Constipation

Non-Prescription Drugs and Parapharmaceuticals

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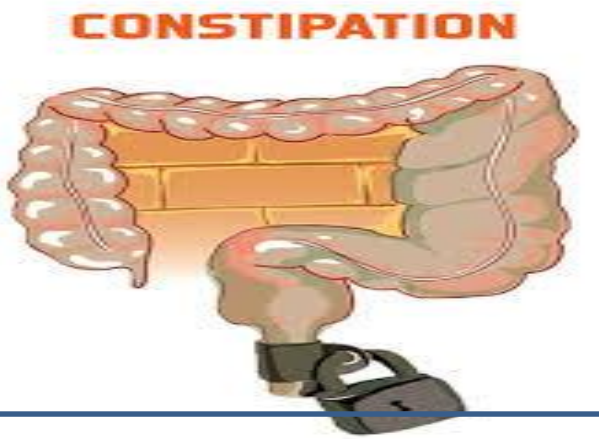
Constipation

- Many people believe that a daily bowel movement is necessary for good health. However, the normal range may vary: from three movements/day to three movements/week.

- It’s important for the pharmacist to find out what the patient means by constipation (by taking details about the bowel habit).



Constipation is a condition that is **difficult to define** and is often **self-diagnosed by patients**.

Generally, it is characterized by the **unsatisfactory passage of hard, dry stools less frequently than by the person's normal pattern**.

It may be **uncomfortable**, and there is a **sense that passage of stools is incomplete**.

It is important for the pharmacist to find out what the patient means by constipation and to establish what (if any) change in bowel habit has occurred and over what period of time.

Patients may describe constipation as:

1. Straining to have stool.
2. The passage of hard, dry stool.
3. The passage of small stools.
4. Feelings of incomplete bowel evacuation.
5. Bloating or decreased stool frequency.

The pharmacist has an important health education role in reassuring patients that their frequency of bowel movement is normal.

Epidemiology

a. Age. Constipation is common in all age groups, however ; there is a

higher prevalence in people > 65 years of age.

b. Gender . Women suffer from constipation more of ten than men

What you need to know / Duration

A change of ‘bowel habit’, which has **lasted for 2 weeks or longer**, would be an indication for referral.

What you need to know/ Associated Symptoms/ *Blood in the stool*

The presence of blood in the stool can be associated with constipation and, **although alarming**, is not necessarily serious, but does **require medical referral for diagnosis**.

In such situations, blood may arise from piles (hemorrhoids) or a small crack in the skin on the edge of the anus (anal fissure).

Both these conditions can be **caused** by a **diet low in fiber** that tends to produce constipation.

What you need to know/ Diet

Insufficient dietary fiber is a common cause of constipation.

An impression of the fiber content of the diet can be gained by asking what would normally be eaten during a day, particularly for the presence of cereals, brown bread, fresh fruit, and vegetables.

Changes in diet and lifestyle, for example, following a job change, loss of work, retirement or travel, may result in constipation.

Inadequate intake of food and fluids, for example, in someone who has been ill, may also be responsible for constipation.

Lack of exercise or reduced mobility is also implicated, and regular exercise has a role to play in managing constipation.

Caffeine in coffee, tea and some soft drinks can aggravate constipation by contributing to dehydration.

Causes of constipation

- **Most common**
  - Inadequate fiber or fluid intake
  - Poor bowel habits
- **Systemic disease**
  - Endocrine: hypothyroidism, hyperparathyroidism, diabetes mellitus
  - Metabolic: hypokalemia, hypercalcemia, uremia, porphyria
  - Neurologic: Parkinson disease, multiple sclerosis, sacral nerve damage (prior pelvic surgery, tumor), paraplegia, autonomic neuropathy
- **Medications**
  - Opioids
  - Diuretics
  - Calcium channel blockers
  - Anticholinergics
  - Psychotropics
  - Calcium and iron supplements
  - NSAIDs
  - Clonidine
  - Cholestyramine
- **Irritable bowel syndrome**

Table 7.18
Specific questions to ask the patient: Constipation

Question	Relevance
Change of diet or routine	Constipation usually has a social or behavioural cause. There will usually be some event that has precipitated the onset of symptoms.
Pain on defecation	Associated pain when going to the toilet is usually due to a local anorectal problem. Constipation is often secondary to the suppression of defecation because it induces pain. These cases are best referred for physical examination.
Presence of blood	Bright red specks in the toilet or smears on toilet tissue suggest haemorrhoids or a tear in the anal canal (fissure). However, if blood is mixed in the stool (melaena), referral to the doctor is necessary. A stool that appears black and tarry is suggestive of an upper gastrointestinal bleed.
Duration (chronic or recent?)	If a patient suffers from long-standing constipation and has been previously seen by the doctor, treatment could be given. However, cases >14 days with no identifiable cause or previous investigation by the doctor should be referred.
Lifestyle changes	For example, changes in job or marital status can precipitate depressive illness that can manifest with physiological symptoms, such as constipation.

