The prevention and management of constipation in adult orthopaedic patients

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1.0 Constipation in Orthopaedics: What's the Problem?

Constipation is a common complaint worldwide and can have a serious impact on an individual's quality of life, influencing both emotional and physical health (Wald et al 2007; Belsley et al 2010; Hunter 2016; Gurler et al 2023; Santy-Tomlinson et al 2023). It can contribute to unpleasant symptoms such as nausea and vomiting, abdominal pain and distension, straining to defaecate, fecal overflow and incontinence, fatigue and anxiety and reduced quality of life (Sayuk et al 2023). More serious complications include faecal impaction, and bowel obstruction (Dennison et al 2005). Nursing staff highlight that orthopaedic patients are more at risk of developing constipation as they are often rendered immobile by injuries and conditions that hinder movement and treatments such as prescribed bed rest, external splints, fixators and casts. Orthopaedic conditions such as osteoporosis and osteoarthritis are linked to advancing age which, in itself, places an individual at an increased risk for constipation (Mugie et al 2011; McKay et al 2012). Some categories of orthopaedic patients, such those who have sustained a hip fracture (Maher et al 2002) and following spinal cord injury, have been found to be at an increased risk for the development of constipation (Richmond & Wright 2006). In addition, sustaining musculoskeletal trauma or surgery requires that patients are admitted to hospital and receive opioid therapy to relieve pain, which exacerbates constipation (Richmond & Wright 2006, Prichard et al 2016). Along with changes in diet, mobility, environment, and dependence on healthcare practitioners to assist with elimination, orthopaedic patients are placed at a heightened risk of developing constipation (Clarke and Drozd 2023). Gurler et al (2023) reported that 72.1% of patients experienced constipation during the hospitalisation period.

1.1 Aim

The aim of this article is to assist registered nurses (who care for adult patients with orthopaedic conditions and injuries) in successful prevention and management of acute constipation.

Neurogenic bowel care is not covered in this article.

The prevention and management of constipation in children and young people is not covered in this article.

The management of chronic constipation or constipation in palliative care is not covered in this article.

1.2 Definition

For the purpose of this article, constipation is described as *'hard dry stools that are difficult and / or painful to pass'* (Santy-Tomlinson et al 2023). Another definition of constipation is the passage of hard stools less frequently than the patient's own normal pattern and this can be explained to the patient (Table 1) (BNF 2024).

Table 1: Definition of Constipation

Straining for at least 25% of the time
Lumpy or hard stool for at least 25% of the time
A sensation of incomplete evacuation for at least 25% of the time (Tenesmus)
A sensation of anorectal obstruction of blockage for at least 25% of the time
Manual manoeuvres used to facilitate defaecation at least 25% of the time (Digitation)
Less than 3 bowel motions a week

2.0 Preventing Constipation

The first step in preventing constipation is to determine normal bowel pattern and assess risk for developing constipation. This is supported by Mitchell (2019). It is also important for patients who complain of constipation to understand that bowel habit can vary considerably in frequency without doing harm. Some patients tend to consider themselves constipated if they do not have a bowel movement each day (BNF 2024). Hunter (2016) note that nurses play a key role in preventing and treating constipation through a comprehensive nursing assessment, timely interventions and patient advocacy and this is supported by Sayuk et al (2023) in their literature review. But often constipation is seen as a private problem rarely discussed by health care professionals with patients as noted by Munch et al (2016)

The use of a risk assessment tool may be beneficial in conjunction with clinical judgement. Examples of such tools are: the Norgine scale developed by Kyle et al (2005), work from Richmond and Wright (2006) and Molin et al (2012) on developing and validating a constipation risk assessment. This document does not expand on these tools. Box 1 provides a list of the key factors / risks for the development of constipation and these factors will be discussed with reference to appropriate interventions.

Box 1: Key factors/risks for the development of constipation (Santy-Tomlinson et al 2014)

Predisposing conditions
Age
Fluid intake
Mobility level
Dietary fibre intake
Current prescribed medications
Environmental issues

2.1 Predisposing conditions

2.1.1 A patient who is prone to constipation or has had previous episodes of constipation is at an increased risk for development of this problem while an inpatient. Certain imbalances / disorders / conditions are also linked to the development of constipation (Table 2).

Table 2: Predisposing Conditions (Lister et al 2020)

Psychological	Emotional disturbances / unfavourable lavatory conditions / ignoring the urge to defaecate
Endocrine / Metabolic Disorders	Hypothyroidism/ hypercalcaemia / Lead poisoning / Acute porphyria
Obstruction	Tumours / Hirschsprungs' disease / Chagas disease / megacolon / Sigmoid volvulus / Faecal impaction
Neurological deficiencies	Multiple sclerosis / Paraplegia / Parkinsons Disease
Muscular Deficiencies	Dysmobility / Hypomobility / Idiopathic slow bowel / pregnancy / aging process / slow transit syndrome
Exercise immobility	Temporary (hospitalisation) / Permanent (Paraplegia / hemiplegia)
Mental Health Issues	Depression / Anxiety (Cheng et al 2003) / dementia / anorexia nervosa / chronic psychoses
Diet and Laxatives	Inadequate bulk / illicit use of laxatives / Inadequate fluid intake
Drug induced	Opiates / antidepressants / diuretics / aluminium antacids / codeine / anticholinergics / iron supplements / overuse of laxatives

2.1.2 Nursing interventions / actions

Consider and document the patient's previous history using table 2. Ask the patient about the date of their last bowel motion and the frequency of their bowel action. When the patient has a bowel motion, consider the volume, consistency and colour of the stool. It is recommended that the Bristol stool chart is used to aid this assessment (Appendix 1). Consider effects of current medications, and if they are linked to constipation. Continue any pharmacological agent that a patient is currently prescribed post admission and recommence any pharmacological agent that a patient is established on for a bowel management problem as soon as practically possible post operatively. A proactive daily assessment of bowel activity is strongly recommended (Santy-Tomlinson et al 2023). and should be clearly recorded in the patients' nursing record.

