

			<p align="center">Protocol</p> <p align="center">Edmonton Zone Palliative Care Program</p>
Title:	Bowel Care Protocol for Managing Constipation in Palliative Care Patients		
Date Approved:	Developed March 2003; Revised August 2011		
Approved By:	Practice, Development, and Quality Committee		
	Author J. Tycholiz BScN; Contributing Author S. Watanabe MD		

General information: Constipation is defined as infrequent, incomplete or difficult evacuation of the bowels and is subjectively defined in comparison to what is normal for that individual; it is not based solely on the frequency of stool. Constipation is a common cause of morbidity in palliative care patients and can severely compromise quality of life. Palliative care patients are at greater risk of constipation because of an increased number of combined factors and not only as a result of opioid usage.

Purpose: This document is intended to provide practitioners with information to assess and manage constipation in palliative care patients across various settings. The information provided must be applied to each patient in context with their disease status and based on appropriate assessment in line with the disease process.

A. Common causes of constipation in palliative care

- Poor appetite, low oral intake of fiber and fluids
- Lack of privacy, cultural sensitivities, inability to toilet independently, delayed defecation
- Advanced age, decreased mobility, depression, sedation
- Pharmacological agents such as opioids, anticholinergics, 5-HT3 antagonists, antidepressants, antiepileptics, oral iron supplements, antacids
- Metabolic disturbances such as dehydration (e.g. secondary to fever, vomiting, polyuria, poor fluid intake, diuretics), hypercalcemia, renal failure hypokalemia, hypothyroidism, diabetes
- Neurological disorders, as with cerebral tumors, spinal cord involvement, sacral nerve infiltration, autonomic failure (primary as in Parkinson’s disease, multiple sclerosis, motor neuron disease, or secondary as in cancer, diabetes)

- Structural abnormalities (pelvic tumor mass, radiation fibrosis, painful anorectal conditions/ hemorrhoids, fissures, perianal abscess)

B. Complications of constipation

- Abdominal pain, distension, discomfort
- Nausea, vomiting, anorexia and dehydration
- Overflow diarrhea
- Hemorrhoids, anal fissures
- Bowel obstruction
- Urinary retention
- Increased need for medication
- Anxiety and restlessness
- Decreased quality of life, increase in patient and family distress
- Increase in health care visits, increased health care costs

C. Assessment

Considerations when assessing constipation:

History of bowel movements correlates poorly with actual amount of stool detected radiologically. Therefore, abdominal x-ray is recommended when available; a constipation score of 7/12 or higher with associated symptoms constitutes urgent treatment.

Alert: Rule out bowel obstruction! Clinical signs and symptoms of bowel obstruction may include constant cramping/colicky pain, distended/bloated abdomen, nausea/ vomiting (varies in intensity based on the level of obstruction and degree of compromise of bowel patency), and high pitched/absent bowel sounds. If suspected, obtain three views of the abdomen and observe for dilated gas-filled bowel, air-fluid levels, and absence of gas and stool in the distal bowel.

A thorough history and physical examination includes the following elements:

- Patient's normal bowel pattern prior to illness
- Current stool characteristics, volume, consistency, colour, odour, blood
- Patient's perception of the ease/difficulty (straining) of passing stool
- Sense of complete evacuation
- Frequency of stools per day/week
- Any psychosocial factors that may be inhibiting defecation
- Compliance with/intolerance to bowel medication
- Review of medications prescribed, over-the-counter and natural products/ reassess unnecessary medications that may be contributing to constipation

- Assessment of symptoms such as lack of appetite, early satiety, nausea, bloating, distension, passing flatus, pain, colic, tenesmus
- Digital rectal examination (DRE) if no BM for 3 days, if not contraindicated (neutropenia, painful conditions, risk for bleeding); assess for anal sphincter tone, presence/absence of stool, possible obstructing masses, hemorrhoids, anal fissures, dilated rectum (may indicate constipation higher in sigmoid area)
- Special considerations for assessment and treatment for patients with rectal stent, colostomy, ileostomy
- Determining if diarrhea is overflow diarrhea; rule out other etiologies for true diarrhea

Goal of treatment: Assist patient in having adequate and timely comfortable bowel movements using methods that are compatible with patients overall performance status and preference.