Treatment goals

1. Relieve constipation and re-establish normal bowel function
2. Establish dietary and exercise habits that aid in preventing recurrence
3. Promote the effective and safe use of laxative products.
4. Avoid overuse of laxatives.

Treatment of constipation

Initial management of constipation involves:

1. Increase the amount of fiber consumed daily fruits, vegetables, bran and cereals).
2. Increasing fluid intake.
3. Regulation of bowel habits
4. Regular exercise.
5. Treatment of the cause
6. For drug causes of constipation, a non constipating alternatives should be used. If no alternatives exist, lower the dose.

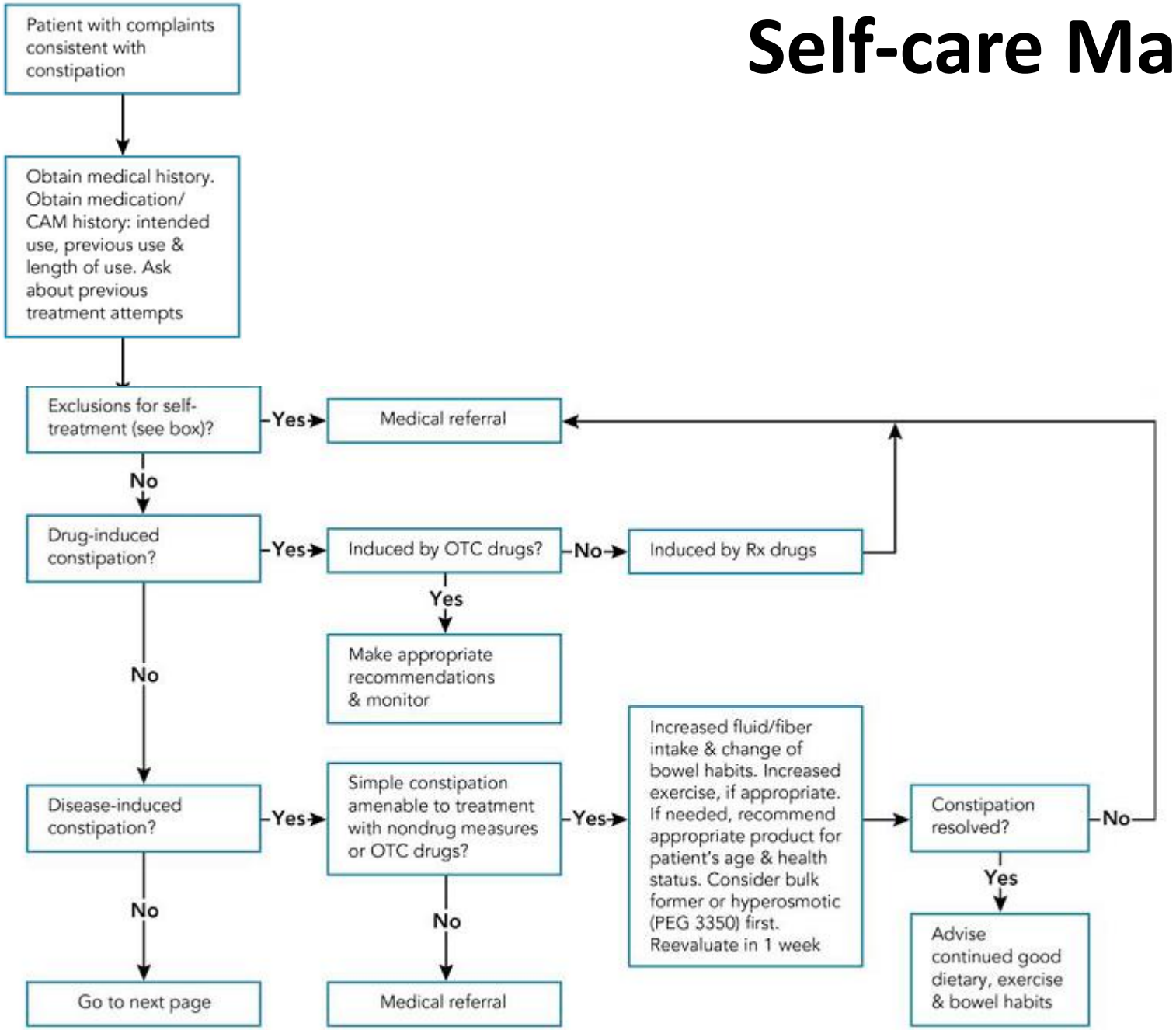
Nonpharmacologic treatment of constipation