2.2 Age

2.2.1 Older adults can be more prone to constipation and this can be linked to a decrease in peristalsis and pelvic floor tone that occurs with age. According to the National Institute of Aging (2022), about one-third of older adults have occasional symptoms of constipation and most of the time, it is not serious and is treatable.

2.2.2 Nursing interventions / actions

Look for, and record, other risk factors, and consider preventative strategies. Flag the risk of constipation for this age group as a core / essential nursing measure.

2.3 Dietary fibre intake

2.3.1 Dietary fibre plays an important role in the prevention of constipation and general health. Dietary fibre consists of indigestible plant material, which adds bulk to the stools and also draws water through the bowel wall through osmotic action. These two activities soften the stool, allowing a faster transit time. The current recommendation for daily dietary fibre intake is 18 - 30grams (Bardsley (2017). Fibre comes in two forms, soluble (oats, beans pulses and lentils) and insoluble (fruit, vegetables, wholegrain bread, brown rice). Consider fruits such as apples, apricots, strawberries, pears, plums, prunes, grapes and raisins as these are high in sorbitol which is a sugar alcohol that has a laxative effect (Mitchell 2019). Any increase in fibre should be done gradually to reduce the risk of flatulence and bloating and it is also noted here that it can take four weeks to note the benefits of increasing the fibre intake (Bardsley 2017).

There are some preliminary reports that probiotics may play a role in preventing constipation, however, to date the evidence remains inconclusive (Leung et al, 2011). These are not recommended here.

Decreased ability to eat in a supine position result in loss of appetite and often leads, therefore, to a reduced intake of fluids and dietary fibre.

2.3.2 Nursing interventions / actions

Nurses should ensure that the patient's diet contains or is supplemented with foodstuffs high in fibre (Santy-Tomlinson et al 2023) from both sources. The food pyramid recommends that a serving of whole meal cereals and breads, potatoes, pasta and rice be included at every meal. The recommended consumption of fruit and vegetables is of 5 -7 portions a day (from Food Pyramid 2024 – see Appendix 2). Position your patient in an upright position to assist with eating either in bed or sitting out if their medical condition will allow.

2.4 Fluid intake

2.4.1 Many people, in particular older adults, do not drink sufficient amounts of fluid to maintain adequate hydration. In conjunction with dietary fibre, sufficient fluid is needed to bulk up the stool and make it easier to pass faecal matter (Ruxton 2012; Jester et al 2021). Current literature recommends a fluid intake in excess of two litres per day is desirable to prevent constipation (Richmond and Wright, 2004; Ruxton 2012). Trads et al's (2018) quasi-experimental study, focusing on hip fracture patients found that increases in fluid and fibre intake had the most significant effect on reducing the risk of developing constipation. Consideration must also be given to a patient's medical condition and any fluid restriction that may be in place. An early randomised control trial of 111 patients that examined the use of pear juice in older orthopaedic patients found that when compared with a high fibre supplement, pear juice had a significant effect on increasing the rate of bowel opening seven days after admission (Stumm et al 2001).

2.4.2 Nursing interventions / actions

Oral fluid intake must be encouraged. HSE (2016) recommends drinking at least 8 cups of fluid a day citing water as the best option. Fruit juices such as orange juice and prune juice can help stimulate bowel activity and coffee has been shown to stimulate colonic motor and bowel activity. Ageing affects the thirst mechanism. Older patients should be reminded to drink at regular intervals throughout the day. A fluid intake chart may be required to monitor the daily intake of your patient.

2.5 Mobility Level

2.5.1 In the nursing literature, and in practice, constipation remains a principal concern for the patient who is rendered immobile (e.g. awaiting surgery, post injury, restricted movement as a result of their injury) or on bed rest (Santy-Tomlinson et al, 2023). Immobility reduces peristalsis. As immobility and bed rest also weaken the abdominal wall muscles, this makes it harder to produce the muscle contractions and Valsalva manoeuvre needed to expel faeces (Kyle, 2009). Immobility affects gastric motility. Myatt's (2012) discussion paper suggests a positive correlation is reported between mobility and exercise and regular bowel movements. Walking and moving stimulate peristaltic waves in the colon, so encouraging patients to keep as mobile as possible also improves appetite and contributes to wellbeing (Nazarko, 2013). The positions normally adopted for defecation are altered when confined to bed rest which makes it necessary for the individual to exert more than a normal amount of muscle contraction to increase intra-thoracic pressure and facilitate defecation. While Okusaga et al (2020) in an integrative literature review concluded that there was no clear evidence to support mobility as a singular action in prevention, they noted that mobility potentially contributes to prevention in conjunction with other interventions such as high fibre intake, increased water intake as well as laxative use.

2.5.2 Nursing interventions / actions

Encourage your patient to be mobile within their limits and abilities (Jester et al 2021; Santy-Tomlinson et al, 2023). Decreased peristalsis resulting from bed rest causes constriction of all gastrointestinal sphincter muscles and this results in altered colonic motility patterns. Educate your patient; explaining a rationale may motivate them to move more. Activities must be tailored to the individual's ability and health condition. Liaise with physiotherapy staff to optimise the level of activity for each patient. If possible, assist your patient to sit out for defaecation (using either a commode / bring them to the bathroom).

