BC Centre for Palliative Care

B.C. INTER-PROFESSIONAL PALLIATIVE SYMPTOM MANAGEMENT GUIDELINES

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Every person matters

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BC Centre for Palliative Care

CONSTIPATION

CONSTIPATION

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CONSTIPATION

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DEFINITION

Constipation is the difficult passage of stools, less frequent than normal for the individual.[1-3] It includes straining, a sensation of incomplete evacuation, and stool consistency that ranges from small, hard lumps to a large bulky mass. It may cause discomfort or pain.[2, 4-6, 8] **Diarrhea** is the passage of 3 or more loose stools a day, with urgency. Careful clarification is required to determine diagnosis since reports of diarrhea may include: as a single loose stool, frequent small stools, fecal incontinence, or liquid bypassing due to impaction.[9-13]

PREVALENCE

Constipation is a significant problem in the palliative care population[14, 15] affecting 41% of non-cancer patients,[16] 30-50% of patients with cancer,[17-19] and 35-70%, and as high as 87-90%[6,20] of patients using opioids.[21-27] It is more common in women and affects 24-50% of the elderly.[28-40] Constipation increases as normal overall function decreases and burden of disease increases.[41] **Diarrhea** is not common in palliative care, affecting less than 10% of cancer patients admitted to hospice or hospital.[10]

IMPACT

Constipation causes significant suffering through physical symptoms such as abdominal distention, anorexia, nausea and vomiting, halitosis, abdominal and rectal pain, as well as psychological distress leading to headaches, agitation[80] and delirium.[1] Up to 1/3 of patients modify opioid use to avoid constipation.[42-45] In older adults, constipation is associated with fecal impaction and/or fecal incontinence,[46] which may be mistaken as diarrhea. This is an embarrassing, distressing and exhausting symptom for both the patient and family, and impacts dignity, mood and relationships.[6, 9, 10] Fecal impaction can also cause urinary retention,[47-49] painful fissures, ulceration, bleeding and anemia.[5]

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 constipation**) 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

Constipation Assessment: Using Mnemonic O, P, Q, R, S, T, U and V[50]

Mnemonic Letter	**Assessment Questions** [1, 3, 6, 9, 10, 14, 15, 50, 51] *Whenever possible, ask the patient directly. Involve family as appropriate and desired by the patient.*
Onset	When did it begin? How long does it last? How often does it occur? When was your last bowel movement?
Provoking /Palliating	What brings it on? What makes it better? What makes it worse? What is your appetite like? How is your daily intake of food and fluids? How is your mobility? Do you need help to the bathroom/commode? When toileting? Do you have enough privacy? Do you have pain or any other problems?
Quality	What is your normal bowel pattern? Are your bowel movements (BM) less frequent than usual? What do the stools look like? Are they smaller or harder than usual? Do you have discomfort or strain when passing stool? Is there controllable urge or sensation, prior to BM? Are you able to empty you bowels completely when desired? Do you have stool leakage or incontinence?
Region/Radiation	Not applicable

Constipation Assessment: Using Mnemonic O, P, Q, R, S, T, U and V *continued*

Severity	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?
Treatment	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?
Understanding	What do you believe is causing this symptom? How is it affecting you and/or your family? What is most concerning to you? Do you get any other symptoms: pain, nausea/vomiting, loss of appetite, bloating, gas, blood or mucous in stools, headaches or agitation? Do you have any urinary problems? Do you have any previous trauma which may impact how we manage your bowel movements (e.g., rectal interventions may re-traumatize people with past abuse)? How can we make sure you feel safe and respected? Are you worried about incontinence?
Values	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

Conduct a detailed history and physical examination, including a rectal or stomal exam.[1, 10, 52-54] Review medications, medical/surgical conditions, psychosocial and physical environment.[10, 50, 52] **Differentiate fecal impaction with liquid stool bypass from diarrhea.**[10] Further investigations should be tailored to patient prognosis, goals of care, access to health-care resources, and the potential benefits of a precise diagnosis.[14]

Diagnostics: consider goals of care before ordering diagnostic testing

- Blood tests are rarely needed but, depending on clinical presentation, CBC, electrolytes, calcium and thyroid function should be evaluated.[10, 55]
- If obstruction is suspected, X-ray to determine if partial or complete, high or low.[10, 52, 56]