- If dietary modifications are not effective, patients may choose to supplement their diet with a commercially available fiber supplement
- The beneficial effect from a high-fiber diet or fiber supplement usually is not immediately achieved. Individual **benefits will vary and may take 3-5 days or longer.**

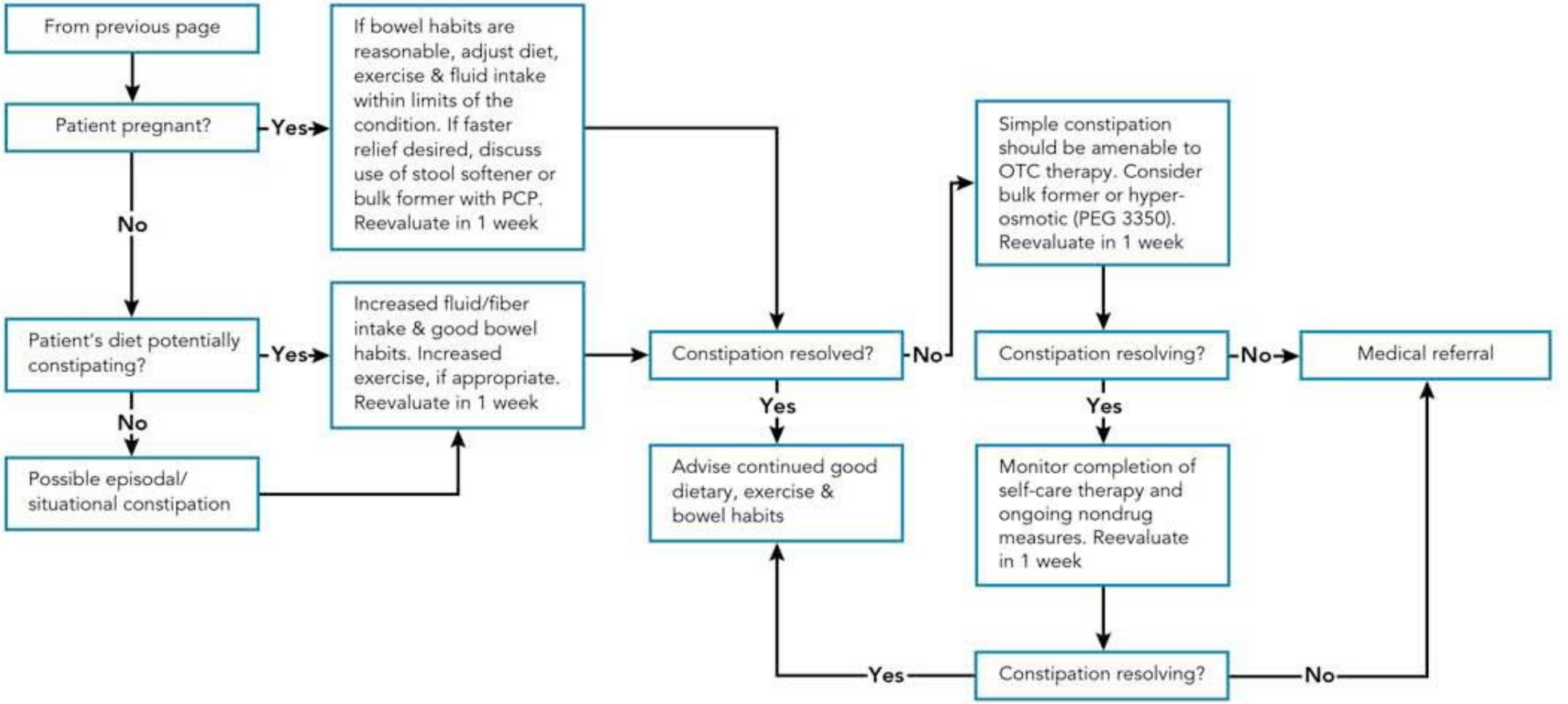
- Recommend that patients gradually increase fiber intake over a period of 1-2 weeks increase tolerance. Significantly increasing dietary fiber from any source may lead to erratic bowel habits, flatulence, and abdominal discomfort during the first few weeks.

