Bowel Care in Palliative Care

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Objectives

Highlight Canadian Consensus Document on the Management of Constipation in Palliative Care (2010):

- normal bowel function
- factors leading to constipation
- preventive approach to constipation
- review best practice/approach

WRHA Algorithm for the Assessment and Management of Constipation in Palliative Care

Canadian Guideline Authors

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Normal Bowel Function

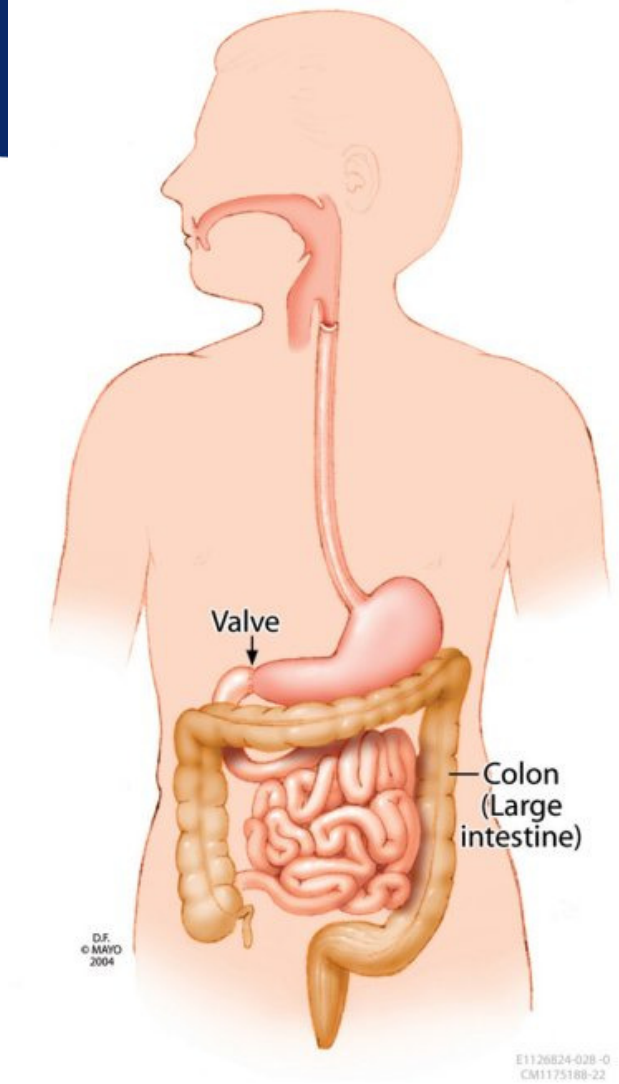
- Food moves through colon, water & electrolytes absorbed in the proximal region
- Waste products (i.e., stool) formed & stored in distal sigmoid colon
- Muscle contractions in colon propel the stool forward into the rectum
- When stool reaches rectum, most of the water absorbed

Ganong WF. Review of Medical Physiology, 22nd Ed, 2005

Normal Bowel Function

Coordinated effort:

- motility (peristalsis)
  - -intact myenteric plexus
  - -neurotransmitter &
  - -hormonal activity
- mucosal transport of fluids/electrolytes
- defecation reflex



Defining Constipation

- Unsatisfactory defecation
- Passage of small, dry, hard stools
- Painful passage (straining)
- Incomplete evacuation
- Bloating, abdominal distention
- Prolonged time to pass stool
- Need for manual maneuvers to pass stool
- Prolonged interval between BMs

(**Normal range**: 1 in 3 days to 3 in 1day)

Locke et al, *Gastroenterology* 2000,119:1766-78

Thompson W. *Gut* 1999,45(Suppl II):II43

Prevalence of Constipation

General population:

12% - 19% of healthy adult population

Men: 8% Women: 21%

63% hospitalized elderly; 22% elderly at home

Palliative patients:

50% admitted to hospice (likely under estimate)

>60% require laxatives

~90% if on opioids (higher dose)