Step 3 | Determine possible causes and reverse as possible if in keeping with goals of care (For more details, see **Underlying causes of constipation in palliative care**)

Constipation is often multifactorial in persons with advanced disease.[10, 14, 46, 57] Predisposing risk factors are many (see **Underlying causes of constipation in palliative care**); most common include: older age, reduced intake, immobility, advanced disease, and use of anticholinergic and/or opioid medications.[10, 57, 58] Opioids are a significant, but not exclusive, cause of constipation[41]; therefore, focus should be broader than this single cause.[57]

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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?)

- Prevention of constipation is key when risk factors exist (e.g., opioids, decreased intake, decreased physical activity).
- Increase and monitor fluids, dietary fibre, and physical activity, as tolerated.[6, 10, 50]
- Identify and correct modifiable risk factors.[6, 7, 10, 59]
- Discontinue fiber in debilitated patients if unable to maintain hydration, or when bowel obstruction is suspected.[3, 52]
- Anticipate constipating effects of opioids and ensure a prophylactic laxative[15, 60] unless bowel obstruction or diarrhea.[1, 41, 55, 59-61]
- Oral measures are preferred and reduce need for rectal interventions.[2, 10]
- Regularly monitor bowel pattern and patient satisfaction to adjust to desired effect.[1, 7]
- Use practice tools to improve management: checklists, laxative protocols, audits.[2, 3, 59, 62-64]
- Involve interdisciplinary team.[59] Consider personal, psychosocial and cultural perspectives.[6]
- Constipation is often progressively more challenging over time in end-of-life patients.

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

Interventions available in the home and residential care facilities

It may be possible to manage constipation in the home or residential care facility with appropriate planning and support for the patient, family and staff; all of these interventions do not necessarily require additional equipment or admission to acute care.

 **Encourage** hydration, fibre intake and mobility, **as tolerated**[3, 14, 52, 82]

 **Wheat bran and prunes** improve bowel function,[64] as tolerated.

- Refer to **physiotherapy and/or OT** for appropriate exercise and mobility supports[10] as immobility may be more constipating than opioids.[14, 59, 83]
- **Biofeedback training** with physiotherapist may also benefit.[65]
- **Avoid use of bedpans.**[14, 84] Ensure privacy, personal preference, promote independence and convenience during toileting.[3, 52, 69, 85, 86]
- There is little or no empirical evidence for other complementary approaches.[10]
- Probiotics, have some evidence of benefit in constipation,[80] but may also harm.[87] Avoid use in severely ill or immunocompromised patients.[88]

Pharmacological interventions

ORAL LAXATIVES ARE FIRST-LINE THERAPY FOR CONSTIPATION

Recommended first-line oral laxatives: Sennosides, Lactulose, Polyethylene Glycol

- Effectiveness of each appears similar based on expert opinion[79, 89]; therefore, seek patient preferences.[10, 15, 90, 91] Other factors impacting selection will include: cost, patient performance status, tolerance to effects, and ability to swallow.[2, 3, 58] **See Medications for management of constipation for more information about medications for management.**
- Opioid-induced constipation (OIC): the constipating effects of opioids are persistent. When opioids are started, **prophylactic laxatives are usually required**, and should be continued for the duration of opioid use.[15, 60]
- Sennosides may be the most useful single laxative when an opioid is prescribed.[6, 10, 52, 63, 90.92.93]
- A combination of a stimulant (e.g., sennosides), plus an osmotic laxative to moisturize and to soften stool (e.g., lactulose or polyethylene glycol (PEG)) may be required, particularly for opioid-induced constipation.[2, 6, 15, 60, 62]
- Use a stepwise approach, starting with simple, economical laxatives.[14] **See the Constipation and bowel obstruction management algorithm.**

Titration of Oral Laxatives

- Titrate laxative doses **every 1 to 2 days** according to response.[10, 15, 59]
- Once current regimen satisfactory and well tolerated, continue with it, reviewing regularly with the patient; explain importance of preventing constipation.[1]
- As the dose of opioids increases, the dose of laxatives often needs to increase, with dosing twice daily (breakfast/bedtime) or even three times daily,[6, 90] up to the maximum recommended or tolerable.[15, 90, 94, 95]
- The proportional dose of stimulant versus osmotic laxative is guided by stool consistency and tolerance.

