



MEDICATION-RELATED CONSTIPATION

Chronic constipation is common among older persons in residential aged care. People with chronic constipation complain of reduced stool frequency, hard stool consistency, straining or a sensation of incomplete evacuation. Abdominal pain and bloating may also be present.

Constipation

Constipation is defined as:

- Fewer than three spontaneous bowel movements per week
- Straining for more than 25% of defaecation attempts
- Lumpy or hard stool for at least 25% of defaecation attempts
- Sensation of anorectal obstruction or blockage for at least 25% of defaecation attempts
- Sensation of incomplete defecation for at least 25% of defecation attempts
- Manual manoeuvring required to defecate for at least 25% of defecation attempts

Medication-related constipation

Many medications can cause or worsen constipation including:

- opioids
- tricyclic antidepressants
- anticholinergic agents
- iron supplements
- antacids
- bismuth
- non-steroidal anti-inflammatory drugs (NSAIDs)
- calcium channel blockers
- antipsychotics

Iron supplements frequently cause darkening of stools and constipation. Iron polymaltose (*Maltofer*) is less likely to cause constipation than ferrous iron supplements (e.g. *FGF*, *Fefol*, *Ferro-F*, *Ferro-grad C*).

Antacids containing calcium carbonate or aluminium hydroxide can cause constipation. Calcium citrate (*Citracal*) is less likely to cause constipation than calcium carbonate.

Opioid-induced constipation

Up to 95% of patients prescribed an opioid report constipation as a side effect. Opioid pain medications such as oxycodone and morphine cause constipation and hardening of the stool. Most people with opioid-induced constipation experience straining and incomplete emptying. Opioid-induced constipation may occur immediately or may appear gradually during opioid treatment. Other gastrointestinal effects may be present, including nausea, vomiting, bloating, pain, and straining.

Preventive laxatives should begin when opioid therapy begins. Stimulant laxatives such as senna or bisacodyl and osmotic laxatives such as macrogol (*Movicol*) are most effective. Combined stimulant laxative with a stool softener (*Coloxyl with Senna*, *Sennesoft*) can be used. Bulk-forming laxatives like psyllium should not be used as they increase the risk of bowel obstruction.

For non-responsive opioid-induced constipation, glycerol suppository, small volume enema (*Microlax*) or higher dose macrogol may be administered.

For palliative care patients, methylnaltrexone injection (*Relistor*) may be added when conventional laxatives are unsuccessful. *Relistor*, an opioid receptor antagonist, is administered as a single dose on alternate days or longer intervals as needed. Bowel movement may occur within 30 minutes of injection.

Prucalopride (*Resotrans*) is effective in increasing gastrointestinal motility. It is administered once daily, with an effect usually seen within a few weeks. If no benefit is evident within 4 weeks, it should be ceased. It can cause dizziness and headache.

Laxatives

The goals for treatment of constipation are to relieve symptoms, restore normal bowel function, promote colonic transit, and facilitate defaecation. The choice of laxative for treatment or prevention of constipation depends on the cause. Laxatives can be grouped by their mechanism of action:

- Fibre supplements

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- Osmotic laxatives
- Stimulant laxatives
- Stool softeners
- Enemas and suppositories

Bulk-forming supplements contain soluble fiber that increases the bulk of stools, distends the colon and augments peristalsis. They must be administered with fluids to prevent bloating, cramping, and bowel obstruction.

Common bulk-forming laxatives include psyllium (*Metamucil*), wheat dextrin (*Benefiber*), ispaghula husk (*Fybogel*) sterculia (*Normafibe*), and sterculia/frangula (*Normacol Plus*). They are not effective for acute relief of constipation as they can take several days to have any effect.

Stimulant laxatives (*senna, bisacodyl*) stimulate peristaltic activity, increasing intestinal motility. Stimulant laxatives may also be included 'natural products' such as *Nu-Lax Fruit Laxative*. Oral stimulant laxatives generally take about 6 to 10 hours for onset, whereas suppositories (*Dulcolax, Bisacodyl*) will work within 15 to 60 minutes. There is no convincing evidence that long-term use of stimulant laxatives causes cathartic colon or colon injury.

Osmotic laxatives include lactulose (*Actilax, Dulose, Duphalac*), sorbitol (*Sorbilax, Sorbisol*) and macrogol (*Movicol, Osmolax*). They work by promoting secretion of water into the intestinal lumen to soften stools and help stimulate bowel movements. Lactulose should be avoided if fluid intake is poor. Osmotic laxatives can cause bloating, gas, belching, and cramping. Flatulence is common.

Saline laxatives (*Epsom Salts*) have a fast onset of action but may be associated with electrolyte disturbances when used regularly.

Stool softeners such as docusate sodium (*Coloxyl*), liquid paraffin (*Agarol, Parachoc*) and poloxamer (*Coloxyl Drops*) are good for preventing constipation, but do not work well for established constipation. They work by moistening the stool and take 1 to 2 days to work. There is limited evidence that stool softeners used alone are effective. Liquid paraffin products should not be administered before lying down, as they may risk aspiration. Stool softeners are often combined with a stimulant laxative (*Coloxyl with Senna, Sennesoft*). Enemas (*Microlax, Micolette*) can be used for people with impaction but should not be used routinely to treat constipation. Bisacodyl enema (*Bisalax*) will produce an effect within 5 to 15 minutes. Suppositories should not be embedded in faecal matter as it delays the laxative effect.

Natural products

Increasing dietary fiber, fluid intake, and physical exercise are the backbone to prevention therapy for constipation. A recent study compared two green kiwifruit, 100g of prunes (about 12 prunes) or 21g of psyllium taken each day for 4 weeks. All three groups had significant improvements in complete spontaneous bowel movements and straining. Stool consistency significantly improved in the kiwifruit and prune consumption groups, and bloating improved significantly in the kiwifruit group. The psyllium group had the most adverse events, and the kiwifruit group had the least.

Psyllium (*Metamucil*) is a poorly fermentable fiber with water-holding and gel-forming properties. Dried plums or prunes contain fibre as well as sorbitol, resulting in a laxative effect by increasing stool water and volume.

Kiwifruit provides fiber and antioxidant benefits. It reduces abdominal discomfort and improves bowel regularity. Kiwifruit is low in fermentable oligosaccharides, disaccharides, monosaccharides, and polyols, and therefore less likely to cause bloating.

Summary

Many medications can cause or aggravate constipation. Residents with medication-induced constipation may have to cease or change the offending medication when feasible. Residential Medication Management Reviews (RMMRs) can identify medication-related causes of constipation and provide appropriate suggestions for management.

References

- Am J Gastroenterol* 2021;116:1304–12.
Curr Gastroenterol Rep 2017;19(4):15.

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