Higgins P. *Am J Gastroenterol* 2004;99:750
Curtis E. *J Pall Care* 1991;7:25
Sykes N. Oxford Textbook of Palliative Care 2nd Ed 2005

Etiology

Malignancy

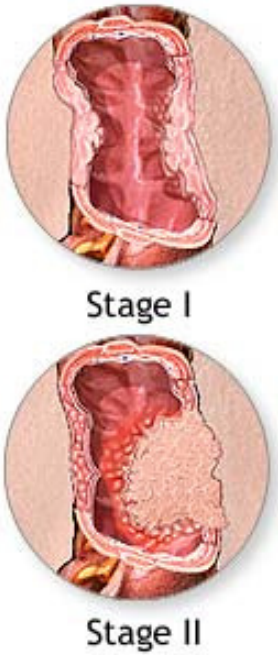
Medications

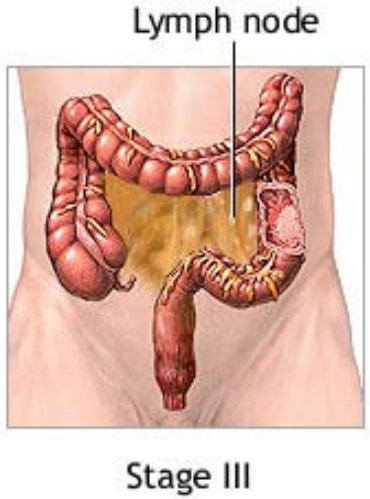
Co-morbidities

Malignancy

Directly:

- Obstruction by tumour in bowel wall
- External compression by tumor
- Pelvic tumour invasion
  - neural damage
  - lumbar sacral spinal cord
  - cauda equina/pelvic plexus
- Hypercalcemia, hypokalemia





A.D.A.M.

Sykes N. Oxford Textbook of Palliative Medicine, 2nd Ed, 2005

Malignancy

Complications of malignancy:

- poor oral intake
- dehydration
- low fibre intake
- weakness/inactivity
- medications

Sykes N. Oxford Textbook of Palliative Medicine, 2nd Ed, 2005

Medications

- Anticholinergic activity
  - phenothiazines
  - tricyclic antidepressants
  - antiparkinsonian agents
  - scopolamine
- Antacids
- Anticonvulsants

Medications

- Diuretics
- Iron supplements
- Antihypertensives
- 5-HT_3 antagonists
- Chemotherapies
  - (Vinca alkaloids, Platinum agents, Taxanes)

Opioids and Constipation

Stomach

↓ gastric motility

Prolonged gastric emptying

Small intestine

↓ propulsive contractions

↓ fluid secretion

↑ oral-cecal transit time

Delayed digestion

Pappagallo M. *Am J Surg* 2001;182(Suppl):11S
Herndon CM. *Pharmacotherapy* 2002;22:240

Opioids and Constipation

Large intestine

- Prolonged transit time
  - ↓ propulsive peristalsis
  - ↑ non-propulsive contractions
- Increased desiccation of feces
  - ↑ electrolyte & water absorption
- Impaired defecation reflex
  - ↓ sensitivity to distension
  - ↑ internal anal sphincter tone
  - ↓ reflex relaxation response

Pappagallo M. *Am J Surg* 2001;182(Suppl):11S
Herndon CM. *Pharmacotherapy* 2002;22:240

Co-morbidities

Hypothyroidism

Hernia

Anal fissure

Hemorrhoids

Diverticular disease

Colitis

Metabolic

- hypercalcemia
- hypokalemia

Autonomic neuropathy

- diabetes
- spinal cord disease
- chemotherapy

Parkinson's disease

ALS/MS

Dementia

Renal Failure - Uremia

Sykes N. Oxford Textbook of Palliative Medicine, 2nd Ed, 2005

Other Predisposing Factors

- Confusion
- Depression
- Unfamiliar toilet arrangements
- Lack of privacy

Complications of Constipation

Increased pain / colic

Nausea / vomiting

“Diarrhea” / fecal incontinence (stool overflow)

