

Gastrointestinal Conditions

3-Constipation

Background

1-**Constipation**: is a condition characterized by the passage of **hard, dry** stools **less frequently** than the **person's normal pattern** ⁽¹⁾.

2-The normal range may vary from three movements in 1 day to three in 1 week ⁽¹⁾. If it was stabilized at three daily for a patient, a reduction to one bowel movement daily might produce hard stools that lead to constipation. On the other hand, if a person's normal frequency is three weekly, two weekly might harden feces so that lead to constipation ⁽²⁾.

3-**Women** are two to three times more likely to suffer from constipation than men and about 40% of women in late pregnancy experience constipation ⁽³⁾.

Etiology

1-Causes of constipation and their relative incidence are shown in table -1 ⁽³⁾.

2-Drugs that may cause constipation are shown in table -2 ⁽¹⁾.

3-**Lifestyle factors**: like low-fiber diet, inadequate fluid intake, eating different foods or at different times, and chronic immobility can contribute to constipation ⁽⁴⁾.

4-**Examples of disease-induced constipation**: are diabetes mellitus, Hypothyroidism, IBS, bowel cancer, and painful anal conditions (such as anal fissures, and hemorrhoids) in which the patient tries to avoid defecation to avoid pain ⁽⁴⁾.

5-Constipation is a common problem in **elderly**, and **pregnancy** (due to hormonal changes, reduced mobility, bowel compression by the uterus, and iron therapy commonly taken by pregnant) ⁽¹⁾.

Table 1
Causes of constipation and their relative incidence in community pharmacy

Incidence	Cause
Most likely	Eating habits/lifestyle
Likely	Medication
Unlikely	Irritable bowel syndrome, pregnancy, depression, functional disorders (children)
Very unlikely	Colorectal cancer, hypothyroidism

Table 2 Drugs that may cause constipation.

Drug group	Drug
Analgesics and opiates	<i>Dihydrocodeine, codeine</i>
Antacids	<i>Aluminium salts</i>
Anticholinergics	<i>Hyoscine</i>
Anticonvulsants	<i>Phenytoin</i>
Antidepressants	<i>Tricyclics, selective serotonin reuptake inhibitors</i>
Antihistamines	<i>Chlorpheniramine, promethazine</i>
Antihypertensives	<i>Clonidine, methyl dopa</i>
Anti-Parkinson agents	<i>Levodopa</i>
Beta-blockers	<i>Propranolol</i>
Diuretics	<i>Bendroflumethiazide</i>
Iron	
Laxative abuse	
Monoamine oxidase inhibitors	
Antipsychotics	<i>Chlorpromazine</i>

Complications⁽⁵⁾

If untreated, constipation can lead to:

1-**Faecal impaction** (when a large mass of faeces cannot be passed) and **obstruction** (with potential to progress to bowel **perforation**)

2-**Rectal bleeding**

3-**Anal fissures**

4-**Hemorrhoids**

Patient assessment with constipation

A-Details of bowel habit:

1-Many people believe that a daily bowel movement is necessary for good health and laxatives are often taken and abused as a result. *In fact, the normal range may vary from three movements in 1 day to three in 1 week.* Therefore an important health education role for the pharmacist is in reassuring patients that their frequency of bowel movement is normal. *Patients who are constipated will usually complain of hard stools which are difficult to pass and less frequent than usual*⁽¹⁾.

2-The determination of any change in bowel habit is essential. A sudden change which has lasted for 2 weeks or longer⁽¹⁾ (**with no identifiable cause**⁽⁶⁾) should be referred for further investigations⁽¹⁾. [Constipation lasting 6 weeks or more is said to be chronic. If a patient suffers from longstanding constipation and has been previously seen by the physician then treatment could be given. However, cases of more than 14 days with no identifiable cause or previous investigation by the physician should be referred]⁽³⁾.