2.6 Prescribed medications

2.6.1 Constipation is a side effect of many medications (BNF 2024). The nurse should be aware of medications that may cause constipation and consider pre-emptive measures to prevent it occurring. Box 2 includes some common medications that can contribute to constipation. This list is not exhaustive.

Box 2: Some medications that can contribute to constipation (https://www.resourcepharm.com/pre-reg- pharmacist/drug-induced-constipation.html)

Aluminum containing antacids
Diuretics e.g. furosemide
Antihypertensives e.g. propranolol, verapamil
Sedating antihistamines e.g. chlorphenamine
Opiate analgesics e.g. codeine morphine, tramadol
Tricyclic antidepressants e.g. amitriptyline
Monoamine-oxidase inhibitors
Antipsychotic drugs e.g. chlorpromazine
Antiepileptic drugs e.g. carbamazepine, phenytoin
Iron Supplements
Calcium supplements

2.6.2 Nursing interventions / actions

Be aware of the effects of medications. Pre-empt the need for stool softeners and laxatives in a patient who has been commenced on medications that cause constipation. Constipation associated with opioid use (including codeine) for analgesia can easily be anticipated. The management should be preventative beginning with non-pharmacological interventions (Turkoski 2018) and when constipation is opiate-induced, it is recommended that every patient should take a preventative agent while on the medication unless diarrhoea occurs (Santy-Tomlinson et al, 2014). When strong analgesic agents are required, consider the use of agents designed to reduce the risk the constipation e.g. combination analgesic drugs such as oxycodone and naloxone. Naloxone opposes the effects of opioids but is poorly absorbed into the body when given orally, meaning almost all the dose stays within the gastrointestinal tract, reducing the local side effects from the oxycodone and significantly relieving constipation (Prichard et al 2016).

2.7 Environmental issues / Dignity / Respect / Psychological issues

2.7.1 Going to the toilet is a private function and lack of privacy and access to toilet facilities in hospital can contribute to the development of constipation for patients (Maher et al 2002; Cohen 2009). Toileting patients at the bedside with often just a curtain between them and the next patient can be very distressing for patients and every effort should be made to maintain privacy and dignity. The use of a bedpan leads the patient to assume a poor posture and may lead to straining when defaecating. This is also noted by Woodward (2012) who states that the Department of Health in the UK raised the need for attention to fundamentals in bladder and bowel care including privacy and dignity.

The patient may suppress a bowel movement out of fear of using a bedpan or commode. The rectum is sensitive to pressure rises and distension will stimulate perineal sensation with a subsequent desire to defaecate. A co-ordinated reflex empties the lower bowel from the mid transverse colon to the anus.

During this phase, muscle contraction occurs with peristaltic action in the distal colon and relaxation of the anal sphincter allows the evacuation of faeces. The stimulus to defaecate varies in people, but if a decision is made to delay defaecation, the stimulus disappears and a process of retroperistalsis occurs whereby the faeces move back into the sigmoid colon. If these reflexes are suppressed on a regular basis, they can contribute to becoming severely constipated (Lister et al 2020). Unfavourable lavatory conditions can influence the patient's willingness to use such facilitates. The environmental cleanliness of the area is also important for this reason.

The patient may become anxious about not being able to walk to the bathroom in time or without pain and may suppress the urge to 'go', leading to stools remaining in the bowel for longer periods and consequently becoming harder as more water is absorbed (Myatt 2012). In addition, patients may have difficulty discussing their bowel habits and may suppress the urge to defaecate which can compound the problem. Nurses may or may not ask patients enough about their bowel movements and patients are reluctant to begin a conversation.

Consideration may be given to the introduction of 'intentional rounding' which is a structured approach whereby nurses conduct checks on patients at set times to assess and manage their fundamental care needs (Forde- Johnston 2014). Toileting and fluid intake can be targeted at this intervention and may assist in the prevention of constipation.

2.7.2 Nursing interventions / actions

Explain the ward routine and orientate patients to the location of toilets and how to contact staff when needed. Consideration must also be given to patients with delirium and dementia. Every effort should be made to maintain privacy and dignity for the patient (Jester et al 2021). This can be achieved by a number of actions such as bringing the patient to the bathroom, pulling the curtains fully and positioning the patient comfortably. Ascertain the most suitable method of toileting for the patient and the one that makes them feel most at ease. Prompt the patient to ask for the toilet or for help getting to the toilet whenever necessary**.** Encourage the patient to defecate when they have the urge to do so and not to rush this activity. Maintain their dignity by providing cover with a blanket or assisting them to wear their dressing gown.

Bring the patient to the bathroom if possible. Consider the risk of falls and the patient's need for privacy. If the patient is alone using the toilet, bedpan or commode, ensure that a call bell is within reach and check with them regularly.

Patient involvement, education and information are essential. Providing written information can help reinforce verbal detail. An example of such a piece of information is the HSE 'Constipation in Adults' leaflet (accessed May 2024 online) Explain why constipation may become a problem for them during their admission and subsequently after discharge if relevant. Many of the solutions can be managed by the patient if they are given the opportunity to do so. Patients with hip fractures that were actively involved in their own care in preventing constipation were significantly less constipated 30 days after surgery than the control group (Trads et al 2018).