Dyspepsia / heartburn

Impaired GI absorption (including meds)

Urinary retention

Encephalopathy (delirium)

Dennison C. *Pharmacoeconomics* 2005;23:461

Overall Impact of Constipation

Poor quality of life

- Dignity
- Depression

Stress for caregivers, family

Added burden for health care providers

Added cost for care

- Longer hospital stays
- Increased medication use

Addington-Hall et al, 1998 *Soc Sci Med* 46:1011-6

Assessment

Patient History

- Initial questions
- Common complaints
- Other considerations/Quality of Life

Physical Examination

Diagnostic Tests

Initial Questions

When was your last satisfactory BM?

What is your previous BM frequency?

What is the colour and consistency of the stool?

Do you have a feeling of incomplete evacuation or a need to strain?

Are you passing gas?

Medication history including laxative use?

Previous need for manual disimpaction/enemas?

Other symptoms?:

- -nausea/vomiting
- -localized pain
- -decreased appetite/early satiety

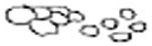
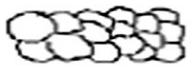
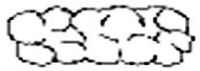
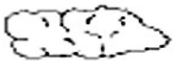
Common Indicators

- Generalized malaise secondary to constipation
- Alternating constipation and diarrhea
- Complaints of overflow diarrhea/incontinence
  (more common in elderly; lower abdominal cancers)
- May have bleeding secondary to anal fissures or hemorrhoids

Other Considerations

- What is the food, fibre and fluid intake?
- Activity level?
- Need for a bedpan or commode? Privacy ?
- Are other ADLs affected?
- Associated psychological distress or decreased socialization?

Victoria Bowel Performance Scale

- 4	- 3	- 2	- 1	BPS Score 0
← Constipation				Normal
Impacted or Obstructed +/- small leakage 	Formed Hard with pellets 	Formed Hard 	Formed Solid 	Characteristics Formed Semi-solid 
No stool produced	Delayed ≥ 3 days	Delayed ≥ 3 days	Patient's Usual	Pattern Patient's Usual
Unable to defecate despite maximum effort or straining	Major effort or straining required to defecate	Moderate effort or straining required to defecate	Minimal or no effort required to defecate	Control Minimal or no effort to defecate

Bowel Performance Scale (BPS) (originally published in JPSM 2007) - Adapted from Librach et al (2010). JPSM 40: 761-773. © Victoria Hospice Society, 2009.

Physical Examination

Physical Appearance

Volume Status, dehydration, cachexia

Abdominal exam

Localized tenderness, abdominal distention, fecal mass
Fecal versus tumour masses
Bowel sounds (hypo/hyperactive)

Anorectal inspection

Fissures, hemorrhoids, anal leakage

Digital rectal exam

Full or empty rectum, stool consistency

Arce D. *Am Fam Physician* 2002;65:2283
McMillan S. *Cancer Control* 2004;11(3 Suppl):3
Rao S. *Gastroenterol Clin North Am* 2003;32:659

Red Flag in Assessment

Signs of a possible bowel obstruction:

- Marked distention
- Lack of bowel sounds
- No passing of gas

Notify the clinician for immediate action

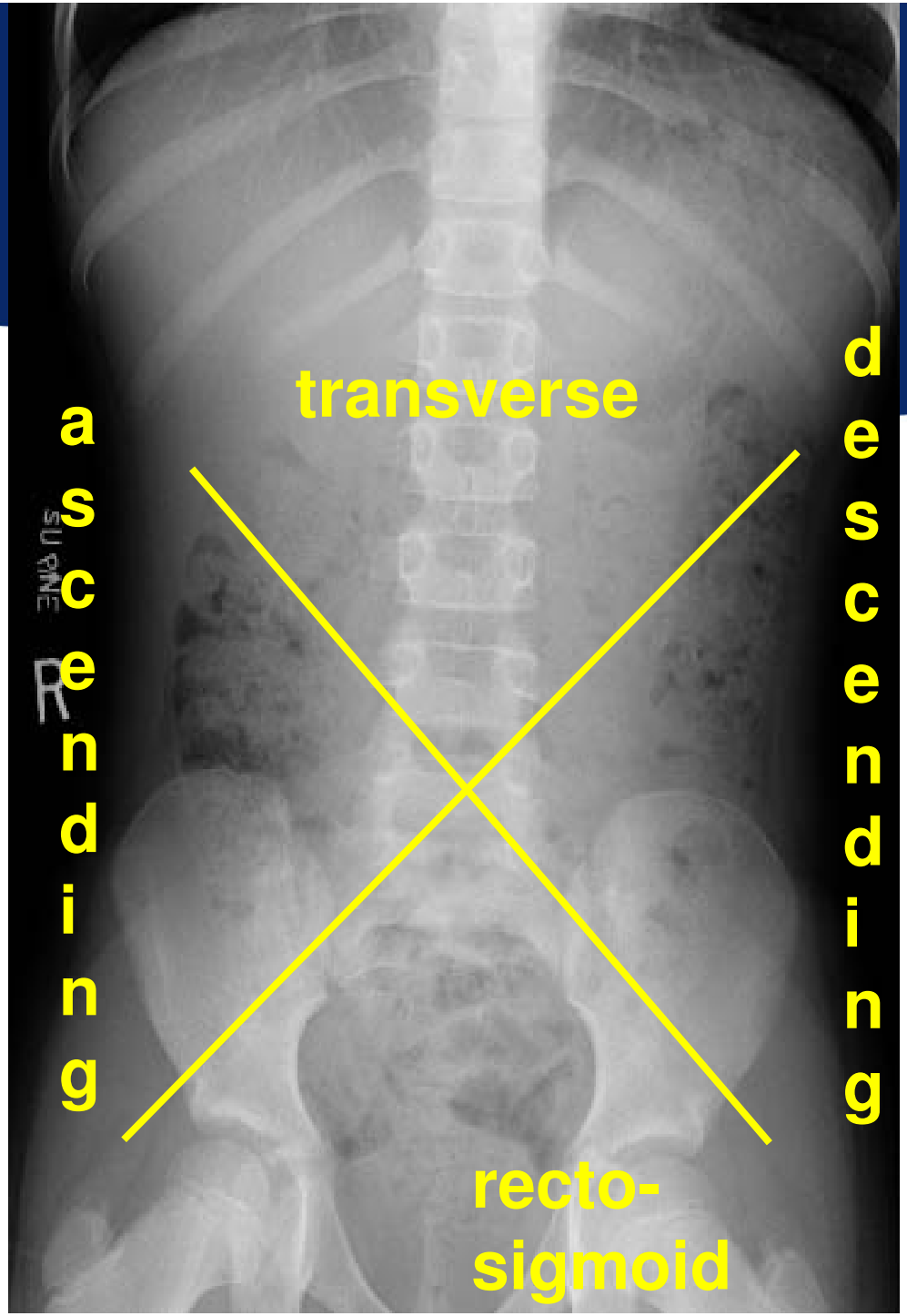
Investigations

Abdominal X-ray (2 views)

Blood work (Ca, K, TSH)

Specialized imaging*

Measurements of transit time*


transverse
ascending
descending
recto-
sigmoid
SUPINE
R

Management

Principles:

- **Preventive** approach vs. crisis intervention
- Correct reversible causes
- Early intervention
- Educate patient, family and health care team
- Set realistic expectations for patient and family
- Monitor effectively
- Interdisciplinary team approach for assessment and evaluation

Management

Prevention:

- good symptom control
- encourage activity within limitations
- adequate hydration as able
- recognize drug effect
- assess fibre content in diet
- create a favorable environment

Laxatives in Palliative Care

Laxatives for the management of constipation in palliative care patients (Review)