B-Associated symptoms:

1-Intestinal obstruction:

Constipation is often associated with abdominal discomfort, bloating and nausea. In some cases constipation can be so severe as to **obstruct the bowel**. This obstruction or blockage usually becomes evident by causing *colicky abdominal pain, abdominal distension and vomiting*.

When symptoms suggestive of obstruction are present-----urgent referral is necessary as hospital admission is the usual course of action⁽¹⁾.

2-Blood in the stool:

The presence of blood in the stool can be associated with constipation. In such situations blood may arise from piles (**haemorrhoids**) or a small crack in the skin on the edge of the anus (**anal fissure**).

The bright red blood may be present on the surface of the stool (not mixed in with the stool). If piles are present, there is often discomfort on defaecation. The piles may drop down (prolapse) and protrude through the anus. A fissure tends to cause less bleeding but much more severe pain on defecation⁽¹⁾.

The presence of blood in the stool⁽¹⁾, *or dark tarry stool*⁽⁴⁾ ----- refer for further investigations. (Medical referral is advisable as there are other more serious causes of bloody stools, especially where the blood is mixed in with the stool)⁽¹⁾.

3-Constipation with associated **weight gain, deepening of the voice, feeling of tiredness and coarse hair** (*may indicate hypothyroidism*) ----- referral⁽⁶⁾

4-Constipation with associated **weight loss** (may indicate **carcinoma**) ----- referral⁽⁶⁾

C-Diet and lifestyle^(1, 5):

Insufficient intake of dietary fibers (like fruit, vegetables,.....), inadequate fluid intake , eating different foods or at different times may cause constipation.

Also changes in lifestyle, for example: job changes, loss of work, retirement or travel may cause constipation.

D-Medication:

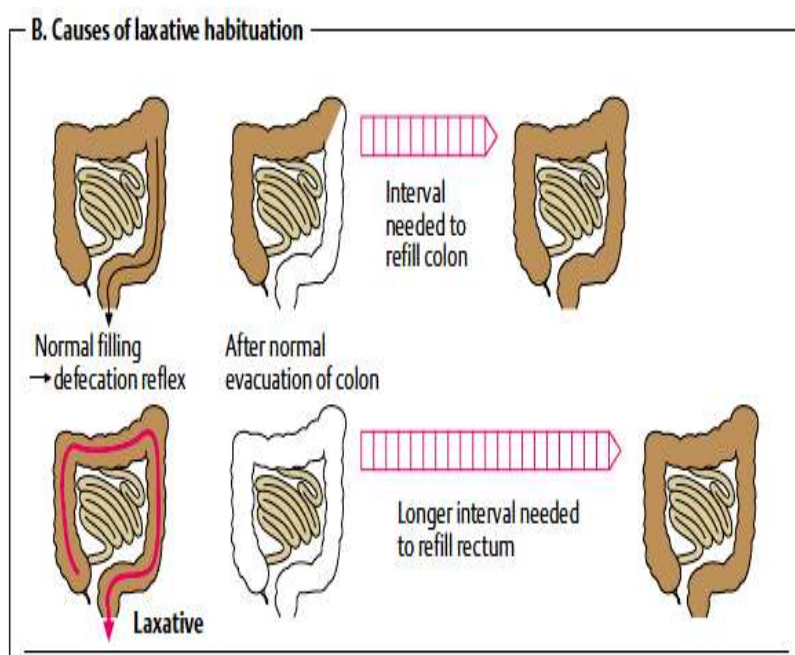
1-One or more laxatives may have already been taken in an attempt to treat the symptoms. Failure of such medication -----referral⁽¹⁾.

2-Many drugs can induce constipation; some examples are listed in Table 2⁽¹⁾.

3-laxative abuse:

Continuous use, especially of stimulant laxatives, can result in a vicious circle where the contents of the gut are expelled, causing a subsequent cessation of bowel actions for 1 or 2 days. This then leads to the false conclusion that constipation has recurred and more laxatives are taken and so on⁽¹⁾.
(See the figure)⁽⁷⁾.