- Advise patients to increase their fluid intake when increasing dietary fiber. In general, 2 liters of fluid per day is recommended.

Self-care Management



Self-care Management



What you need to know/ When to Refer

- Change in bowel habit of 2 weeks or longer.
- Presence of abdominal pain, vomiting, bloating.
- Weight loss.
- Blood in stools.
- Prescribed medication suspected of causing symptoms.
- Failure of OTC medication.
- If 1 week's use of treatment does not produce relief of symptoms, the patient should see the doctor.

- **Treatment timescale**

- If 1 week's use of treatment does not produce relief of symptoms, the patient should see the doctor. If the pharmacist feels that it is necessary to give only

dietary advice, then it would be reasonable to leave it for about 2 weeks to see if the symptoms settle.

Management

- Stimulant laxatives
- Bulk-Forming Agent
- Osmotic laxatives
- Emollient Laxatives

Laxatives

a. Stimulant laxatives

Available in tablet and suppository formulations.

induces a bowel movement within 6– 10 hours when given orally and 30–60 minutes when taken rectally

Sennosides; Occur naturally in plants

Produce a bowel movement in 6–12 hours when given orally

Laxatives

a. Stimulant laxatives

All stimulant laxatives can produce **cramping pains**.

They should be used for a **maximum of 1 week.**

Bisacodyl tablets are **enteric coated** and should be swallowed whole because *bisacodyl* is irritant to the stomach. Ingestion should be avoided within 1 to 2 hours of ???.....

Castor oil is used less frequently; it is pregnancy category X and is associated with uterine contractions and rupture. Use of castor oil in breastfeeding is considered “possibly unsafe.”

Laxatives

b. Bulking Agent; Bulk-Forming Agent

Are those that **most closely copy the normal physiological mechanisms** involved in bowel evacuation and are considered by many to be **the laxatives of choice** (Fibers).

Bulk-forming laxatives are **indigestible**, **hydrophilic colloids** that **absorb water**, **forming a bulky gel that distends the colon and promotes peristalsis.**

The laxative effect can **take several days** (12-24 hours but may require 3 days in some individuals) to develop.

Constipation

b. Bulking Agent; Bulk-Forming Agent

Psyllium, ispaghula, methylcellulose are especially **useful** where patients have **difficulty in increasing their intake of dietary fiber using fruit**, **vegetables and bran** (نخالة).

- **Advice by the pharmacist**

It's necessary to increase fluid intake with bulk laxatives. Inadequate fluid intake → risk of intestinal obstruction.

In the form of granules or powder, the preparation should be **mixed with a full glass of liquid** (e.g. fruit juice or water) before taking and ideally **followed by a further glass of liquid**.

Fruit juice can mask the bland taste of the preparation.

Laxatives

c. Osmotic laxatives

Contain substances that are **poorly absorbable and draw water into the lumen of the bowel.** Lactulose and polyethylene glycol (PEG); *also known as Macrogol*, are common examples.

May take 1–2 days to work.

- **Lactulose is generally not recommended as a first-line agent** for the treatment of constipation because it is costly and may cause flatulence, nausea, and abdominal discomfort or bloating

Laxatives

d. Emollient Laxatives (Stool Softeners)

Anionic surfactants that **enable additional water and fats to be incorporated in the stool**, making it easier for them to move through the gastrointestinal tract.

They may be administered **orally or rectally.**

To prevent development of constipation (**prophylactic**); e.g. **after rectal or abdominal surgery** and **are of little or no value in treating long-standing constipation**.

Docusate Calcium, Docusate Sodium, Docusate Potassium.

Docusate sodium appears to have both **stimulant and stool-softening** effects and acts **within 1–2 days.**

Laxatives

e. Lubricant laxatives-Glycerin

•Has been available for many years in suppository dosage form.

•Poorly absorbed

•It induces bowel motion within 30 min.