Immobility can impede a patient from adopting the optimal position for bowel movement (Maher et al, 2002). Palit et al (2012) examined the influence of posture on defecation and notes that the anorectal angle opens up with increasing hip flexion making evacuation easier. They recount the impact of positioning on satisfactory rectal emptying in three postures (sitting on a commode, sitting on a similar commode with a 10cms lift under the subject's feet and the squatting position and found that evacuation was quickest and gave a more complete sense of emptying in the squatting position with the standardised commode being the most difficult. If necessary, explain and facilitate the

correct position for the patient to open their bowels, suggesting that they should place their knees higher than their hips (using a foot rest at the toilet or with the commode), they should lean forward, put their elbows on their knees, bulge out their abdomen and straighten their spine (Appendix 3). Depending on their injury, surgery or mobility this position may need adapting for individuals. The use of a bedpan should be avoided, if possible, as extreme straining during defaecation will occur due to the poor posture adopted when using a bedpan.

Note: always consider the patients' presenting complaint when toileting, for example hip precautions following elective hip surgery dictate that the knees should not be flexed higher than the hip and therefore this position would be contraindicated.

3.0 Diagnosing Constipation

Constipation can be categorised as primary, secondary or iatrogenic. Primary constipation results from factors such as a low fibre intake in the diet, poor fluid intake, a lifestyle change e.g. less mobile or ignoring the urge to defaecate. Secondary constipation is attributed to an intrinsic condition e.g. anal fissures or colonic tumours, while iatrogenic constipation generally results from medications or other treatment. Being aware of the type of constipation can aid the nurse in managing this condition appropriately. Constipation of unknown cause must be investigated to ensure that a patient gets the appropriate treatment (Woodward 2012).

While the international Rome criteria (Appendix 4) has been developed and revised to assist in diagnosis of chronic constipation, constipation that occurs in post-operative orthopaedic patient where there was no previous history can usually be attributed to factors such as decreased fibre intake, low fluid intake, reduced mobility, use of medications identified as contributing to this problem, new medications and other risk factors already discussed (see sections 2.3, 2.4, 2.5, 2.6, 2.7).

Daily assessment of bowel pattern and stool type should take place considering the Rome criteria above and also the Bristol stool form chart. Images such as x-rays have limited value in the diagnosing of constipation (Rao & Meduri 2011), skills such as obtaining a full history and assessment and, in the case of the advanced nurse, physical assessment including abdominal palpation and digital rectal examination (following appropriate training/education) can aid diagnosis.

4.0 Management of constipation

4.1 Non-pharmacological Management

4.1.1. Mild constipation may respond to the preventative measures discussed under section 2.0 such as increasing dietary fibre, oral fluid intake, physical activity level, altering the defaecation position and encouraging the patient to defecate when they have the urge to do so and not to rush this activity (Jester et al 2021). A summary of these interventions is found in **Table 3.**

Table 3: Nursing Interventions in managing constipation

Risk 1 Predisposing conditions (see 2.1)	
Psychological; Endocrine / Metabolic Disorders; Drug induced; Obstruction; Neurological deficiencies; Constipation; Muscular deficiencies; Exercise immobility; Diet and Laxatives; Psychiatric	**Nursing Interventions** Take a full medical / surgical history. Establish a baseline toileting habit (e.g. date of their last bowel motion, frequency. Assess volume, consistency and colour of the stool (refer to the Bristol stool chart). Determine medications which may be a causative factor of constipation.
Risk 2 Age (see 2.2)	
Decrease in peristalsis with age and decreased pelvic floor tone	**Nursing Interventions** Look for other risk factors, and consider preventative strategies. Flag the risk of constipation for this age group as a core / essential nursing measure
Risk 3 Dietary fibre (2.3)	
Stool consistency is dictated by the fibre content of the diet. Fibre increases the bulk of the stool, makes the stool softer and decreases the transit time of the stool through the bowel.	**Nursing Interventions** Consumption of fibre sources, fruit and vegetables should be encouraged Position your patient in an upright position to assist with eating either in bed or sitting out if their medical condition allows for this.
Risk 4 Low fluid Intake (2.4)	
Sufficient fluids are needed in conjunction to dietary fibre to bulk up the stool and make it easy to pass	**Nursing Interventions** Encourage fluids (clear, fruit juices – orange juice, prune juice) Aim for a minimum daily of 1500mls for older patients (unless fluid restricted). Ageing affects the thirst mechanism, so older patients should be reminded to drink regularly. Consider the need for a fluid intake chart
Risk 5 Reduced Mobility (2.5)	
Bed rest reduces peristalsis. Bed rest weakens the abdominal wall muscles. The influence of gravity is reduced when patient is less mobile	**Nursing Interventions** Encourage mobility within their limits and abilities Educate patients and motivate them to move. Liaise with physiotherapy staff to optimise patient's activity. If possible, assist your patient to sit out for defaecation
Risk 6 Prescribed Medication (2.6)	
Many medications cause constipation (more detail is included in the supporting document)	**Nursing Interventions** Be aware of the effects of medications. Pre-empt the need for stool softeners and laxatives in a patient who has been commenced on medications that cause constipation
Risk 7 Environmental Issues / Dignity / Respect / Psychological issues (2.7)	
Patients may suppress a bowel movement due to lack of privacy, fear of using a bedpan or toileting in the ward environment.	**Nursing Interventions** Explain ward layout / orientate to bathroom & call bell Consider the cleanliness of the environment Use the toileting method that makes them feel at ease / bring to the bathroom if possible Cover them with a blanket or dressing gown when taking them to the bathroom. Make the patient as comfortable as possible. Maintain privacy and dignity for the patient (e.g. pulling the curtains fully around the bed) Stay with them or leave them alone if that is what they wish (taking into account patient safety). Talk to them about toileting in an open and frank way. Complete patient documentation Explain why constipation may become a problem for them Consider the correct position for opening your bowels taking into account their surgical intervention

4.2 Pharmacological Management

4.2.1 Before prescribing medication to relieve constipation, it is imperative to be certain that the patient is constipated and that the constipation is not secondary to an undiagnosed complaint (BNF 2024) thus supporting the need for a thorough assessment. Laxatives should only be used when lifestyle and dietary interventions have failed or when rapid relief is required. A study examining which of two dosage regimens commended pre-operatively was the most effective in facilitating a return to normal bowel function is an example of one such approach (Ross-Adjie et al 2021). Misconceptions about bowel habits have led to excessive laxative use. Where possible, the most natural means of bowel evacuation should be used with preference given to simple laxatives (Pritchard et al 2016). The aim of using a prescribed laxative is to facilitate a comfortable, rather than frequent, defaecation. Therefore, laxatives should generally be **avoided** except where straining will exacerbate a condition (such as angina) or increase the risk of rectal bleeding where haemorrhoids are present Formulary (BNF 2024).