  If faecal leakage: reduce the dose of the osmotic laxative.[2, 90] If colic (usually alongside hard stools): increase the osmotic laxative relative to the stimulant,[2] and/or divide the total stimulant daily dose into smaller, more frequent doses.[63]
- Evaluate patient tolerance and adverse effects from laxatives. **Refer to Constipation and bowel obstruction management algorithm.**
- Resolve diarrhea from laxatives by holding drugs for 1 to 2 days; restart at a lower dose.[96]
- Stop oral laxatives in the last few days of life when patients are no longer able to receive medication and their level of consciousness diminishes. Rectal care then is rare. [2, 59, 96]

Use of Rectal Measures: When Standard Oral Laxatives are Unsuccessful

Rectal Interventions (suppository, enema, manual extraction) should be used infrequently.[6] **See Constipation and bowel obstruction management algorithm and Constipation and bowel obstructions extra resources or assessment tools for further rectal measures information.**

Refractory Constipation: When Standard Optimum Oral and Rectal Measures are Unsuccessful

- Consult a palliative care specialist for refractory opioid-induced constipation or for specific, complex patient needs including spinal cord compression and cognitive impairment.[2, 59]
- When OIC suspected, and response to other standard measures is inadequate, opioid antagonists (e.g., methylnaltrexone, naloxegol) may be suitable with specialist advice.[2] Use only after failure of standard laxative therapy, to augment, not replace laxatives.[63] **See Constipation and bowel obstruction management algorithm for more information.**[97, 98]

Patient and family education

- Explain normal bowel function; this varies from person to person.[67]
- A daily bowel movement is not necessary. As long as stools are soft and easy to pass, [68, 69] every 2 to 3 days is acceptable[70, 71]
- Don't ignore the urge to have a bowel movement. Try within 30 to 60 minutes following a meal, when the gastro colic reflex commonly occurs. [11, 72-74]
- Avoid excess straining as this may be harmful in some medical conditions.[11, 64, 72]
- Toilet in sitting position with use of a raised toilet seat, foot stool or bedside commode.
- Privacy during toileting[11, 13, 22, 72, 73, 75, 76] helps reduce anxiety/aids relaxation.
- Advance pain control helps improve comfort and mobility.[11, 64, 72]
- Teach how to differentiate between oozing stool and diarrhea.

Teach constipation prevention

- Increase fluids, dietary fibre, and mobility as tolerated; this is less possible over time.
- Nutritional liquids, milkshakes, cream soups, fruit juices may aid appetite/ activity.[67]
- A fruit laxative can be made with prunes, dates, figs and raisins.[70, 72]
- When oral intake and mobility are reduced, avoid extra fibre.[3, 11, 13, 22, 73, 75, 77, 78] A laxative may be needed.
- Patients on opioids for symptom control will need a stimulant laxative from the start of opioids to prevent ongoing constipating effects.[10, 14, 25, 57, 79, 80] (Medications for management of constipation)
- Healthcare providers can help choose the laxative type most suited to individual needs.

Explain in advanced illness

- Since the body continues to produce 1 to 2 ounces of stool per day, even if no oral intake,[81] a laxative may still be needed. It can be stopped in the last days of life.

ADDITIONAL RESOURCES FOR MANAGEMENT OF CONSTIPATION

Resources specific to constipation

- ALS of Canada fact sheet on constipation

  https://www.als.ca/wp-content/uploads/2017/04/ALSCAN-Constipation. pdf

- BC Guidelines: Constipation

  http://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bc-guidelines/palliative2_constipation.pdf

- BC Cancer Agency: Constipation

  http://www.bccancer.bc.ca/nursing-site/Documents/3.%20Constipation. pdf

- HealthLink BC: Managing Constipation in Adults with Diet

  https://www.healthlinkbc.ca/healthlinkbc-files/constipation-adults

- BC Cancer Agency: Patient handout with suggestions for dealing with constipation

  http://www.bccancer.bc.ca/family-oncology-network-site/Documents/SuggestionsforDealingwithConstipation.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

  https://www.bc-cpc.ca/cpc/serious-illness-conversations/

- 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

  https://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: Algorithms for Cancer-related Distress, Depression and Global Anxiety

  https://www.capo.ca/resources/Documents/Guidelines/4.%20Algorithms%20for%20Cancer-related%20Distress,%20Depression%20and%20Global%20Anxiety.pdf