D. Management

1. Oral Pharmacological Approaches

Laxatives are the primary pharmacological intervention for treating constipation, despite lack of empirical evidence in palliative care. To date, the best evidence supports the use of osmotic laxatives such as lactulose and polyethylene glycol (PEG). However, expert consensus recommends that choice of treatment should be based on patient preference and overall condition, with consideration of disease trajectory.

Historically, a combination of stool softeners and stimulants were employed simultaneously for constipation management and prophylactically for prevention of constipation when opioids were initiated. Currently, senna-based stimulants and bisacodyl are utilized despite lack of evidence of efficacy. Initiation of docusate is not recommended; however, if the patient has been utilizing this medication and feels that it is beneficial, then there is no need to discontinue it.

Titration of laxatives is based on quality of stool (constipated/loose, overall volume) and ease/difficulty of passing stool. Laxatives are categorized into four classes: a) osmotic agents, b) stool softeners, c) stimulants and d) bulking agents.

- a. **Osmotic laxatives:** Work by attracting and retaining fluid into the bowel to form softer stool. Onset of action is 24-48 hours. Latency of actions is 1-2 days and up to 3 days. Examples: PEG 3350, lactulose, magnesium citrate (magnesium citrate is not used prophylactically but when a more aggressive bowel cleansing is required). PEG 3350 contains no electrolytes and it may be preferred over agents with non-absorbable sugars as these agents are associated with increased gas production, cramping and abdominal distension. PEG 3350 is tasteless and has low toxicity.
Saline osmotic laxatives and magnesium citrate can produce undesirably strong purgative actions. Dehydration may occur with repeated use of saline laxatives.

They have a limited role in long-term management of constipation in cancer patients due to the potential for adverse effects in this population.

Usual dosage:

Lactulose 15-30 ml daily to tid

PEG 3350 17 g daily to 75 g daily (may be given in divided doses)

- b. **Stool softeners (emollient laxatives):** Increase the wetting efficiency of intestinal fluid and facilitate the mixing of aqueous and fatty substances that soften feces. They do not stimulate peristalsis and therefore can be utilized in a subacute bowel obstruction. Onset of action is 24-72 hours. Latency of action is 1-3 days. Examples: docusate calcium, docusate sodium, mineral oil

Usual dosage: Docusate sodium (Colace) 100-200 mg or docusate calcium 240-480 mg bid to start, and then increase to tid or qid

- c. **Peristaltic stimulants:** Help to induce peristalsis. Side effects include colic. Stimulants can increase the severity of colic with a bowel obstruction. Onset of action is ~12 hours. Latency of action is 6-12 hours. Examples: senna, bisacodyl. Bisacodyl is available as a tablet or suppository; it may be beneficial in cases of refractory constipation and in the management of cancer patients with colostomies who have managed them with routine irrigation but now find it difficult to perform this procedure.

Usual dosage:

Sennosides 8.6 mg (Senokot) or 12 mg (Glyssennid) at hs to start then titrate up to 2-4 tabs bid to qid

Bisacodyl 5-15 mg daily

- d. **Bulking agents/fiber:** Increase stool size and promote peristalsis. Onset is 10-24 hours. Examples: psyllium, methylcellulose, bran, aloe vera. However, not recommended (see below).

Alert: It is unrealistic for most palliative care patients to be able to consume sufficient fiber for increasing peristalsis or enough fluids for safe use of dietary fiber supplements (1.5 liters of fluid per day). Encouraging increased fiber is not supported in palliative care practice.

2. Rectal Interventions

ALERT: Avoid Digital Rectal Examination (DRE) in neutropenic patients

Suppository for stimulation or softening determined by DRE

- Hard feces at anus → Give stool softener e.g. glycerin suppository
- Soft stool ± poor anal tone → Give stimulant e.g. bisacodyl suppository

- Hard stool throughout the lower rectum → Give stool softener e.g. glycerin suppository, followed by stimulant e.g. bisacodyl suppository (bisacodyl suppository needs to be in contact with the bowel wall).
- Normal stool → Give stimulant e.g. bisacodyl suppository

Alert: If patient requires digital disimpaction, obtain consent from patient or family and provide sufficient analgesia or sedation.