Table 4: lists some common medications used in the management of constipation and provides information on their class, name, mode of action and contra-indications. While other drugs are noted for use in bowel management, the more common ones considered in the orthopaedic setting are highlighted here. The table lists some of the medications that may be used to relieve acute constipation in the hospital setting. The table was compiled using the most recent edition of the British National Formulary (BNF 2024). The nurse should always consult with prescriber colleagues and consider individual patient characteristics and scenarios, working within his/her scope of practice when making decisions on the type of medications for managing constipation

Table 4: Pharmacological management of constipation

Pharmacological management of constipation			
It is also important for a patient who complains of constipation to understand that bowel habit can vary considerably in frequency without doing harm. Some people tend to consider themselves constipated if they do not have a bowel movement each day. A useful definition of constipation is the passage of hard stools less frequently than the patient's own normal pattern (BNF 2024). While other drugs are noted for use in bowel management, we are highlighting the more common ones considered in the orthopaedic setting. Laxatives should only be used when lifestyle and dietary interventions have failed or when rapid relief is required. Where possible, the most natural means of bowel evacuation should be used with preference given to oral laxatives			
Class	***Medication***	***Dose / How long it takes it to work***	***Contraindicated in:***
Bulk forming laxatives	Ispaghula husk (Fybogel / Normacol)	1 sachet twice daily, dose to be given with at least 150mls of water preferably taken after food, morning and evening. Can take a few days to work, some effect may take place from 12-24hrs.	• Dysphagia • Intestinal obstruction • Colonic atony faecal impaction
Osmotic laxatives	Lactulose Movicol	Lactulose: Initially 15 mL twice daily, adjusted according to response. Subsequently adjusted according to response to 30–50 mL 3 times a day, subsequently adjusted to produce 2–3 soft stools per day. It may take up to 48 to act Movicol: 1–3 sachets daily in divided doses usually for up to 2 weeks; maintenance 1–2 sachets daily.	• Intestinal Obstruction • Lactulose - in galactosaemia or lactose intolerance • Macrogol - Crohns disease, intestinal obstruction / perforation, paralytic ileus, toxic megacolon, ulcerative colitis, inflammatory conditions of GI tract

		This group also included Phosphate & Microlax enemas	
Stimulant Laxatives	Senna Tablets or Liquid Bisacodyl tablets or suppositories	7.5–15 mg daily (max. per dose 30 mg daily), dose usually taken at bedtime; initial dose should be low then gradually increased 5–10 mg once daily, increased if necessary up to 20 mg once daily, dose to be taken at night, dose to be taken in the morning, Oral doses work within 8-12hrs with suppositories working within 20-60mins	• Intestinal Obstruction
Stool softeners	Docusate sodium	Up to 500 mg daily in divided doses, adjusted according to response (orally) with 120 mg for 1 dose (rectally)	• Intestinal obstruction
5-HT4 (5-hydroxytryptamine) **receptor antagonists**	Prucalopride	This is not a laxative. It causes an increase in gut motility resulting in an increase in bowel movements	

5.0 Conclusion

The issue of constipation continues to arise for our orthopaedic patient cohort impacting on their recovery. With fast-track surgical regimens, (also known as enhanced recovery after surgery) leading to earlier discharge, this highlights the importance of managing this problem proactively. Taking into account their predisposing conditions, age, diet, fluid intake, level of mobility, prescribed medications and environmental / privacy / psychological issues can contribute to the prevention of this problem.

References

Bardsley A. (2017) Assessment and treatment options for patients with constipation, *British Journal of Nursing,* 26(6): pp.312 – 318.

Belsley J. Greenfield S. Candy, D. & Geraint M. (2010) Systematic review: impact of constipation on quality of life in adults and children*, Alimentary Pharmacology and Therapeutics,* 31 (9), pp.938-949.

British National Formulary (2024*) accessed at:* https://www.medicinescomplete.com/mc/ *(10th Dec 2024).*

Casey G. (2013) Constipation: motility and the gut, *Kai Tiaki Nursing New Zealand*, 19(11), pp.20-24.

Cheng C. Chan A. Hui W. et al (2003) Coping strategies, illness perception, anxiety and depression of patients with idiopathic constipation: a population-based study, *Alimentary Pharmacology and Therapies,* 18(3), pp.319-326.

Clarke, S and Drozd, M. (2023) 2nd edn, Orthopaedic and trauma nursing: An evidence-based approach to musculoskeletal care. London: Wiley Blackwell.

Cohen S. (2009) Orthopaedic patients' perceptions of using a bedpan, *Journal of Orthopaedic Nursing* 13(2), pp.78-84.

Dennison C. Prasad M. Lloyd A. Bhattacharyya S.K. Dhawan, R. & Coyne K. (2005) The health- related quality of life and economic burden of constipation, *Pharmoeconomics,* 23 (5), pp.461-476.

