consideration AFTER Specialist Consultation</i>		
NMDA Blockers		Second line for neuropathic pain
Ketamine	10 to 50 mg PO q8h to q6h	Starting dose 10 to 25 mg q8h. Titrate in steps of 10 to 25 mg up to a maximum dose of 200 mg q6h.
	100 to 500 mg CSCI daily	Start with 100 mg over 24 hours. Increase after 24 hours to 300 mg over 24 hours and further increase to 500 mg over 24 hours if ineffective. Stop 3 days after last dose increment. Monitor for psychomimetic effects. Treat dysphoria with haloperidol, diazepam or midazolam.

Pain extra resources or assessment tools continued on [next page](#)

MEDICATIONS FOR MANAGEMENT OF PAIN BASED ON TYPE OF PAIN *CONTINUED*

Drug, Action	Dose, Therapeutic Range ⁷³	Onset, Adverse Effects, Precautions and Dosing Concerns ⁷³⁻⁷⁵
Local Anesthetic		Second line for neuropathic pain
Lidocaine	5 to 12.5 mg per kg over 120 minutes IV or SC every 2 weeks OR by continuous infusion	Use with caution in patients with cardiac failure. Dose adjustment required in hepatic or renal impairment.

† Off-label. PO = by mouth IV = Intravenous, SC = Subcutaneous, TID = three times daily, QID = four times daily ODT = oral dissolving tablet CSCI = continuous subcutaneous infusion.

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

PAIN MANAGEMENT ALGORITHM

No management algorithm included in this document; however, [Underlying Causes of pain in Palliative Care](#) – Underlying Causes of Pain in Palliative Care contains possible treatments based on cause.

PAIN EXTRA RESOURCES OR ASSESSMENT TOOLS

Body map

→ https://scripts.glosnhs.net/mpqreferralform/body_Pain.htm

Visual analogue scale (VAS)

→ http://pearlklein.com/wp-content/uploads/2017/03/Pain_scale.jpg

Pain extra resources or assessment tools continued on [next page](#)

PAIN EXTRA RESOURCES OR ASSESSMENT TOOLS

CONTINUED

The Opioid Risk Tool

- <http://www.viha.ca/NR/rdonlyres/8AF0014E-06D5-4D1A-B922-BD3F985C9B00/0/201011038RiskToolOpioidRiskToolClinicianForm.pdf>

Patient pain diary

- http://www.virtualhospice.ca/Assets/CVH%20Symptom%20Diary_20090429144800.pdf

Response to Common Misconceptions About Opioid Analgesics^{24, 72}

Patient/Family Fears and Misconceptions	Possible Healthcare Professional Responses
Fear of Addiction	<p>Opioid addiction in patients with cancer related-pain patients is extremely rare.^{79, 80}</p> <p>If opioids are abruptly discontinued, a physical withdrawal reaction may occur. This is a normal physiological reaction, not a sign of addiction. This can be prevented by gradually tapering off the medication.</p>
Fear of Side Effects	<p>Drowsiness, nausea and constipation commonly occur with the use of opioids. These side effects will be addressed while the pain is being managed.</p> <p>Drowsiness and/or nausea may develop when opioids are started or when the opioid dose is increased, but usually resolves within 3 to 5 days.</p> <p>Constipation will always occur and needs to be anticipated, pro-actively managed, and assessed on an ongoing basis.</p>
Fear it Won't Be Effective When The Pain Becomes Worse	<p>This concern is without any scientific or medical basis. Opioids can be used with good effect for as long as they are needed, and the dose can be adjusted to whatever level is needed for pain relief. The best way to manage pain is to control it early.</p>
Fear of Tolerance	<p>For many patients, their opioid dose remains stable over long periods of time.⁸¹⁻⁸⁴</p>

Pain extra resources or assessment tools continued on [next page](#)