Chronic overuse of stimulant laxatives can result in loss of muscular activity in the bowel wall (an **atonic colon**) and thus further constipation. Any patient who is ingesting large amounts of laxative agents should be referred to the doctor⁽¹⁾.



! TRIGGER POINTS indicative of referral:	
Symptoms/signs	Possible danger/reason for referral
Pain on defecation causing patient to suppress defactory reflex	Check for anal fissure
Patients aged over 40 years old with sudden change in bowel habits with no obvious cause	Danger symptom for rectal carcinoma
Greater than 14 days' duration with no identifiable cause	Suspect underlying cause that requires fuller investigation by GP
Tiredness	Check for anaemia or thyroid dysfunction

When to refer

Change in bowel habit of 2 weeks or longer
Presence of abdominal pain, vomiting, bloating
Blood in stools
Prescribed medication suspected of causing symptoms
Failure of OTC medication

Treatment timescale⁽¹⁾

A-If the pharmacist gives non-pharmacologic advice only----- the treatment timescale is 2 weeks.

B-If the pharmacist gives laxative drug----- the treatment timescale is 1 week only.

Management

A-Non-pharmacologic advices^(4-6, 8):

1-Eat a diet high in fiber, including wholegrains, fruits and vegetables⁽⁶⁾.

2- Drink plenty of fluids, the equivalent of at least 8–10 glasses of water a day.

However, it should be noted that fluid increase is contraindicated in some people (e.g. in heart or renal failure).

3-Develop and maintain a routine exercise program (if the C.V.S. is healthy). Even a 30 minute walk daily will help promote normal bowel function.

4-Patients should also be encouraged to **respond immediately to any urge to defecate**. Failure to do so can result in a build-up of faeces that continue to have water absorbed from them, making them more difficult to pass.

B-Laxatives:

1-The drug selection should be based on: Patients characteristics (age, pregnancy...), patient preference, how quickly an effect is needed, side effects, and cost.

Where constipation is not induced by necessary drug therapy or chronic illness, the laxative should be used for a short time until dietary and lifestyle changes become effective⁽⁵⁾.

2-Laxatives can be classified into groups depending on their mode of action⁽⁹⁾ (table-3).

Table-3: types of laxatives		
Type of laxative	Example(s)	Approximate onset of action
1-Stimulant laxative	Senna, Bisacodyl, Sodium picosulfate, and Glycerin (supp.)	Oral:6-12hours ⁽¹⁾ Rectal: within 1 hour ⁽¹⁾
2-Bulk-forming laxative	Methylcellulose, Bran , Sterculia and Ispaghula (Metamucil®)	1-3 days ⁽⁴⁾
3-Lubricant (faecal softeners)	Liquid paraffin	6-8 hours ⁽⁴⁾
4-Osmotic laxative	Lactulose	1-2 days ⁽⁴⁾

A-Stimulant laxatives:

1-Stimulant laxatives are thought to act mainly by stimulating the intestinal mucosa to secrete water and electrolytes⁽⁶⁾.

2-The main **adverse effects of stimulant laxatives** are griping and intestinal cramps. Prolonged use may result in loss of colonic smooth muscle tone (see laxative abuse) ⁽⁹⁾. Stimulant laxatives should therefore be used for only short periods of a few days at most, to reestablish bowel habit ⁽⁶⁾.

3-Bisacodyl tablet is **enteric-coated**; therefore, it should be swallowed whole and should not be taken within one hour of antacid or milk as this will lead to dissolution of the coating and release of the drug into the stomach and cause gastric irritation ⁽⁹⁾.

4- Senna is excreted via the kidney and may **color the urine** a yellowish-brown to red color depending on its PH ⁽⁶⁾.

5-Senna is secreted in breast milk, and large dosages may cause increased gastric motility and diarrhea in breastfed infants. Breastfeeding mothers should, therefore, avoid this laxative ⁽⁶⁾. (However BNF-70 states that it is not known to be harmful ⁽¹⁰⁾ and other reference states that its use in breastfeeding is OK but other safer laxatives are preferred ⁽³⁾).