Food pyramid (2024) accessed at: *https://www.safefood.net/healthy-eating* (28th May 2024).

Forde-Johnston C. (2014) Intentional rounding: a review of the literature, *Nursing Standard*, 28 (32), pp.37-42.

Gurler H. Yuldu, F.T. & Bekmez F. (2023) A Common Complication in Orthopedic Patients: Postoperative Constipation and Related Risk Factor, *Journal of PeriAnesthesia Nursing,* [online] 38(5), pp.e15–e20.

HSE (no year) Constipation in adults, accessed at: https://www.hse.ie/eng/services/list/2/primary care/community-funded-schemes/continence/public/constipation-in-adults-leaflet.pdf (27th May 2024).

HSE (2016) Healthy food for life, accessed at: https://www.hse.ie/eng/about/who/healthwellbeing/hse-education-programme/resources/healthy-food-for-life.pdf (26th January 2026).

Hunter R. (2016) Nursing management of constipation in the medical-surgical setting, *Med-Surg Matters,* 23(2), pp.4-9.

Jester R. Santy J. & Rogers J. (2021) *Oxford handbook of orthopaedic and trauma nursing*, 2nd edn, Oxford University Press, Oxford.

Kyle G. Prynn P. Oliver H. & Dunbar T. (2005) The Eton scale: a tool for risk assessment for constipations, *Nursing Times,* 101 (18 supplement), pp.50-51.

Kyle G. (2009) Constipation, part 1: Causes and assessment, *Practice Nursing,* 20(12), pp.611–615.

Leung L. Riotta T. Kotecha J. & Rosser W. (2011) Chronic Constipation: An Evidence-Based Review Journal of the American Board of Family Medicine, 24(4), pp.436-451.

Lister S. Hofland J. & Grafton H. (2020) *The Royal Marsden manual of clinical nursing procedures,* 10th edn, Wiley Blackwell, Oxford.

Maher A.B. Salmond S.W. Pellino T.A. (2002*) Orthopaedic Nursing, 3rd Edition,* WB Saunders. Philadelphia.

Maher A.B. Meehan A.J. Hertz K. Hommel, A. MacDonald V. O' Sullivan M. Specht K. & Taylor A. (2013) Acute nursing care of the older adult with fragility hip fracture: an international perspective (part 2*), International Journal of Orthopaedic & Trauma Nursing,* 17 (1): pp.4-18.

McKay S.L. Fravel M. Scanlon C. & Schoenfelder D.P. (2012) Management of constipation, evidence-based practice guideline, *Journal of Gerontological Nursing,* 38 (7), pp.9-15.

Mitchell A. (2019) Carrying out a holistic assessment of a patient with constipation, *British Journal of Nursing,* 28(4), pp.230- 232.

Molin A.D. McMillan S.C. Zenerino F. Rattone V. Grubich S. Guazzini A. & Rasero L. (2012) Validity and reliability of the Italian constipation assessment scale, *International Journal of Palliative Nursing*, 18(7), pp.321-325.

Mugie S.M. Benninga M.A. & Di Lorenzo C. (2011) Epidemiology of constipation in children and adults: a systematic review, *Best Practice and Research Clinical Gastroenterology,* 25 (91), pp.3-18.

Munch L. Tvistholm N. Trosborg I. & Konradsen H. (2016). Living with constipation—older people's experiences and strategies with constipation before and during hospitalization. *International Journal of Qualitative Studies on Health and Well-Being*, *11*(1). Accessed at: https://doi.org/10.3402/qhw.v11.30732 (05/06/25).

Myatt R. (2012) Constipation: a common post-operative complication after cardiac surgery, *British Journal of Cardiac Nursing,* 7(4), pp.172-177.

National Institute of Aging (2022) Concerned about constipation accessed at: https://www.nia.nih.gov/health/constipation/concerned-about-constipation (26th January 2026).

Nazarko L. (2013) Continence series 6: Helping to resolve constipation, *British Journal of Healthcare Assistants,* 7(6), pp.282-289.

Okusaga O. Mowat R. & Cook C. (2022). Effectiveness of early mobilisation versus laxative use in reducing opioid induced constipation in post-operative orthopaedic patients: an integrative review, *The Australian Journal of Advanced Nursing*, *39*(2), pp.23-35.

Palit S. Lunniss P.J. & Scott S.M. (2012) The physiology of human defecation, *Digestive Diseases and Sciences,* 57, pp.1445-1464.

Prichard D. Norton C. & Bhalucha A.E. (2016) Management of opioid induced constipation, British Journal of Nursing, 25(10), pp. S4-S11.

Rao S.S.C. & Meduri K. (2011) What is necessary to diagnose constipation, Best Practice Research Clinical Gastroenterology 25(1), pp.127-140.

Resourcepharm.com accessed at: https://www.resourcepharm.com/pre-reg-pharmacist/drug-induced-constipation.html (8th December 2020).

Richmond J.P. and Wright M. (2004) Review of the literature on constipation to enable development of a constipation risk assessment scale, *Journal of Orthopaedic Nursing,* 8, pp.192 – 207.

Richmond J.P. and Wright M. (2006) Development of a constipation risk assessment scale, *Journal of Orthopaedic Nursing,* 10, pp.186 – 197.

Rome Foundation (2006) Rome III Criteria for Diagnosis of Functional Constipation accessed at: http://www.romecriteria.org/assets/pdf/19_RomeIII_apA_885-898.pdf (28/05/2016).

Ross-Adjie G.M. Cranfield A.A. Yates P.J. Monterossoi L. (2021) Bowel management post major joint arthroplasty: a randomized controlled trial to test two pre-admission bowel regimens, *International Journal of Orthopaedic and Trauma Nursing,* 41(2021): 100816 pp.1-6.