PAIN EXTRA RESOURCES OR ASSESSMENT TOOLS

CONTINUED

Patient/Family Fears and Misconceptions	Possible Healthcare Professional Responses
Fear People Will Think You Are 'Giving Up'	<p>Patients with pain that is well controlled are more likely to be able to manage other aspects of their illness and enjoy a better quality of life.</p> <p>Pain is also easier to control if it is treated promptly, so it is important that pain is treated as soon as possible.</p>
Opioids Hasten Death	<p>Studies show that good pain management using opioids has actually improved not only quality but also length of life.⁸⁴⁻⁸⁸</p>
Fear About Personal Limitations.	<p>For non-commercial driving in Canada, taking opioids does not mean that you can no longer drive. The decision about whether it is safe to drive is left to the individual. If the dose of opioid has been stable and drowsiness is not a problem, then driving is allowed; if there is drowsiness from the medications, if your dose is being titrated upward due to increased pain, then it is not safe to drive.</p>

Pasero Opioid-Induced Sedation Scale (POSS)⁷⁸

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

PAIN REFERENCES

1. Caraceni A, Cherny N, Fainsinger R, Kaasa S, Poulain P, Radbruch L, et al. Pain measurement tools and methods in clinical research in palliative care: recommendations of an Expert Working Group of the European Association of Palliative Care. *J Pain Symptom Manage*. 2002;23(3):239-55.
2. Pasero C, McCaffery M. Pain assessment and pharmacologic management. Canada: Elsevier; 2011.
3. Ripamonti CI, Bandieri E, Roila F. Management of cancer pain: ESMO clinical practice guidelines. *Annals of Oncology*. 2011;22(SUPPL. 6):69-77.
4. Grond S, Zech D, Diefenbach C, Bischoff A. Prevalence and pattern of symptoms in patients with cancer pain: a prospective evaluation of 1635 cancer patients referred to a pain clinic. *J Pain Symptom Manage*. 1994;9(6):372-82.
5. Romem A, Tom SE, Beauchene M, Babington L, Scharf SM, Romem A. Pain management at the end of life: A comparative study of cancer, dementia, and chronic obstructive pulmonary disease patients. *Palliat Med*. 2015;29(5):464-9.
6. Ventafridda V, Tamburini M, Caraceni A, De Conno F, Naldi F. A validation study of the WHO method for cancer pain relief. *Cancer*. 1987;59(4):850-6.
7. Walker VA, Hoskin PJ, Hanks GW, White ID. Evaluation of WHO analgesic guidelines for cancer pain in a hospital-based palliative care unit. *J Pain Symptom Manage*. 1988;3(3):145-9.
8. Goisis A, Gorini M, Ratti R, Luliri P. Application of a WHO protocol on medical therapy for oncologic pain in an internal medicine hospital. *Tumori*. 1989;75(5):470-2.
9. Schug SA, Zech D, Dorr U. Cancer pain management according to WHO analgesic guidelines. *J Pain Symptom Manage*. 1990;5(1):27-32.
10. Zech DF, Grond S, Lynch J, Hertel D, Lehmann KA. Validation of World Health Organization Guidelines for cancer pain relief: a 10-year prospective study. *Pain*. 1995;63(1):65-76.
11. Grond S, Radbruch L, Meuser T, Sabatowski R, Loick G, Lehmann KA. Assessment and treatment of neuropathic cancer pain following WHO guidelines. *Pain*. 1999;79(1):15-20.
12. Meuser T, Pietruck C, Radbruch L, Stute P, Lehmann KA, Grond S. Symptoms during

Pain references continued on [next page](#)