6-Usual Doses:

Bisacodyl 5 mg tab. Adult dose: usually 1-2 tablets (usually take at night to produce the effect next morning).

While the dose of supp. Is one supp. (usually in the morning) ^(9, 10).

Senna tab. Adult dose: usually 2 tablets (usually take at night to produce the effect next morning) ^(9, 10).

Glycerin suppositories: The patient should expect to have bowel movement quickly (within one hour). Varying sizes are made: the 1 gm suppositories are designed for infants, 2 gm for children and the 4 gm for adults ⁽³⁾.

B-Bulk-forming laxative

1-Bulk laxatives are those that most closely **resemble the normal physiological** mechanisms involved in bowel evacuation. Bulk laxatives work by swelling in the gut and increasing faecal mass so that peristalsis is stimulated ⁽¹⁾.

2-The laxative effect can **take several days to develop** ⁽¹⁾.

3-**None of the above preparations should be taken immediately before going to bed**, because there may be a risk of oesophageal blockage if the patient lies down directly after taking them ⁽³⁾.

4-When recommending the use of a bulk laxative, the pharmacist should advise that **an increase in fluid intake would be necessary** ⁽¹⁾.

5-**Adverse effects** and disadvantages are relatively minor. They include:

- Risk of oesophageal and intestinal **obstruction** if preparations are not taken with sufficient water
- Abdominal **distension** and **flatulence**.
- They may not be suitable for patients who must restrict their fluid intake severely ⁽⁶⁾.

C-Liquid paraffin:

Liquid paraffin is considered to have a limited usefulness as an occasional laxative in situations where straining at stool must be avoided ^(6, 9) (for example, following an

operation or a myocardial infarction, or in patients suffering from hernia ⁽⁴⁾), but it **has several drawbacks** that make it unsuitable for regular use:

-It can **seep** from the anus and cause irritation.

-It may **interfere with the absorption of fat soluble vitamins**.

-It is slightly absorbed into the intestinal wall, where it may set up foreign-body **granulomatous reactions**.

-It may enter the lung through aspiration and cause **lipoid pneumonia** ^(6, 9).

D-Lactulose:

It can be taken by all age group, have no drug interactions and can be safely used in pregnancy ⁽³⁾. However, there are some factors that may deter patients from using Lactulose: It may take 72 hours of regular dosing to produce an effect. **It is intensely sweet in taste** ⁽⁹⁾.

Adult laxative dose ⁽¹⁰⁾: 15 ml twice daily.

Serious adverse effects with lactulose are rare. Relatively minor side-effects occur in about 20% of patients taking full doses and include flatulence, cramp and abdominal discomfort, particularly at the start of treatment ⁽⁶⁾.

Product selection guidelines

Patient	Preferred laxative
Pregnant women	Bulk-forming laxative. Lactulose may be used ^(1, 9, 10)
Breast-feeding mother	Bulk-forming laxative, Lactulose ⁽³⁾
Children	Glycerin(supp.) ⁽¹⁾ , Lactulose ⁽⁹⁾
Advanced age(elderly)	Bulk-forming laxative, Also Lactulose and Glycerin (supp.) are safe ⁽⁴⁾ .

Further readings

1-Laxatives are used also for bowel evacuation before investigational procedures, such as endoscopy or radiological examination, or before surgery ⁽¹³⁾.

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4-Handbook of Non-prescription drugs: An Interactive Approach to Self-Care. 16th edition: 2010.

5-Susan A. How to deal with constipation. The pharmaceutical journal . July 2007 (vol 279) pages 23-26.

6-Nathan A. fasttrack. Managing Symptoms in the Pharmacy. Pharmaceutical Press; 2008.

7-Colour atlas of pharmacology.

8- John Horn .Managing Constipation in Adults: Patient Counseling and Triage .US pharmacist 2006.