Ruxton C. (2012) Promoting and maintaining healthy hydration in patients, *Nursing Standard.* 26 (31), pp.50-56.

Santy-Tomlinson J. Clarke S. & Davis P. (2014) The complications of musculoskeletal conditions and trauma cited in Clarke S. & Santy-Tomlinson J. (eds) *Orthopaedic and trauma nursing: an evidence-based approach to musculoskeletal care,* Wiley Blackwell, Oxford, pp.96-110.

Santy-Tomlinson, J., Clarke, S and Davis, P. The complications of musculoskeletal conditions and trauma cited in Clarke, S and Drozd, M. (2023) 2nd edn, Orthopaedic and trauma nursing: An evidence-based approach to musculoskeletal care. London: Wiley Blackwell, pp.101-116.

Sayuk G.S. Yu Q.T. & Shy C. (2023). Management of constipation in hospitalized patients, *Journal of Clinical Medicine,* 12: 6148; Accessed at: http://doi.org/10.3390/jcm12196148 (06/06/25).

Stumm R.E. Thomas M.S. Coombes J. Greenhill J. & Hay J. (2001) Managing constipation in elderly orthopaedic patients using either pear juice or a high supplement, *Australian Journal of Nutrition and Dietetics,* 58(3), pp.181-184.

Trads M. Deutch S.R. & Pedersen P.U. (2018) Supporting patients in reducing postoperative constipation: fundamental nursing care – a quasi-experimental study, Scandinavian Journal of Caring Sciences, 32(2), pp.824-832.

Turkoski B.B. (2018) 'I can't poop' medication induced constipation, *Orthopaedic Nursing.* 37(3), pp.192-198.

Wald A. Scarpignato C. Kamm M.A. Mueller-Lissner S. Helfrich I. Schuijt C. Bubeck J. Limoni C. & Petrini O. (2007) The burden of constipation on quality of life: results of a multinational study, *Alimentary Pharmacology and Therapeutics,* 26(2), pp.227-236.

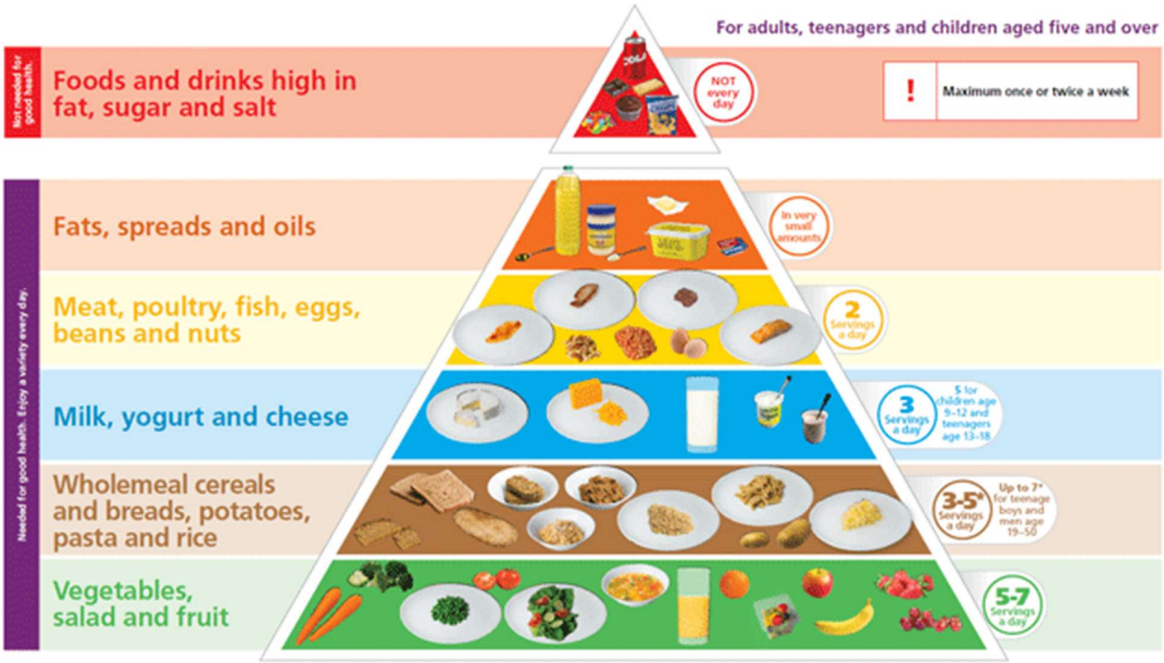
Woodward S. (2012) Assessment and management of constipation in older people, *Nursing Older People*, 24(5), pp.21-26.