PAIN REFERENCES *CONTINUED*

- cancer pain treatment following WHO-guidelines: a longitudinal follow-up study of symptom prevalence, severity and etiology. *Pain*. 2001;93(3):247-57.
13. Caraceni A, Martini C, Zecca E, Portenoy RK, Ashby M, A., Hawson G, et al. Breakthrough pain characteristics and syndromes in patients with cancer pain. An international survey. *Palliat Med*. 2004;18(3):177-83.
 14. World Health Organisation. *Cancer pain relief and palliative care*. 2nd ed. Geneva: World Health Organisation; 1996.
 15. Te Boveldt N, Vernooij-Dassen M, Burger N, Ijsseldijk M, Vissers K, Engels Y. Pain and its interference with daily activities in medical oncology outpatients. *Pain Physician*. 2013;16(4):379-89.
 16. Serlin RC, Mendoza TR, Nakamura Y, Edwards KR, Cleeland CS. When is cancer pain mild, moderate or severe? Grading pain severity by its interference with function. *Pain*. 1995;61(2):277-84.
 17. Lynn J, Ely EW, Zhong Z, McNiff KL, Dawson NV, Connors A, et al. Living and dying with chronic obstructive pulmonary disease. *J Am Geriatr Soc*. 2000;48(5 Suppl):S91-100.
 18. Melzack R. The tragedy of needless pain. *Scientific American*. 1990;262(2):27-33.
 19. United Nations: The International Covenant on Economic, Social and Cultural Rights. 1966 [Available from: <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx>].
 20. International Association for the study of Pain. *Pain Clinical Updates*. Pain relief as a human right. 2004 [Available from: <http://www.iasp-pain.org/>].
 21. Horgas A, Miller L. Pain assessment in people with dementia. *The American journal of nursing*. 2008;108(7):62-70; quiz 1.
 22. Warden V, Hurley AC, Volicer L. Development and psychometric evaluation of the Pain Assessment in Advanced Dementia (PAINAD) scale. *J Am Med Dir Assoc*. 2003;4(1):9-15.
 23. National Comprehensive Cancer Network. *NCCN Practice Guidelines for Adult Cancer Pain*. Version 2: NCCN; 2014 [Available from: <http://williams.medicine.wisc.edu/pain.pdf>].

Pain references continued on [next page](#)

PAIN REFERENCES *CONTINUED*

24. [Available from: http://www.virtualhospice.ca/en_US/Main+Site+Navigation/Home/Topics/Topics/Symptoms+_+Health+Concerns/Pain.aspx.
25. Potter J, Hami F, Bryan T, Quigley C. Symptoms in 400 patients referred to palliative care services: prevalence and patterns. *Palliat Med*. 2003;17(4):310-4.
26. Cleeland CS, Gonin R, Hatfield AK, Edmonson JH, Blum RH, Stewart JA, et al. Pain and its treatment in outpatients with metastatic cancer. *The New England journal of medicine*. 1994;330(9):592-6.
27. de Wit R, van Dam F, Zandbelt L, van Buuren A, van der Heijden K, Leenhouts G, et al. A pain education program for chronic cancer pain patients: follow-up results from a randomized controlled trial. *Pain*. 1997;73(1):55-69.
28. Paice J. Pain at the end of life. In: Ferrell B, Coyle N, editors. *Oxford textbook of palliative nursing* 2010. p. 161-85.
29. Donovan MI, Evers K, Jacobs P, Mandleblatt S. When there is no benchmark: designing a primary care-based chronic pain management program from the scientific basis up. *J Pain Symptom Manage*. 1999;18(1):38-48.
30. Adult Cancer Pain: National Comprehensive Cancer Network; 2017 [Available from: www.NCCN.org.
31. Canadian Council on Health Services Accreditation. *Hospice Palliative and End-of-Life Care Standards*. 2nd ed: Canadian Council on Health Services Accreditation Program; 2006. p. 15-6.
32. RNAO Clinical Practice Guidelines: Pain: Assessment and Management. 2013 [3rd [Available from: <http://rnao.ca/bpg/guidelines/assessment-and-management-pain>.
33. Black F, Downing G. Pain- Principles and Titration. In: Downing G, Wainwright W, editors. *Medical Care of the Dying*. 4th ed. Victoria, BC, Canada: Victoria Hospice Society, Learning Centre for Palliative Care.; 2006.
34. Gordon DB, Dahl JL, Miaskowski C, McCarberg B, Todd KH, Paice JA, et al. American pain society recommendations for improving the quality of acute and cancer pain management: American Pain Society Quality of Care Task Force. *Arch Intern Med*. 2005;165(14):1574-80.