- Fraser Health psychosocial care guideline

  https://www.fraserhealth.ca/employees/clinical-resources/hospice-palliative-care#.W-by_pNKg2w

Resources specific to health organization/region

- Fraser Health

  https://www.fraserhealth.ca/employees/clinical-resources/hospice-palliative-care#.XDU8UFVKjb1

- First Nations Health Authority

  http://www.fnha.ca/

- Interior Health

  https://www.interiorhealth.ca/YourCare/PalliativeCare/Pages/default.aspx

- Island Health

  https://www.islandhealth.ca/our-services/end-of-life-hospice-palliative-services/hospice-palliative-end-of-life-care

- Northern Health

  https://www.northernhealth.ca/for-health-professionals/palliative-care- end-life-care

- 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

- 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 OF CONSTIPATION IN PALLIATIVE CARE [5, 6, 10, 11, 14, 39, 67, 77]

1. Primary	
• Advanced age	• Decreased intake
• Inactivity	• Low fiber diet
• Depression	• Poor fluid intake
• Sedation	• Physical or social impediments
2. Secondary	
Metabolic disturbances	
• Dehydration	• Uremia
• Hyperglycemia	• Hypothyroidism
• Hypokalemia or Hypercalcemia	
Concurrent Disease	
• Diabetes	• Anal fissure
• Hernia	• Anterior mucosal prolapse
• Diverticular disease	• Hemorrhoids
• Colitis	• Spinal cord injury
• Rectocele	• Multiple Sclerosis, ALS
Neurological disorders	
• Cerebral tumors	• Sacral nerve infiltration

• Autonomic failure	• Spinal cord involvement/compression
Structural abnormalities	
• GI obstruction	• Radiation fibrosis
• Pelvic tumor mass	• Painful anorectal conditions (anal fissure, hemorrhoids, perianal abscess)
3. Iatrogenic	
Drugs - Drug Classes	**Specific Causative Examples**
• 5HT3 Antagonists	• Ondansetron
• Antacids	• Aluminum, bismuth, calcium containing
• Anticholinergics	• Atropine, Glycopyrrolate, Hyoscine
• Anticonvulsants	• Gabapentin, Phenytoin
• Antidepressants	• Amitriptyline, Mirtazapine, Nortriptyline, Paroxetine, Sertraline
• Anti-diarrheal agents	• Loperamide, Kaolin/Pectin
• Antihypertensives	• Clonidine, Diltiazem, Nifedipine, Verapamil
• Antiparkinsonian agents	• Levodopa, Pramipexole, Selegiline
• Antipsychotics	• Haloperidol, Olanzapine, Quetiapine, Risperidone
• Chemotherapy	• Capecitabine, Temozolomide, Vincristine
• Diuretics	• Furosemide, Hydrochlorothiazide when result in dehydration
Gastrointestinal agents	Cholestyramine, Sodium Polystyrene Sulfonate
Hormonal agents	Octreotide
Opioids	All. Fentanyl, Methadone may be least constipating
Psyllium/Fiber	Occurs if insufficient fluid co-administered
Supplements	Iron or calcium

There are many medications that are reported to cause constipation.[99] This table above provides some examples. Consult pharmacist if additional assistance is required.

MEDICATIONS FOR MANAGEMENT OF CONSTIPATION

Avoid laxatives, especially stimulants, if intestine is fully obstructed; seek consult.