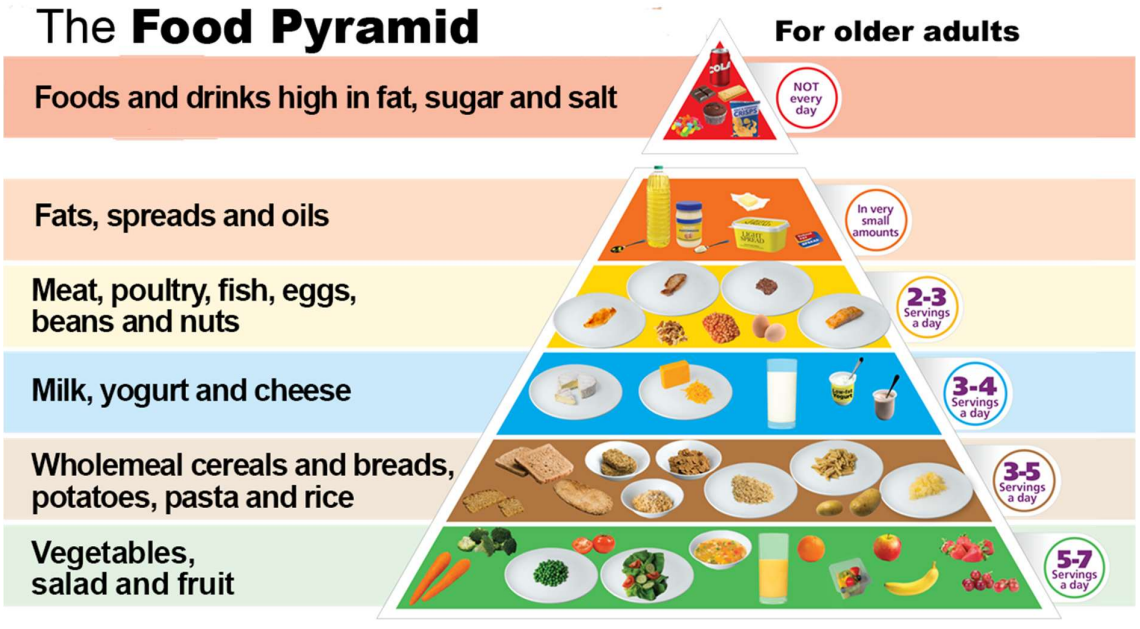
Appendix 1: **Bristol Stool Chart**

Bristol Stool Chart

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces. **Entirely Liquid**

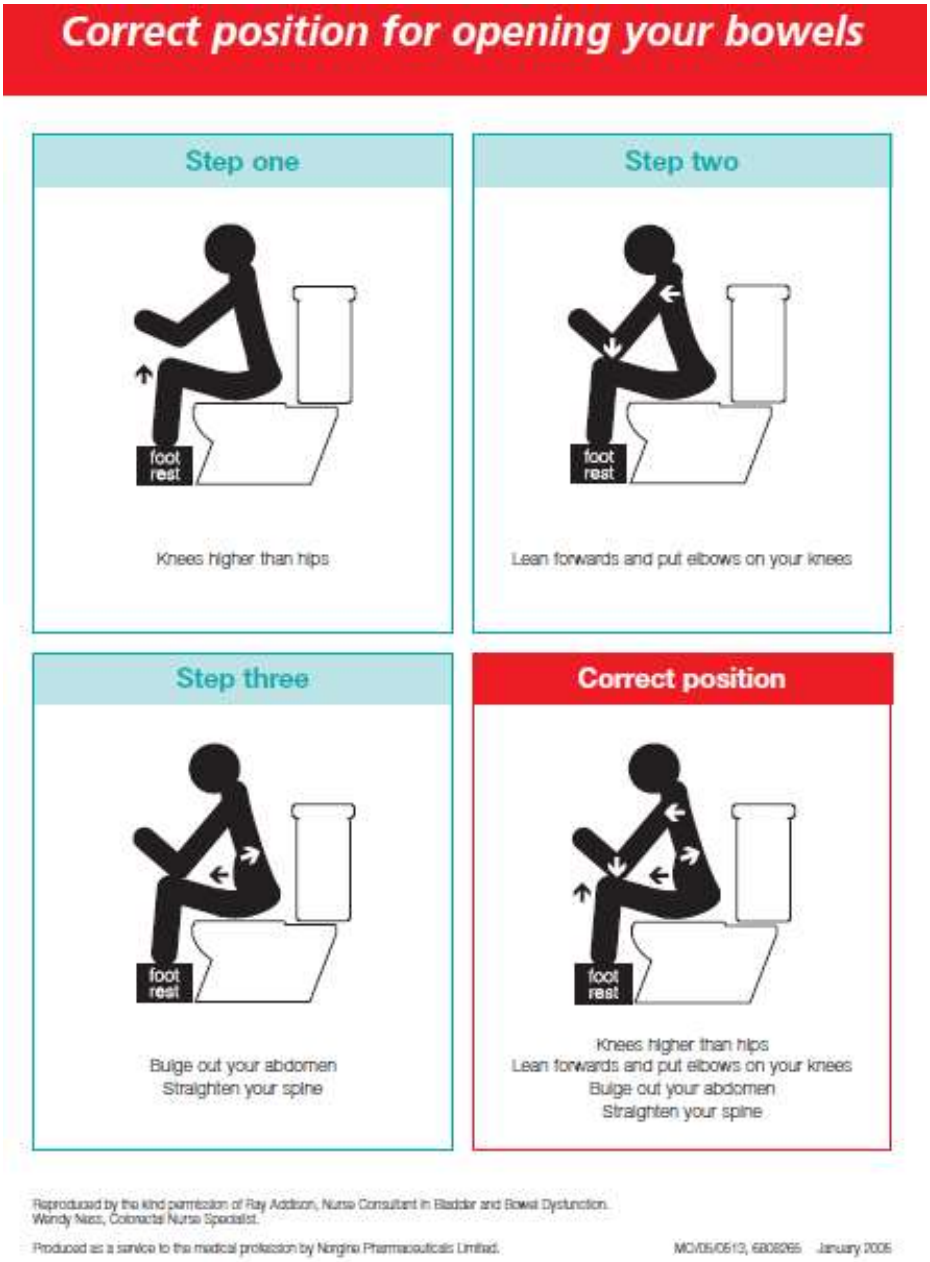
Appendix 2: Food Pyramid





The Food Pyramid retrieved from https://www.safefood.net/healthy-eating

Appendix 3: Correct positioning



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