Definition of constipation

Constipation is an acute or chronic condition in which bowel movements occur less often than usual or consist of hard, dry stools that are often painful or difficult to pass.

Why is it more common in females? Because bowel transit time in women tends to be slower.

Bristol stool scale[1]

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 the 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)

Types of constipation:

1- Primary:

A- Normal transit constipation (most common).

B- Slow transit constipation.

C- Disorders of defecation: Common in elderly.

2- Secondary: Causes include medication use, disease process and psychosocial issues.

[1] Is a medical aid designed to classify stool into seven groups.

Medications like: Iron supplements, Opioids, Antipsychotic, NSAIDs. (Polypharmacy: more than 5 meds increase risk of constipation)

Medical conditions like: Hypothyroidism, IBS, pregnancy*.

*Why? Because progesterone relaxes the intestinal muscle and by the pressure of the expanding uterus on the intestines all will increase transit time —> constipation.

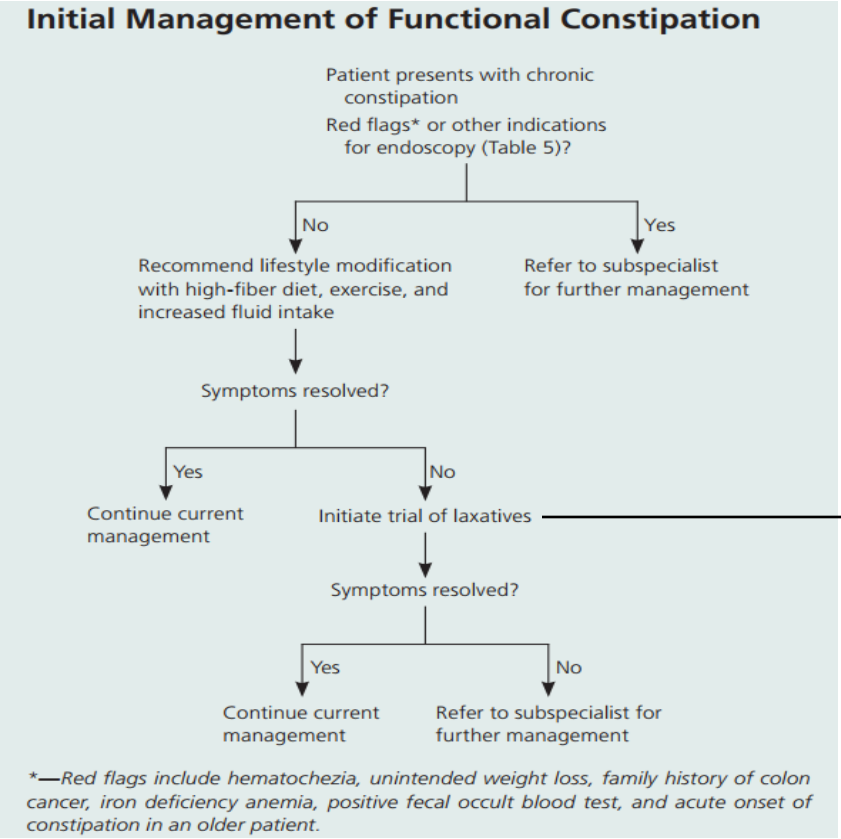
#Complication of constipation: hemorrhoids, anal fissure, hernia "anything increase intracranial pressure you should inquire about constipation", rectal prolapse, UTI* —> Recurrent UTI infection in females you should inquire about constipation.

*How? Impaction of stool encourages urine stasis by disrupting anatomy.

Management of constipation:

First & most important thing is **Lifestyle modification** (increase fluids intake, exercise, stress relieving strategies).

Treat the organic cause (rule out secondary causes either meds or diseases)



Check details in page 3 & 4

#Indications for endoscopy is **very important**:

PATIENTS presenting with IBS symptoms SHOULD be examined for the following "RED FLAG"

#Red flags: hematochezia, Rectal bleeding, Nocturnal symptoms, Recent antibiotic use, Onset after 50 years unintended weight loss, family history of colon cancer /IBD/celiac disease , iron deficiency anemia, positive fecal occult blood test, and **acute onset of constipation in an older patient.**

Table 5. Indications for Endoscopy in Patients with Constipation

Age older than 50 years with no previous colorectal cancer screening
Before surgery for constipation
Change in stool caliber
Heme-positive stools
Iron deficiency anemia
Obstructive symptoms
Recent onset of constipation
Rectal bleeding
Rectal prolapse
Weight loss