Drug, Action	Dose, Therapeutic Range	Onset, Adverse Effects, Precautions and Dosing Concerns
Sennosides / Senna stimulant	Starting dose: 1 to 2 tablets PO at bedtime or 10 mL syrup. Maximum daily tablet dose: 36 mg PO TID[95,100]	**6 to 12 hours**.[6, 90] Intestinal colic is principal adverse effect[92] and may be similar to the cramping of severe constipation. **Contraindicated in abdominal pain, nausea and vomiting, intestinal obstruction**.[69] Long term use considered safe.[10, 14] Start at bedtime, if dose increases required, add next dosing time at breakfast. This timing best matches drug onset to natural gastro-colic peristalsis. **Irritable bowel syndrome patients may experience painful cramps; osmotic laxatives are often preferred.**[95]
Lactulose osmotic	Starting dose: 15 mL PO daily with food. Maximum daily dose: 30 mL PO BID[55, 101]	**1 to 2 days.**[52, 69] Abdominal bloating, flatulence (20% for the first few days), nausea (may be reduced if diluted or taken with meals), intestinal colic.[90] Rarely causes serious electrolyte disorders or volume overload.[10, 52, 69] **Contraindicated in galactosemia, intestinal obstruction.**[69] **Avoid in lactose-intolerant patients**.[52] Use with hot tea, hot water or juices to improve unpalatable sweet taste.[6, 10] Lactulose does not affect diabetes mellitus management.[90] **Effectiveness requires a sufficiently high fluid intake**.[1]

Drug, Action	Dose, Therapeutic Range	Onset, Adverse Effects, Precautions and Dosing Concerns
Polyethylene Glycol "PEG" osmotic	Starting dose: 17 g PO daily. Maximum daily dose: ‡ 17 g PO BID[90] to TID[69] ‡ PCF5- BID, OB 139TID	**1 to 3 days**.[69] Nausea, bloating, occasional vomiting, stomach cramps.[69] Requires 125 to 250 mL fluid intake daily per 17 g dose.[69, 102] **Contraindicated in intestinal obstruction or perforation, inflammatory bowel conditions (Crohn's disease, ulcerative colitis).**[69] Adverse effect profile may be better than other oral laxatives.[62, 91] **Use cautiously in patients unable to tolerate the fluid volume needed**, e.g., if nauseated or frail.[1] Used safely up to 6 to 12 months.[51]
Glycerin Suppositories osmotic, lubricant	Dose: 1 supp PR x 1	**15 to 30 min.**[1, 90] Adverse effects rare but may include mild rectal irritation.[51, 103] **Avoid suppositories in patients with severely reduced white cell or platelet counts due the risk of bleeding or infection**.[6] Suppositories should be retained for 15 minutes.[6, 103, 104]
Bisacodyl Suppositories stimulant	Dose: 1 supp PR x 1	**20 to 60 min, up to 3 hours**.[90] Side effects rare but can cause occasional abdominal cramps and diarrhea or local rectal inflammation.[90] Can worsen pre-existing rectal tears and anal fissures.[55] Occasionally causes faecal leakage. **Avoid suppositories in patients with severely reduced white cell or platelet counts due the risk of bleeding or infection.**[6] Place suppository against rectal wall, not into faeces, to ensure effectiveness.[90]

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MEDICATIONS FOR MANAGEMENT OF CONSTIPATION

Drug, Action	Dose, Therapeutic Range	Onset, Adverse Effects, Precautions and Dosing Concerns
Micro-enema osmotic, softener	Starting dose: 5 mL PR x 1 Maximum dose: 10 mL PR daily	**5 to 20 min, up to 60 min.**[1, 90] **Risk of intestinal necrosis: avoid use with sodium polystyrene sulfonate containing products.** Do not use in the presence of abdominal pain, nausea, fever or vomiting. Contents include sodium citrate, sorbitol and sodium lauryl sulfoacetate[114]
Mineral Oil Enema (stool softener)	Dose: 130 mL PR x 1 Maximum dose: 1 enema PR daily	**2 to 15 minutes** Warm to room temperature before use.[90]
Sodium-phosphate enema osmotic	Starting dose: 130 mL PR x 1 Maximum dose: 1 enema PR daily	**2 to 5 minutes, up to 30 minutes**.[1, 90] **Elderly patients (over 65) are particularly at risk of serious electrolyte disturbances.**[105] _Fatalities have been reported.[90, 105] **Contraindicated in renal failure**.[100] Avoid multiple applications to minimize risk of adverse effects.[103] If enemas are ever used regularly, must monitor for electrolyte, fluid imbalances, rectal trauma.[96] Warm to room or body temperature before use.[1, 90]