Pain references continued on [next page](#)

PAIN REFERENCES *CONTINUED*

35. Christo PJ, Mazloomdoost D. Cancer pain and analgesia. *Annals of the New York Academy of Sciences*. 2008;1138:278-98.
36. Fine P. Principles of effective pain management at the End of Life. 2006 [Available from: <http://www.medscape.com/viewprogram/6079>].
37. Ward SE, Goldberg N, Miller-McCauley V, Mueller C, Nolan A, Pawlik-Plank D, et al. Patient-related barriers to management of cancer pain. *Pain*. 1993;52(3):319-24.
38. Garcia-Toyos N, Escudero-Carretero MJ, Sanz-Amores R, Guerra-De Hoyos JA, Melchor-Rodriguez JM, Tamayo-Velazquez MI. Preferences of caregivers and patients regarding opioid analgesic use in terminal care. *Pain Med*. 2014;15(4):577-87.
39. Scottish Palliative Care Guidelines: Pain Management: NHS Scotland; 2017 [Available from: <http://www.palliativecareguidelines.scot.nhs.uk/guidelines/pain/pain-management.aspx>]
40. Methadone for Analgesia Guidelines: College of Physicians and Surgeons of British Columbia; 2016 [Available from: <https://www.cpsbc.ca/programs/drug-programs/mmp/methadone-analgesia>].
41. Safe Prescribing of Drugs with Potential for Misuse/Diversion: College of Physicians and Surgeons of British Columbia; 2016 [Available from: www.cpsbc.ca].
42. DeGroot M. Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non- Cancer Pain. Appendix B-2: Opioid Risk Tool. [Available from: http://nationalpaincentre.mcmaster.ca/opioid/cgop_b_app_b02.html].
43. Teater D. Evidence for the efficacy of pain medications.: National Safety Council; [Available from: www.nsc.org].
44. Principles of Opioid Management: Fraser Health; 2016 [Available from: <http://www.fraserhealth.ca/health-professionals/professional-resources/hospice-palliative-care/>]
45. Pharmacological Management of Cancer Pain in Adults: An Roinn Slainte. Department of Health; 2015 [Available from: <http://health.gov.ie/wp-content/uploads/2016/01/Pharma-Mgmt-Cancer-Pain.pdf>].

Pain references continued on [next page](#)