•Complicated with rectal irritation.

•They are considered to be safe for occasional use in <u>all age groups.</u>

Laxative abuse

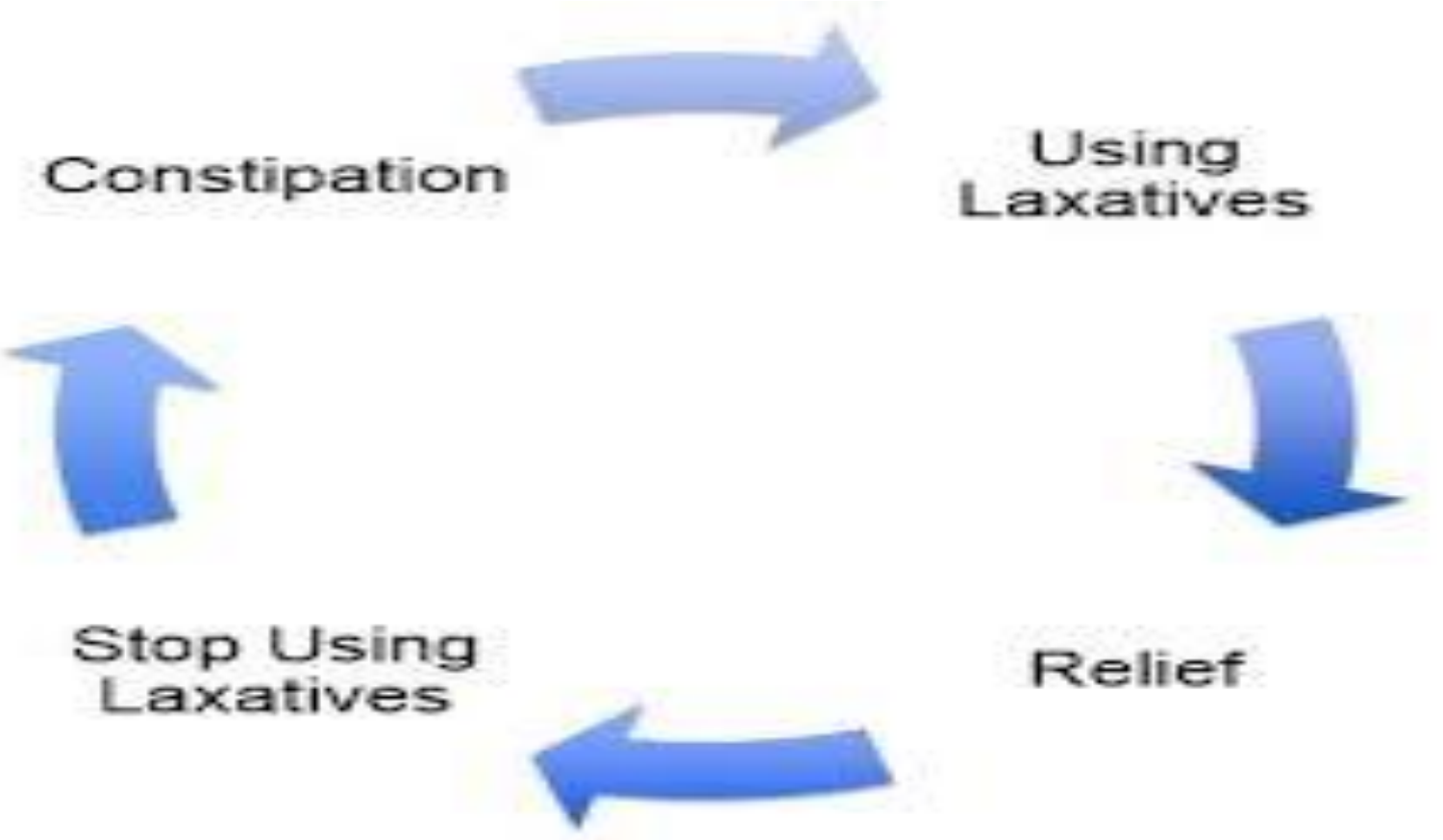
- Two groups of patients are likely to abuse laxatives:

1- laxative dependency

2- People who take laxatives in the belief that they will control weight, e.g. eating disorders such as anorexia nervosa and bulimia

- The pharmacist is in a good position to counsel and monitor laxative use

Constipation and Laxative Dependency



Special population
Pregnancy and lactation

Constipation commonly occurs during pregnancy:

Hormonal changes are responsible (reduce the contractility of the intestine).