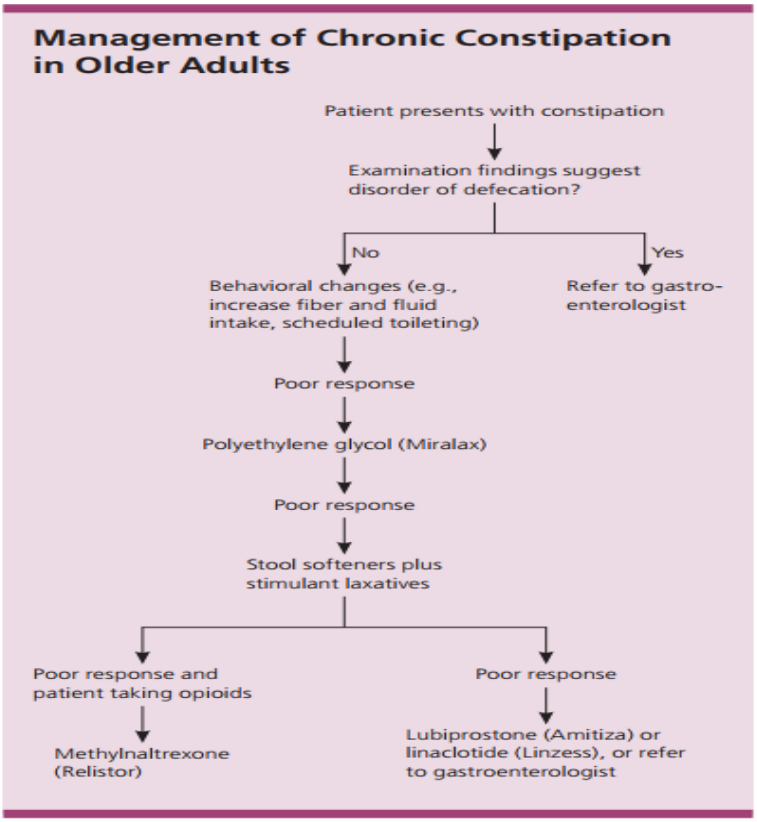


Figure 1. Suggested approach to management of chronic constipation in older adults.

- We must be careful when giving laxatives because of dependency.
- No role for laxatives in chronic causes unless in very special cases like palliative patients whose taking opioids.

1 Additional fiber intake in form of →

Table 1. Medications for the Treatment of Constipation

Agent	Typical dosage*	Time of onset	Adverse effects
Bulking agents			
Methylcellulose powder	19 g per day	12 to 72 hours	None compared with placebo[17]
Polycarbophil (Fibercon) tablets	1,250 mg, one to four times per day	12 to 72 hours	None recorded[18]
Psyllium (Metamucil) powder	1 tsp or 1 packet one to three times per day	12 to 24 hours	Bloating, abdominal distension in 4% to 18%[16,17]
2 **Osmotic laxatives**			
Lactulose solution	15 to 30 mL per day	24 to 48 hours	Bloating and cramping; nausea in up to 20%[19]
Magnesium citrate solution	150 to 300 mL, single dose or short-term daily dose	30 minutes to 6 hours	Increase in magnesium, causing lethargy, hypotension, respiratory depression[20]
Magnesium hydroxide suspension	30 to 60 mL per day	30 minutes to 6 hours	Increase in magnesium, causing lethargy, hypotension, respiratory depression[20]
Polyethylene glycol (Miralax) powder	17 g per day	24 to 48 hours	Minimal adverse effects of cramping and gas[18]
Sorbitol solution	2 to 3 tbsp, single dose or short-term daily dose	24 to 48 hours	Bloating, cramping, and nausea[19]
3 **Stool softeners**			
Docusate sodium (Colace) capsules	100 mg twice per day	24 to 48 hours	None reported[16]
4 **Stimulant laxatives**			
Bisacodyl (Dulcolax) tablets	5 to 15 mg per day	6 to 10 hours	Diarrhea and abdominal pain in 56% in week 1 and 5% in week 4[21]
Senna tablets	15 mg per day	6 to 12 hours	Abdominal pain in up to 12%[16]
Chloride channel activators			
Lubiprostone (Amitiza)† capsules	24 mcg twice per day	Within 24 hours	Nausea in 18%[22]
Peripherally acting mu-opioid antagonists			
Methylnaltrexone (Relistor)‡ solution	Weight-based subcutaneous injection, once or twice per day	30 to 60 minutes	Diarrhea in 8% Abdominal pain in 13%[23]
5 **Other**			
Linaclotide (Linzess)† capsules	145 mcg per day	—	Diarrhea in 16%, which led to treatment cessation in 4%[24]

*—All formulations are oral, unless specified.
†—Estimated retail price for one month's treatment is $300, based on information obtained at http://www.goodrx.com (accessed May 15, 2015).
‡—Estimated retail price for one month's treatment is $1,200, based on information obtained at http://www.goodrx.com (accessed June 10, 2015).