3. Specific management of opioid-induced constipation

Constipation has been reported as ranging from 50-95%, with the highest incidence observed in patients receiving opioids. Prophylactic use of laxatives is required at the time of initiating opioids.

Typical laxative regime when starting opioids to prevent constipation

- Docusate sodium 100 mg or docusate calcium 240 mg 1-2 bid
- Senokot 2 qhs
- Titrate above laxatives based on stool consistency and frequency
- If no BM every 3 days, then give suppository based on stool consistency
- If suppository unsuccessful, give Fleet enema or Microenema
- If still no BM, give high mineral oil retention enema; after at least 4 to 6 hours, follow with a soap suds enema

Role of methylnaltrexone in the management of opioid-induced constipation

- Methylnaltrexone (Relistor) is a peripherally-acting opioid antagonist which blocks opioid receptors at GI tract level without reversing analgesia
- In one study, laxation was noted within 4 hours of drug administration in 48% of patients
- Primarily used for acute management of opioid-induced constipation when oral or rectal interventions are ineffective and/or maintenance therapy of opioid-induced constipation when oral laxatives are ineffective
- Consider cost
- Prepare patient that bowel movement may occur rapidly following medication administration

Usual dosage: 8 kg-62 kg (84 lbs-136 lbs) → 8 mg sc; 62 kg-114 kg (136-251 lbs) → 12 mg sc; administer every 2 days. In severe renal failure, reduce dose by half. Note: If no result after 3 consecutive doses, than consider other bowel management options.

4. Purgative routine for symptomatic patients

If patient has a constipation score > 7/12 associated with symptoms, consider a purgative routine. If there is distal stool, try enemas first (mineral oil and tap water/soap suds), then give oral PEG 3350. Consider PEG 3350, magnesium citrate or Picosalax for proximal stool. If no distal stool evident, then no enemas are required.

Example: 1) Give mineral oil retention enema with rectal extension tube; 2) in 4-8 hours after mineral oil enema, give soap suds enema (repeat steps 1 and 2 if ineffective); 3) PEG 3350 25 g in 8 ounces of water or juice every 4 hours for a total of 4 doses. Do not administer PEG 3350 until adequate results are obtained from enemas.

5. Prokinetic agents

Autonomic dysfunction, thought to be common in advanced cancers, can result in impaired gastrointestinal motility, leading to anorexia, nausea and early satiety. Prokinetic drugs such as metoclopramide and domperidone enhance emptying of the stomach and improve contractions and coordination of the gut.

When starting a new opioid, nausea can be anticipated for the first several days. Therefore, adding metoclopramide may be useful for prevention of nausea through its prokinetic action, as opposed to dimenhydrinate (Gravol). Ondansetron (Zofran) can contribute to constipation by blocking 5-HT₃ receptors in the enteric nervous system, thereby reducing colonic contractions; it is not a preferred medication to treat nausea related to opioid use.

Usual dosage:

Metoclopramide 10 mg po/sc every 4 hours around the clock; reduce by half for impaired renal function; if the patient experiences extrapyramidal side effects with metoclopramide (e.g. tremor, rigidity, akathisia), trial domperidone (10 mg po qid) as it does not cross the blood-brain barrier; however, it is not available in injection form and has been associated with QT interval prolongation.

Alert: Avoid prokinetic agents in patients with suspected complete bowel obstruction, as increased peristalsis in this situation may aggravate symptoms.