Oral *iron*, often prescribed for pregnant women, may contribute to the problem.

Dietary advice concerning the intake of **plenty of high-fiber foods and fluids can help.**

Stimulant laxatives are best avoided during pregnancy.

Bulk-forming laxatives are preferable, although they may cause some abdominal discomfort to women when used late in pregnancy

Special population
Children

- **Nonpharmacological methods, such as increasing the amount of fluid**
- **If nonpharmacological methods do not work, rectal stimulation may be** useful. Pharmacological agents that can be used for acute relief include glycerin suppositories.

- Nonprescription laxatives approved for self-care in children ages 5 to younger than 12 years include:
  - **Oral bulk-forming laxatives**,
  - Rectal products include **glycerin suppositories**

Special population
Elderly

- A **major concern with geriatric** patients is the possible loss of fluid that can be induced by aggressive laxative treatment.

- If medication adjustments and lifestyle changes do not provide adequate relief, laxative therapy is needed.
- **Bulk-forming** laxatives can be considered a first step. Sugar-free products are recommended for patients with diabetes.
- **Stool softeners** (e.g., docusate) may be helpful in older adults with anal fissures or with hemorrhoids that cause painful defecation.

Laxatives in hepatic impairment

- Because most laxatives are not absorbed or metabolized extensively, they can usually be used without difficulty in patients.
- with hepatic impairment. In fact, they are used therapeutically in hepatic encephalopathy to decrease absorption of ammonia dietary protein in the GI tract. **Lactulose** is usually given.

Drug selection

- Choice of a laxative or cathartic depends on the reason for use and the client's condition.

1. For long-term use of laxatives or cathartics in patients

who are elderly, unable or unwilling to eat an adequate diet, or debilitated, **bulk-forming laxatives usually are preferred.** However, because obstruction may occur, these agents should not be given to patients with difficulty in swallowing or adhesions or strictures in the GI tract, or to those who are unable or unwilling to drink adequate fluids.

Drug selection

2. For patients in whom straining is potentially harmful or painful, stool softeners (eg, docusate sodium) are the agents of choice.

3. For occasional use to cleanse the bowel for endoscopic or radiologic examinations, saline or stimulant cathartics are acceptable, polyethylene glycol–electrolyte solution, bisacodyl). These drugs should not be used more than once per week. Frequent use is likely to produce laxative abuse.

Drug selection

4. Saline cathartics containing sodium salts are contraindicated in patients with edema, renal disease or congestive heart failure because enough sodium may be absorbed to cause further fluid retention and edema.

Patient education

Nondrug Measures

- Use nonpharmacological methods such as a high-fiber diet (goal is 25–35 grams per day), adequate fluid intake, and exercise to foster regular bowel movements.
- Increase dietary fiber by eating foods containing wheat grains, oats, fruits, and vegetables.
- Avoid constipating foods such as processed cheeses and concentrated sweets.
- Drink plenty of fluids (six to eight 8-ounce glasses a day) to aid in stool softening and to facilitate fecal evacuation.
- Develop and maintain a routine exercise program. Walking can be beneficial if your cardiovascular system is healthy and if you have no other apparent health risks.
- Establish a regular pattern for bathroom visits. Do not delay responding to the urge to defecate; allow adequate time for elimination in a relaxed, unhurried atmosphere.
- Maintain general emotional well-being and avoid stressful situations.

Nonprescription Medications

- Do not routinely take laxatives if your bowel habits are interrupted for a day or two, or to routinely "clean your system."
- Do not give laxatives to children younger than 6 years unless the use is recommended by a primary care provider.
- If you have kidney or liver disease, heart failure, hypertension, or other conditions requiring sodium, potassium, magnesium, or calcium restriction, do not use laxative products whose maximum daily dose contains more than 345 mg (15 mEq) of sodium, 975 mg (25 mEq) of potassium, 600 mg (50 mEq) of magnesium, or 1800 mg (90 mEq) of calcium.
- Consult your primary care provider before using laxatives if you currently have or have a history of any of the following conditions: colectomy, ileostomy, diabetes, heart disease, kidney disease, or swallowing difficulties.
- Consult a primary care provider or pharmacist before using a laxative product if you are taking anticoagulants (blood thinners), digoxin (a heart medicine), sodium polystyrene sulfonate (a treatment for high potassium levels), or tetracycline antibiotics.
- Avoid taking laxatives within 2 hours of taking other medications.
- Take most laxatives at bedtime, especially if more than 6–8 hours are required to produce results.
- Discard any medications that are outdated, that appear to have been tampered with, or that have an unusual appearance.