Miles C, Fellowes D, Goodman ML, Wilkinson SSM

Cochrane Database of Systematic Reviews 2006, Issue 4. Art. No.: CD003448.
DOI: 10.1002/14651858.CD003448.pub2. edited in 2009

Cochrane Review 2006

- Treatment of constipation in palliative care is not based on adequate data from randomized controlled trials
- Poor data on use of laxatives individually, in combination or sequentially
- All the laxatives used in the trials were ineffective in large numbers of patients
- High use of rescue laxatives
- Multiple rescue episodes per patient

Cochrane Database of Systematic Reviews 2006, Issue 4. Art. No.: CD003448. DOI: 10.1002/14651858.CD003448.pub2. edited in 2009

Cochrane Review 2006

Adverse effects from laxatives are poorly reported

"There persists an uncertainty about the 'best' management of constipation in this group of patients"

Recommend:

"Laxative prescribing must follow an identified protocol with 'very' regular monitoring and titration of management in response to individual patient response"

Cochrane Database of Systematic Reviews 2006, Issue 4. Art. No.: CD003448. DOI: 10.1002/14651858.CD003448.pub2. edited in 2009

WRHA Palliative Care Program Algorithm

Draft form as circulated

Requires final approval and roll-out across the settings of our program

Adapted from:
-European guidelines (Larkin et al 2008. *Pall Medicine*, 22: 796-807)
and
-Canadian Consensus Document (Librach et al 2010 *JPSM*, 40: 761-773)

WRHA Palliative Care Program Constipation Assessment & Management Algorithm

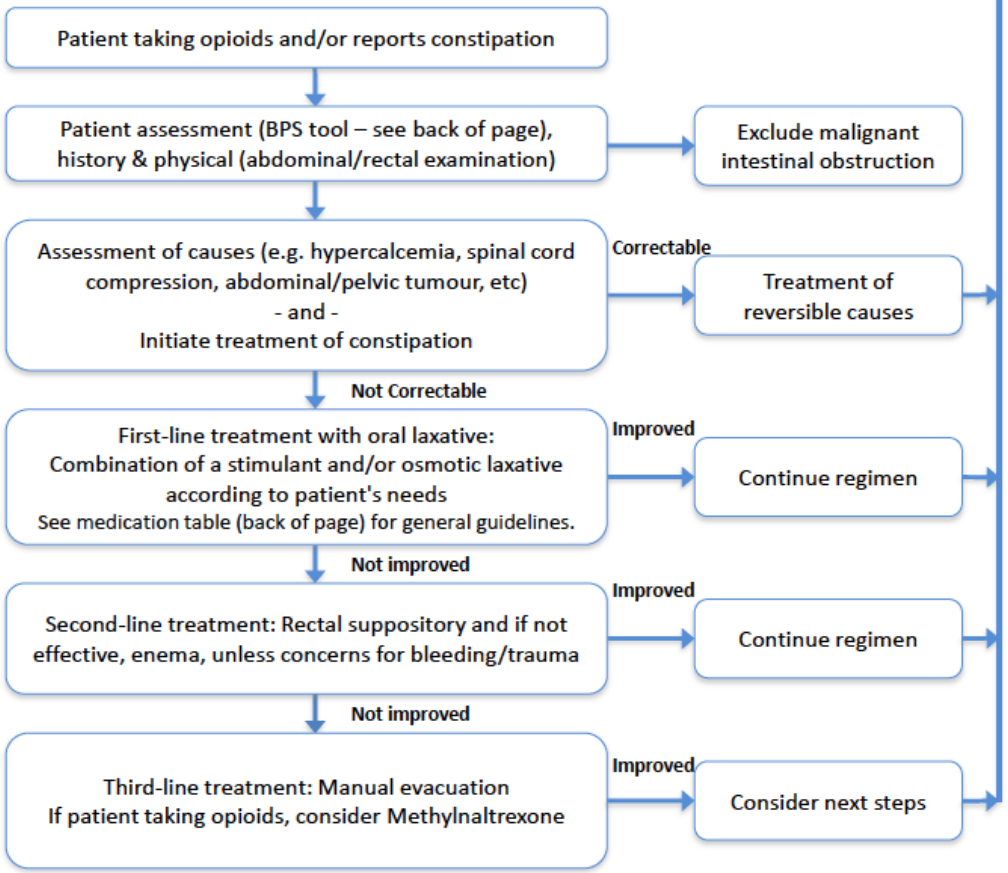
Prevention:

- Anticipate constipating effects of pharmacological agents such as opioids and prescribe laxative prophylactically (e.g., daily senna)
- Monitor bowel pattern and patient satisfaction with bowel function
- Monitor risk factors for constipation

Patient/family education and preventative strategies:

- Increase fluid intake and natural agents found effective by patient (e.g. prunes/juice)
- Encourage mobility/activity if possible
- Avoid insoluble fibre (bulk-forming agents, e.g. Psyllium) if limited fluid intake/activity
- Ensure privacy, comfort, and sitting position to allow a patient to defecate normally

Guidelines for Care



Adapted from Larkin, PJ et al (2008). Pall Medicine, 22: 796-807 and Librach et al (2010). J of Pain & Symptom Management, 40: 761-773.

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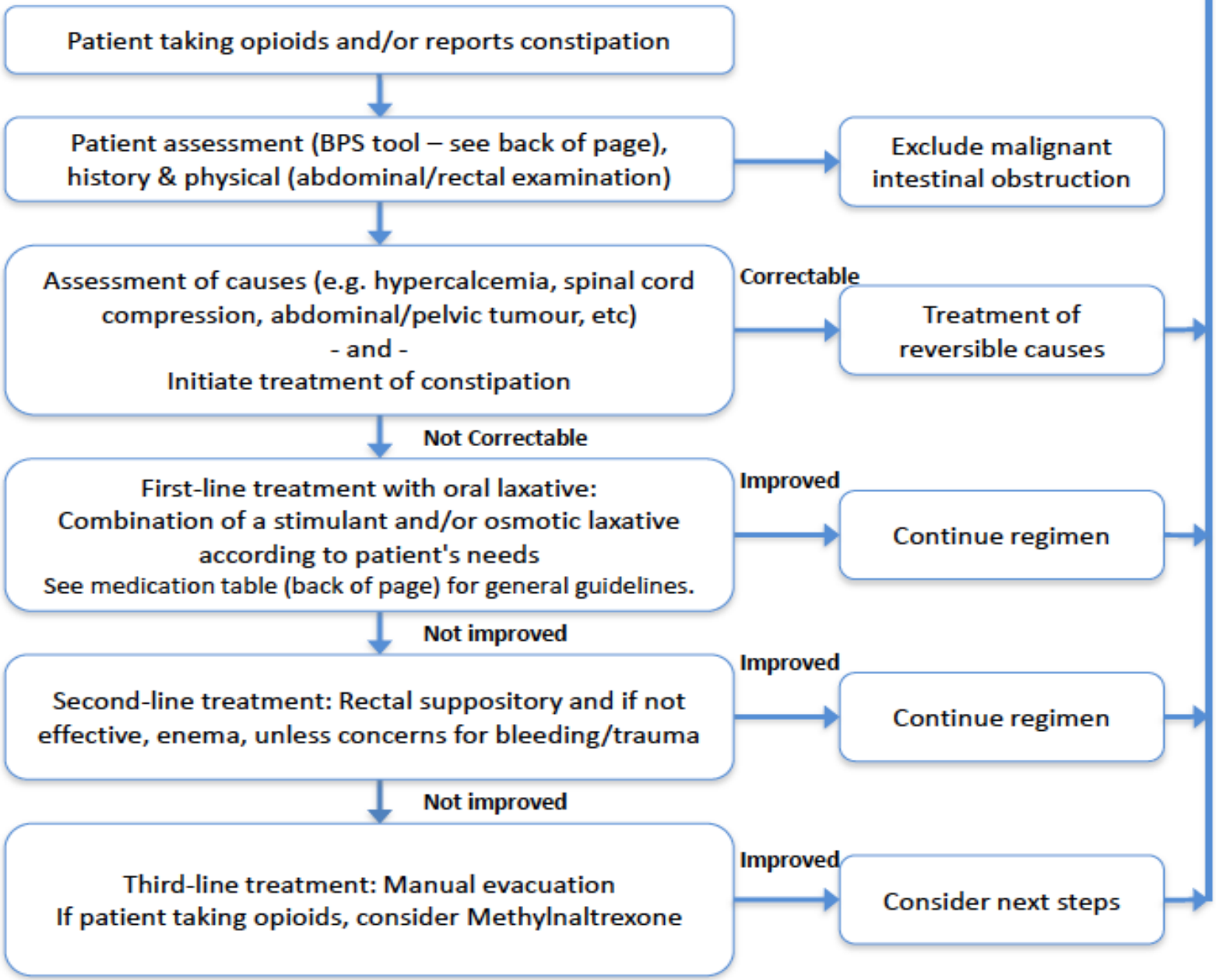