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الجزء التالي خاص بالعملية

ماذا نسأل عن الإمساك

- 1- من هو المريض وكم عمره؟ (وان كانت امرأة في سن الإنجاب نسأل إن كانت حاملاً أو مرضعاً؟)
- 2- منذ متى تعاني من الإمساك؟ وما هو عدد مرات الخروج سابقاً؟ وكم أصبح الآن؟ وما هي طبيعة الخروج؟
- 3- هل توجد هناك أعراض أخرى مصاحبة للإمساك (مثلاً : تقيؤ , الأم شديدة في البطن.....)؟
- 4- هل يحتوي الخروج على دم؟
- 5- ماهي طبيعة أكلك (هل تكثر من تناول الماء والألياف كالخضروات والفواكه)؟ وهل تغيرت طبيعة الأكل حديثاً؟
- 6- ما هي طبيعة عملك؟ وهل تغير حديثاً؟ هل انك قادم من السفر حديثاً؟
- 7- هل تعاني من أمراض أخرى؟ ماهي؟ وما هي الأدوية التي تستعملها لعلاج هذه الأمراض؟ منذ متى وأنت تستعملها؟
- 8- هل استعملت أدوية لعلاج الإمساك (بما فيها الأدوية العشبية)؟ ماهي؟ منذ متى بدأت استعمالها؟ وكيف تستعملها؟ وما هي النتيجة؟

Patient education

Stimulant laxatives

- 1- تناول حبوب الدواء (اثنين عادة) في الليل مع قرح كامل من الماء لتعطي مفعولها صباح اليوم التالي. أما التحاميل فتؤخذ في الصباح عادة لتعطي مفعولها خلال ساعة. ملاحظة: تغمس التحاميل بالماء وتخرج مباشرة من أجل تسهيل دخولها.
- 2- عند استعمالك لهذا الدواء فانك قد تبقى لمدة 1-3 يوم بدون خروج (وهذا شيء طبيعي ولا يدعو إلى المزيد من الاستعمال)
- 3- راجع الطبيب إذا لم تتحسن خلال أسبوع من الاستعمال.
- بالنسبة لـ **Bisacodyl tab** فتذكر النقاط الثلاث السابقة ويضاف لها
- 4- لا تأخذ الحبوب مع الحليب (أو أي دواء يقلل حموضة المعدة) في نفس الوقت وإنما يجب أن يكون هناك فاصل زمني بينهما (ساعة على الأقل).
- بالنسبة لـ **Senna tab** فتذكر النقاط الثلاث السابقة ويضاف لها
- 4- قد يسبب هذا الدواء تلونا في الإدرار (احمر , بنفسجي , اصفر....) وهذا شيء طبيعي ولا يدعو إلى القلق

Bulk-forming laxative

ملاحظة: الجرعة وطريقة تناول تختلف حسب النوع فمنها ما يكون على شكل حبة تبلع مع كمية كبيرة من الماء ومنها ما يكون بشكل باودر يمزج مع قرح ماء كامل ثم يتناوله المريض ومنها ما يكون بشكل حبيبات يتناول المريض منها ملعقة كوب مثلاً وبعد ان يضع الحبيبات في فمه يتبعها بقرح او اكثر من الماء.

- 1- تحتاج إلى بضعة أيام من الاستعمال المتواصل لترى مفعول الدواء.
- 2- يؤخذ الدواء مع قرح كامل من السوائل (ماء , أو عصير...) مع الإكثار من شرب السوائل خلال اليوم.
- 3- تجنب تناول الدواء قبل النوم مباشرة.
- 4- قد يسبب هذا الدواء بعض الغازات والانتفاخ وهو عادة تأثير مؤقت. وخصوصاً في الفترة الأولى

Lactulose

- 1- إن مفعول الدواء يظهر بعد يومين أو ثلاثة عادة.
- 2- بالإمكان مزج الدواء مع العصير لتحسين طعمه غير المستساغ.
- 3- قد يسبب الدواء بعض الغازات أو الاضطرابات البسيطة في الامعاء وخصوصاً في الفترة الأولى. (وهي عادة تأثيرات مؤقتة).