PAIN REFERENCES *CONTINUED*

46. Portenoy R, Mehta Z, Ahmed E. Cancer pain management with opioids: optimizing analgesia: UpToDate; 2017 [Available from: www.uptodate.com].
47. Straube C, Derry S, Jackson KC, Wiffen PJ, Bell RF, Strassels S, et al. Codeine, alone and with paracetamol (acetaminophen), for cancer pain. Cochrane Database of Systematic Reviews. 2016;6.
48. Wiffen PJ, Derry S, Moore AR. Impact of morphine, fentanyl, oxycodone or codeine on patient consciousness, appetite and thirst when used to treat cancer pain. Cochrane Database of Systematic Reviews. 2015;1.
49. Kennedy B. PANBC conference: “climbing the Mountains of Safe Patient Care” : T3’s not for me: PeriAnesthesia Nursing Association of British Columbia; 2012 [Available from: <https://panbc.ca/past-panbc-conferences/>].
50. Muir JC, Scheffey C, Young HM, Vilches AO, Davis MS, Connor SR. Opioid prescribing practices before and after initiation of palliative care in outpatients. J Pain Symptom Manage. 2013;45(6):1107-11.
51. Bandieri E, Romero M, Ripamonti CI, Artioli F, Sichetti D, Fanizza C, et al. Randomized Trial of Low-Dose Morphine Versus Weak Opioids in Moderate Cancer Pain. J Clin Oncol. 2016;34(5):436-42.
52. Wiffen PJ, Wee B, Moore AR. Oral morphine for cancer pain. Cochrane Database of Systematic Reviews. 2016;4.
53. Bao YJ, Hou W, Kong XY, Yang L, Xia J, Hua BJ, et al. Hydromorphone for cancer pain. Cochrane Database of Systematic Reviews. 2016(10).
54. Schmidt-Hansen M, Bennett MI, Arnold S, Bromham N, Hilgart JS. Oxycodone for cancer-related pain. Cochrane Database of Systematic Reviews. 2015;2.
55. Branford R, Wighton E, Ross J. Principles of drug therapy: focus on opioids. 2015. In: Oxford Textbook of Palliative Medicine [Internet]. Oxford Medicine Online. 5th edition. [1-14].
56. Palliative Care for the Patient with Incurable Cancer or Advanced Disease. Pain and Symptom Management. Part 2 : 2017 [Available from: www.BCGuidelines.ca].
57. Fallon M, Cherny N. Opioid therapy: optimizing analgesic outcomes. 2015. In: Oxford Textbook of Palliative Medicine [Internet]. Oxford University Press. 5th edition. [1-45].

Pain references continued on [next page](#)

PAIN REFERENCES *CONTINUED*

58. End-of-life care: moving towards the ideal. *Aging Successfully*. 2006;16(1):12-3 2p.
59. Portenoy R, Mehta Z, Ahmed E. Cancer pain management with opioids: Prevention and management of side effects. 2017 [Available from: www.uptodate.com].
60. Lussier D, Portenoy R. Adjuvant analgesics. In: Cherny N FM, Kaasa S, Portenoy RK, Currow DC., editor. *Oxford Textbook of Palliative Medicine*. 5th ed: Oxford University Press; 2015. p. 1-26.
61. Shinde S, Gordon P, Sharma P, Gross J, Davis MP. Use of non-opioid analgesics as adjuvants to opioid analgesia for cancer pain management in an inpatient palliative unit: does this improve pain control and reduce opioid requirements? *Support Care Cancer*. 2015;23(3):695-703.
62. Lussier D, Huskey AG, Portenoy RK. Adjuvant analgesics in cancer pain management. *Oncologist*. 2004;9(5):571-91.
63. van den Beuken-van Everdingen MH, de Graeff A, Jongen JL, Dijkstra D, Mostovaya I, Vissers KC. Pharmacological Treatment of Pain in Cancer Patients: The Role of Adjuvant Analgesics, a Systematic Review. *Pain practice : the official journal of World Institute of Pain*. 2017;17(3):409-19.
64. Sindrup SH, Jensen TS. Pharmacotherapy of trigeminal neuralgia. *Clin J Pain*. 2002;18(1):22-7.
65. Davis M, Goforth H, Gamier P. Palliative Cancer Pain. In: Hayek S, Shah B, Desai M, Chelimsky T, editors. *Pain Medicine: An Interdisciplinary Case-Based Approach*: Oxford University Press; 2015.
66. Davies AN, Dickman A, Reid C, Stevens AM, Zeppetella G. The management of cancer-related breakthrough pain: recommendations of a task group of the Science Committee of the Association for Palliative Medicine of Great Britain and Ireland. *European journal of pain (London, England)*. 2009;13(4):331-8.
67. Tawfik M. Osseous metastasis with incident pain. 2010. In: *Guide to pain management in low-resource settings* [Internet]. Seattle: International Association for the Study of Pain. Available from: <http://www.iasp-pain.org/>.
68. Scottish Intercollegiate Guidelines Network: Control of pain in adults with cancer, a national clinical guideline. Edinburgh2008 [Available from: www.palliativecareggc.org.uk/uploads/file/guidelines/SIGN106.pdf]