Adapted from Larkin, PJ et al (2008). Pall Medicine, 22: 796-807 and Librach et al (2010). J of Pain & Symptom Management, 40: 761-773.

Medication Table – General Guidelines for Bowel Care

Laxative	Usual Dose range	Comments
Stimulant laxatives		
Senna glycosides (ex: Senokot®)	8.6 – 68.8mg 1-8 tabs/day	Recommended as 1st line
Osmotic laxatives		
Lactulose	15-30 ml OD – QID	
PEG 3350 (MiraLAX®, LaxADay™)	17-34g OD - TID	Recommended as 1st line
Suppositories		
Bisacodyl, Glycerin	Give together Q72h	
Enemas		
Phosphate	Max 1 in 24H	Risk of electrolyte disturbance with phosphate/saline
Saline		
Mineral Oil	Q72H prn	
Selective Opioid Receptor Blocker		For refractory Opioid Induced Constipation
Methylnaltrexone	8 – 12 mg Subcut	
Stool Softeners		Do not use without stimulant laxative
Docusate	100 – 200 mg OD	
Fibre		Not Recommended in Palliative Care
Psyllium		

Laxatives: Osmotic Laxatives

Function by increasing fluid retention in stool (grade A):

- Lactulose (30 to 120 mL daily)
- PEG 3350 (MiraLAX© / Lax-A-Day©, 17g OD-BID)
- Polyethylene glycol (4 L – 250 mL q 10-30 mins)
- Magnesium hydroxide (15-60 mL daily)
- Insufficient data for chronic constipation (grade B)

ACG Chronic Constipation Task Force. *Am J Gastroenterol* 2005;100 Suppl 1:S1-4

Cochrane Review 2010: Lactulose vs PEG

Lactulose versus Polyethylene Glycol for Chronic Constipation (Review)

Lee-Robichaud H, Thomas K, Morgan J, Nelson RL

Cochrane Database of Systematic Reviews 2010, Issue 7. Art. No.: CD007570. DOI: 10.1002/14651858.CD007570.pub2.

Cochrane Review 2010: Lactulose vs PEG

Conclusion:

Among patients with chronic constipation PEG 3350 clearly superior based on:

- Frequency of BM's
- Relief of pain
- Need for extra medications
- But more costly – $0.72 vs $0.48 /dose

Cochrane Database of Systematic Reviews 2010, Issue 7. Art. No.: CD007570. DOI: 10.1002/14651858.CD007570.pub2.