6. Non-pharmacological approaches

A patient's environment affects how a patient manages bowel functioning. There are many factors to consider including:

- Toileting at time of maximum peristalsis: upon waking or after meals (30-60 minutes)
- Proper positioning: over the toilet/commode versus bedpan
- If the patient must have bowel movement lying down, then place him/her in the left lying position with the hips and knees flexed at 90 degrees

- Encourage fluids as tolerated
- Respect privacy/cultural sensitivity
- Stool chart/ bowel performance scale for a common language for proper assessment/ allows patient to describe & record stool consistency in neutral language

7. Holistic focus

- Patient preference: trial different products to suit patient
- Adherence to regime: determine why patient is not taking specific medications
- Ability to swallow medications: can patient tolerate taste, volume, consistency
- Cost factors of over-the-counter medications
- Nearness to death

8. Education

- Teach patients to report stool consistency and volume, bowel movement frequency, and ease/difficulty of passage (using a bowel performance scale is one example to assist patients in describing their bowel movements)
- Teach that stool is still produced despite lack of oral intake (1-2 ounces per day)
- Advise patients to inform health care practitioner if no BM has occurred for 3 days
- Educate caregivers, families and health care providers about the advantages of utilizing standardized stool charting to promote consistent assessment and allow patients to describe and record bowel movements in neutral language
- Do not stop or reduce opioids due to constipation
- Reinforce the importance of fluid intake
- Dispel myths about loss of bowel control and constipation; many patients associate this with nearness to death

E. References

Abernethy A, Wheeler J, Zafar Y. (2009). Detailing of gastrointestinal symptoms in cancer patients with advanced disease: new methodologies, new insights, and a proposed approach. *Curr Opin Support Palliat Care*. 3: 341-49.

Avila J. (2004). Pharmacological treatment of constipation in cancer patients. *Cancer Control*. 11: 10-18.

Bowel management guideline; Victoria Bowel Performance Scale. (2006). Medical care of the dying, 4th Ed; p.343 *Lippincott Williams & Wilkins*

Brown E, Henderson A, McDonagh A. (2009). Exploring the cause, assessment and management of constipation in palliative care. *Int J Palliat Nurs*. 15: 58-63.

Clemens K, Klaschik E. (2008). Management of constipation in palliative care patients. *Curr Opin Support Palliat Care.* 2:22-27.

Drossman A, Dumitrascu D. (2006). Rome III: New standard for functional gastrointestinal disorders. *J Gastrointestin Liver Dis.* 15: 237-241.

Drost J, Harris L. (2006). Diagnosis and management of chronic constipation. *JAAPA.* 19: 24-29.

Friedrichsen M, Erichsen E. (2004). The lived experience of constipation in cancer patients in palliative hospital-based home care. *Int J Palliat Nurs.* 10: 321-325.

Ginsberg D, Philips F, Wallace J, Josephson K. (2007). Evaluating and managing constipation in the elderly. *Urol Nurs.* 27: 191-200

Larkin PJ, Sykes N, Centeno C, Ellershaw J, Elsner F, Eugene B, Gootjes J, Nabal M, Noguera A, Ripamonti C, Zucco F, Zuurmond W. (2008). The management of constipation in palliative care: clinical practice recommendations. *Palliat Med.* 22: 796-807.

Librach SL, Bouvette M, De Angelis C, Farley J, Oneschuk D, Pereira JL, Syme A. (2010). Consensus recommendations for the management of constipation in patients with advanced, progressive illness. *J Pain Symptom Manage.* 40: 761-773

Ramkumar D, Satish S. (2005). Efficacy and safety of traditional medical therapies for chronic constipation: Systematic review. *Am J Gastroenterol.* 100: 936-971.

Stevens AM, Droney J. (2008). Managing and treating opioid-induced constipation in patients with cancer. *Gastrointestin Nurs.* 6: 16-21

Thomas J, Karver S, Cooney GA, Chamberlain BH, Watt CK, Slatkin NE, Stambler N, Kremer AB, Israel RJ (2008). Methylnaltrexone for opioid-induced constipation in advanced illness. *N Engl J Med.* 358: 2332-2343.

Woolery M, Bisanz A, Lyons HF, Gaido L, Yenulevich M, Fulton S, McMillan SC. (2008). Putting evidence into practice: Evidence-based interventions for the prevention and management of constipation in patients with cancer. *Clin J Oncol Nurs.* 12: 317-337.