Pain references continued on [next page](#)

PAIN REFERENCES *CONTINUED*

69. Cited 2017. Available from: www.breakthroughcancerpain.org/en/classification.
70. Portenoy R, K., Dhingra L, K. . Assessment of cancer pain 2017 [cited 2017 Feb 21st]. Available from: www.uptodate.com.
71. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. American Psychiatric Association 2013.
72. O' Leary MJ, Mcleod B, Chen C, Macpherson N, Kennedy B, Roberts D. Fraser Health Authorship: Pain guideline 2014.
73. Twycross R, Wilcock A, Dean M, Kennedy B. Palliative Care Formulary. Canadian Edition.: Palliativedrugs.com; 2010.
74. Gallagher HC, Gallagher RM, Butler M, Buggy DJ, Henman MC. Venlafaxine for neuropathic pain in adults. Cochrane Database Syst Rev. 2015(8):Cd011091.
75. Endocrine system. Corticosteroids. British National Formulary. 4th ed. London, UK.
76. National Guideline C. Pain management in older adults. In: Evidence-based geriatric nursing protocols for best practice. 2012.
77. Koshy A. Palliative Care and Symptom Management in Older Patients with Cancer. Clinics in Geriatric Medicine. 2016;32(1):45-62.
78. Pasero C. Assessment of sedation during opioid administration for pain management. Journal of PeriAnesthesia Nursing. 2009;24(3):186-90.
79. Friedman DP. Perspectives on the medical use of drugs of abuse. J Pain Symptom Manage. 1990;5(1 Suppl):S2-5.
80. Physical dependency nor addiction are significant problems in the management of cancer patients. American Pain Society Principles of analgesic use in the treatment of cancer pain. Skokie, IL 1992.
81. Arnér S, Rawal N, Gustafsson LL. Clinical experience of long-term treatment with epidural and intrathecal opioids – a nationwide survey. Acta Anaesthesiologica Scandinavica. 1988;32(3):253-9.
82. Brescia FJ, Portenoy RK, Ryan M, Krasnoff L, Gray G. Pain, opioid use, and survival in hospitalized patients with advanced cancer. J Clin Oncol. 1992;10(1):149-55.

Pain references continued on [next page](#)

83. Gourlay GK, Plummer JL, Cherry DA, Onley MM, Parish KA, Wood MM, et al. Comparison of intermittent bolus with continuous infusion of epidural morphine in the treatment of severe cancer pain. *Pain*. 1991;47(2):135-40.
84. Schug SA, Zech D, Grond S, Jung H, Meuser T, Stobbe B. A long-term survey of morphine in cancer pain patients. *J Pain Symptom Manage*. 1992;7(5):259-66.
85. Bakker J, Jansen TC, Lima A, Kompanje EJ. Why opioids and sedatives may prolong life rather than hasten death after ventilator withdrawal in critically ill patients. *Am J Hosp Palliat Care*. 2008;25(2):152-4.
86. Hinnant DC. Do opioids hasten death? *The American journal of nursing*. 1995;95(4):61-2.
87. Sykes N, Thorns A. The use of opioids and sedatives at the end of life. *The Lancet Oncology*. 2003;4(5):312-8.
88. Gallagher R. Killing the symptom without killing the patient. *Can Fam Physician*. 2010;56(6):544-6.
89. Tayler C., McLeod B. Linking nursing pain assessment, decision-making and documentation. *Canadian Journal of Oncology Nursing*. 2001;11(1):28-32.
90. Health F. Symptom Guidelines: Hospice Palliative Care, Clinical Practice Committee; 2006 [Available from: <http://www.fraserhealth.ca/health-professionals/professional-resources/hospice-palliative-care/>]