Laxatives: Stimulants

Irritate sensory nerve endings, increasing muscle contractions, reduce water absorption (e.g. Bisacodyl, Sennosides):

- Mainstay regimen in advanced illness (grade B)
- Insufficient data for recommendation with chronic constipation
- Large doses often needed for efficacy
  (6-10 tablets per day)

ACG Chronic Constipation Task Force. *Am J Gastroenterol* 2005;100 Suppl 1:S1-4

Laxatives: Softners / Wetting Agents

Docusate commonly prescribed in advanced illness despite lack of evidence

- Insufficient data for recommendation with chronic constipation (grade B)
- Stool softeners likely inferior to psyllium for chronic constipation (grade B)

ACG Chronic Constipation Task Force. *Am J Gastroenterol* 2005;100 Suppl 1:S1-4

Laxatives: Softners / Wetting Agents

JOURNAL OF PALLIATIVE MEDICINE
Volume 11, Number 4, 2008

DOI: 10.1089/jpm.2007.0178

A Comparison of Sennosides-Based Bowel Protocols with and without Docusate in Hospitalized Patients with Cancer

PHILIPPA HELEN HAWLEY, B.Med., FRCPC[1] and JAI JUN BYEON, M.D., Ph.D.[2]

Conclusions: The addition of the initial docusate-only step and adding docusate 400–600 mg/d to the sennosides did not reduce bowel cramps, and was less effective in inducing laxation than the sennosides-only protocol. Further research into the appropriate use of docusate and into the details of bowel protocol design are required.

Laxatives: Lubricants & Herbals

- Insufficient data to make a recommendation (grade C)
- Mineral oil, herbal teas (with senna) commonly used
- May interfere with absorption of fat soluble vitamins, medications

ACG Chronic Constipation Task Force. Am J Gastroenterol 2005;100 Suppl 1:S1-4

Laxatives: Bulk-forming

- Psyllium increases stool frequency (grade B)
- Calcium polycarbophil, methylcellulose and bran (grade B)
- Require > 1.5 L/day fluid intake

NOT recommended in palliative care for patients taking opioids

ACG Chronic Constipation Task Force. *Am J Gastroenterol* 2005;100 Suppl 1:S1-4

Laxatives: Saline Cathartics

Magnesium citrate, oral sodium phosphate (oral Fleet) commonly used, but evidence is lacking

ACG Chronic Constipation Task Force. *Am J Gastroenterol* 2005;100 Suppl 1:S1-4

Other Options

Enemas/suppositories if constipation is established and no BM for 3+ days:

Sodium phosphate enema to start

- small volume and work best if stool in rectum

Large volume saline or water

- administered only by experienced care providers
- should never be used if bowel strictures, recent bowel surgery or any bowel obstruction

Other Options

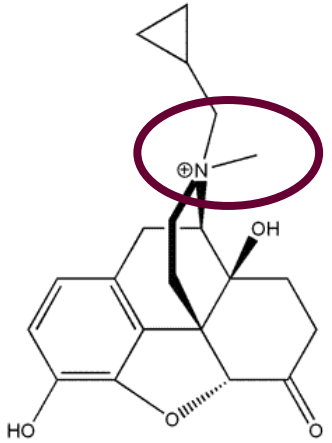
Disimpaction

- Rarely used but may be necessary if stool is hard and impacted
- Use oil enema prior to procedure and local anesthetic gel if necessary
- Some pts may require sedation prior to procedure

Other Approaches

- Prokinetic agents: domperidone, metoclopramide
- Antibiotics: erythromycin
- Fruit mixtures: prunes, dates, papaya, raisins, figs
- Herbal preparations: mulberry, licorice root

Newer Approaches



Methylnaltrexone: a selective peripheral antagonist without central effects

Methylnaltrexone
(MNTX, Relistor™):

Indicated for the treatment of opioid-induced constipation in patients with advanced illness, receiving palliative care

Currently subcutaneous route only

Thomas J et al. *NEJM* 2008;358:2332-43
Kelleher D. *Am J Gastroenterol* 2006; 101:S480

Summary Pearls

- Constipation is common
- Multiple causes in the palliative patient
- Prevention important (opioid ℞ + laxative ℞)
- Assessment key (don't forget the DRE!)
- Follow the algorithm

Questions & Discussion

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