Patient education

Bulk-Forming Laxatives

- Unless a rapid effect, such as cleaning out the bowel for a diagnostic procedure or X-ray, is needed, take a bulk-forming laxative. Be sure to drink at least 8 ounces of fluid with each dose to prevent intestinal obstruction.

- Use bulk-forming agents with caution if you have diabetes or are on a carbohydrate-restricted diet. These agents have a high caloric content per dose and contain sugar.
- Do not give sugar-free bulk-forming products to patients with phenylketonuria. Such products may contain aspartame, which contributes excessive levels of phenylalanine, an amino acid these patients cannot metabolize.

Hyperosmotic Laxatives

- Do not take the medication in larger than recommended amounts.
- When using PEG 3350 (MiraLAX), use the provided cap to measure the prescribed dose. Mix the powder with a full glass (8 ounces or 240 milliliters) of liquid such as water, juice, soda, coffee, or tea.
- Use of glycerin may be inappropriate in patients with a previous condition that caused rectal irritation.

Stimulant Laxatives

- Do not use castor oil to treat constipation except under the advice of a primary care provider.

Lubricant Laxatives

- Do not give mineral oil to children younger than 6 years of age, pregnant patients, older patients, or patients taking anticoagulants.
- Do not take mineral oil with emollient laxatives.
- To avoid delaying the absorption of foods, nutrients, and vitamins, do not take mineral oil within 2 hours of eating.

Do not take laxatives if you have any symptoms of appendicitis (i.e., abdominal pain, nausea, vomiting), rectal bleeding, painful anal or rectal conditions, bloating, or cramping. See a primary care provider immediately.

If symptoms of constipation are unrelieved by nondrug measures or by 1 week of any laxative treatment, see a primary care provider. Chronic constipation may be a symptom of an underlying medical condition.

HINTS AND TIPS BOX 7.6: CONSTIPATION

Administration of suppositories	1. Wash your hands. 2. Lie on one side with your knees pulled up towards your chest. 3. Gently push the suppository, pointed end first, into your back passage with your finger. 4. Push the suppository in as far as possible. 5. Lower your legs, roll over onto your stomach, and remain still for a few minutes. If you feel your body trying to expel the suppository, try to resist this. Lie still and press your buttocks together. 6. Wash your hands. NOTE: For some suppositories, such as glycerol, it is recommended that the suppository be dipped in water before insertion.
Sachets containing ispaghula husk	Once the granules have been mixed with water, the drink should be taken as soon as the effervescence subsides because the drink sets and becomes undrinkable.
Prolonged use of lactulose	In children, this can contribute to the development of dental caries. Patients should be instructed to pay careful attention to dental hygiene.
Lactulose taste	The sweet taste is unpalatable to many patients, especially if high doses need to be taken.
Bisacodyl	Bisacodyl tablets are enteric-coated, and patients should be told to avoid taking antacids and milk at the same time because the coating can be broken down, leading to dyspepsia and gastric irritation.
Laxative abuse	Some people, especially young women, use laxatives as a slimming aid. Any very slim person who is regularly purchasing laxatives should be politely asked about why they are taking the laxatives. An opening question could be phrased, 'We've noticed that you have been buying quite a lot of these, and we are concerned that you should be better by now. Is there anything we can do for you to help?'
Onset of action	Stimulants are the quickest-acting laxative, usually within 6–12 hours. Lactulose and bulk-forming laxatives may take 48–72 hours before an effect is seen. Stool softeners are the slowest in onset, taking up to 3 days or more to have an effect.
Which laxative to use in pregnancy?	Fibre supplementation and bulk-forming agents are considered to be safe and should therefore be first-line treatments wherever possible. Stimulant laxatives and macrogols also appear to be safe in pregnancy. Stimulant laxatives are more effective than bulk-forming laxatives but are more likely to cause diarrhoea and abdominal pain.
Avoid drinks with caffeine	These can act as a diuretic and serve to make constipation worse.
Combining laxatives	There is little evidence on the beneficial effect of combining different classes of laxatives. However, in refractory cases, this approach might be justifiable.