Medications for management of constipation continued on **next page**

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MEDICATIONS FOR MANAGEMENT OF CONSTIPATION

Drug, Action	Dose, Therapeutic Range	Onset, Adverse Effects, Precautions and Dosing Concerns
Methylnaltrexone peripheral opioid receptor antagonist	Subcutaneous injection every 2 days as needed. Dose is weight based: 33-37 kg=6 mg 38-61 kg= 8 mg 62-114 kg=12 mg 115-126 kg=18 mg Outside these ranges, dose 0.15 mg/kg. Reduce doses by 50% when creatinine clearance is less than 30 mL/min.	**24 minutes to 4 hours.**[106, 107] Abdominal pain, diarrhea, nausea, flatulence. Rare: flushing, delirium, severe diarrhea leading to dehydration and subsequent cardiovascular collapse, extrasystoles.[98] **Caution: Gastrointestinal (GI) perforation is a risk of this medication for patients with advanced illness** such as: cancer, GI malignancy, GI ulcer, and Ogilvie›s syndrome and taking medications such as bevacizumab, non-steroidal anti-inflammatory drugs and steroids.[115] To be used in conjunction with ongoing laxative therapy when laxatives alone are insufficient for treatment of opioid-induced constipation for advanced illness palliative care patients.[106, 107] **Stop if response inadequate after four doses.**[107] No drug interactions with cytochrome P450 metabolized drugs.[107] Balance drug cost alongside staffing costs, patient outcomes.[97, 98]

Medications for management of constipation continued on **next page**

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MEDICATIONS FOR MANAGEMENT OF CONSTIPATION

Drug, Action	Dose, Therapeutic Range	Onset, Adverse Effects, Precautions and Dosing Concerns
Naloxegol peripheral opioid receptor antagonist	Usual dose: 12.5 to 25 mg PO daily Maximum daily dose: 25 mg PO daily	**6 to 12 hours.**[108] 50% of people respond within 12 hours.[109] Naloxegol is indicated for the treatment of opioid-induced constipation in adult patients with **non-cancer pain** who have had an inadequate response to laxatives.[109] Usual starting dose is 25 mg daily. Reduce to 12.5 mg daily if moderate to end-stage renal impairment or if used concomitantly with weak CYP3A4 inhibitors (e.g., cimetidine, quinidine). Renal patients can increase dose to 25 mg daily if the 12.5 mg dose is well tolerated.[109] Abdominal pain, flatulence, headache, diarrhea, and nausea[98, 109] **Anticipate numerous significant CYP3A4 drug interactions.** **Contraindicated in patients concomitantly receiving strong CYP3A4 inhibitors** (e.g., ketoconazole, voriconazole, clarithromycin, protease inhibitors such as ritonavir). Interactions also occur with P-glycoprotein transporters (P-gp) modulators.[109] **Avoid grapefruit juice**.[109] **Contraindicated in known or suspected GI obstruction or patients at risk of recurrent obstruction due to potential for GI perforation**.

Medications for management of constipation continued on next page

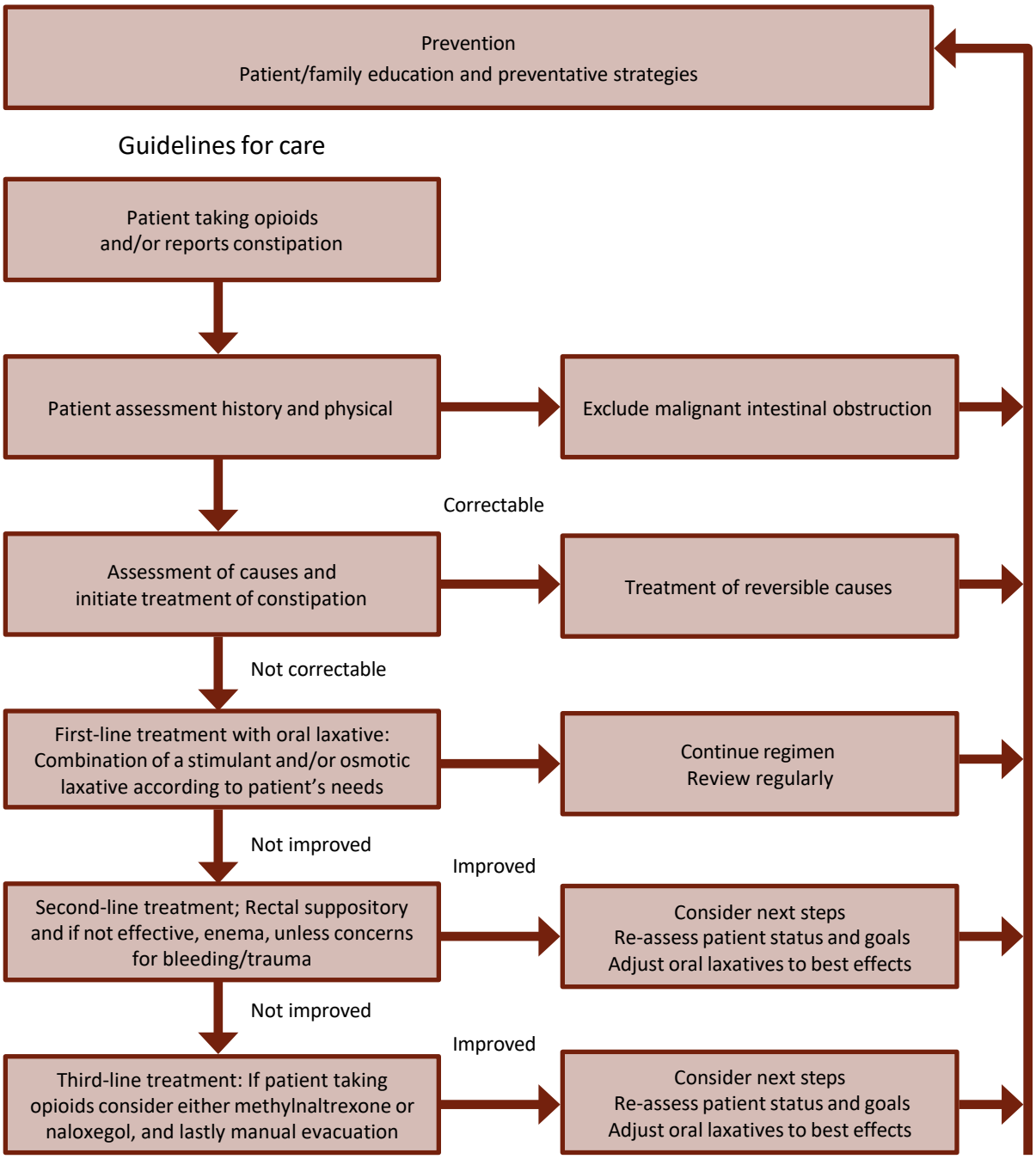
MEDICATIONS FOR MANAGEMENT OF CONSTIPATION

Drug, Action	Dose, Therapeutic Range	Onset, Adverse Effects, Precautions and Dosing Concerns
		Caution: if using in patients with any risk of impaired integrity of the gastrointestinal tract wall (e.g., severe peptic ulcer disease, Crohn's Disease, active or recurrent diverticulitis, infiltrative gastrointestinal tract malignancies or peritoneal metastases), consider the overall benefit/ risk profile for a given patient.[109] When started, all current laxative therapy should be stopped until clinical effect of naloxegol is determined.[109] Does not cause systemic opioid withdrawal symptoms. Take in the morning on an empty stomach at least 1 hour prior to the first meal of the day or 2 hours post-meal.[109] Balance drug cost alongside staffing costs, patient outcomes.[97, 98]

† 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.**

CONSTIPATION AND BOWEL MANAGEMENT ALGORITHM[3,4,7]



Refer to Medications for management of constipation for further drug details including precautions and contraindications. Refer to guideline sections for specifics for prevention and patient/family education and preventative strategies

Algorithm adapted from Cancer Care Ontario – algorithm.[74]

CONSTIPATION AND BOWEL OBSTRUCTIONS EXTRA RESOURCES OR ASSESSMENT TOOLS

- Victoria Bowel Performance Scale:[110] http://www.victoriahospice.org/sites/default/ files/2bbbowelperformancescale.pdf

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