- مهم تعرفون أنواع اللاكزيتڤز و ميكانزم كل واحد وعلى أي أساس الاختيار (خصوصًا بالأوسكي لازم توضّحون إيش بتستخدمون)

- Most important is pharmacological and non-pharmacological.

- نستخدم البلكنق بالكرونك كيسز خصوصًا، ممكن نستخدم البولي إيثيلين بالأكيوت كيسز.

- Important to be careful in laxatives because of electrolytes imbalance.

Diarrhea

Chronic diarrhea is defined as a decrease in stool consistency continuing for more than four weeks.

It can be divided into three basic categories: watery —> IBS, fatty (malabsorption)—> Celiac disease, inflammatory—> IBD.

Watery can be divided into, osmotic (osmotic agent such as lactose, laxatives) secretory "highest voile volume" (alcoholism, surgery of the colon), Functional (hypermobility)

Common causes of chronic diarrhea & clinical findings

1- Celiac disease: Chronic malabsorptive diarrhea, fatigue, iron deficiency anemia, weight loss, dermatitis herpetiformis, family history

2- Clostridium difficile infection (pseudomembranous colitis):

Often florid inflammatory diarrhea with weight loss, Recent history of antibiotic use, evidence of colitis, fever, May not resolve with discontinuation of antibiotics.

3- Endocrine diarrhea: hyperthyroidism

4- Giardiasis: Excess gas, steatorrhea (malabsorption), caused by a parasite (fecal oral route)

5- Drug-induced diarrhea: Stimulant laxatives (e.g., bisacodyl [Dulcolax], senna), Thyroid supplements, Orlistat* (Xenical; fat malabsorption), Antibiotics (e.g., amoxicillin, cephalosporins, clindamycin, fluoroquinolones).

*How to differentiate the cause of steatorrhea in 2 patients is it Celiac or the patient is taking Orlistat as they have similar clinical picture? Celiac patient usually thin & patients who takes Orlistat tends to be obese (they take it to lose weight)

Definition of IBS

Irritable bowel syndrome is defined as abdominal discomfort or pain associated with altered bowel habits for at least three days per month in the previous three months, with the absence of organic disease

Etiology of IBS

A. Causes

- Disturbance in gastrointestinal motility
- Nervous system (dysfunction of the gut brain axis)
- Inflammation in the intestines (visceral hypersensitivity)
- Severe infection (gastroenteritis)
- Changes in bacteria in the gut (microflora)

B. Triggers

- Food
- Stress
- Hormones

C. Risk factors

- Young
- Female
- Family history of IBS
- Mental health problem

Classifications of IBS

1. IBS-C : >25% of bowel movements with Bristol Stool Scale Types 1–2 and <25% with Types 6–7.
2. IBS-D : >25% of bowel movements with Bristol Stool Scale Types 6–7 and <25% with Types 1–2.
3. IBS-M: >25%of bowel movements with Bristol Stool Scale Types 1–2 and >25% with Types 6–7.
4. IBS-U: Meets diagnostic criteria for IBS but bowel habits not accurately categorized in any of the above subtypes.

Diagnostic Criteria for IBS

1. **Rome IV Criteria**

- When to use? Patients being evaluated for possible IBS
- IBS is defined as recurrent abdominal pain at least 1 day per week in the last 3 months on average, associated with ≥2 of the criteria below:
    - Related to defecation (either increasing or improving pain)
    - Associated with a change in stool frequency
    - Associated with a change in stool form (appearance)

2. Other criteria: Rome III, Manning Criteria

Investigations:

- It's a clinical diagnosis, and a diagnosis of exclusion.

CBC	• Screen for anemia, inflammation, and infection • Normal; anemia suggests malabsorption
ESR, CRP	• Nonspecific screening tests for inflammation
Thyroid function studies	• Screen for hyperthyroidism or hypothyroidism
Fecal Occult & Stool Sample	• Normal; WBCs in stool or presence of parasites suggest inflammation or infection
H. pylori Culture	• If suspecting peptic ulcer disease
Anti-endomysial antibodies	• Negative; positive in celiac disease
Anti-tTG, Liver enzyme (ALT & AST)	• Negative; raised in celiac disease (fatty liver)
Abdominal x-imaging	• Normal; abnormal bowel pattern suggests obstruction
Hydrogen breath test	• Normal; abnormal if bacterial overgrowth or lactase deficiency (lactose intolerance)
Colonoscopy	• Alarm signs, diagnostic study of choice to rule out malignancy or other serious conditions • Normal; mucosal inflammation or ulceration suggests inflammatory bowel disease

Management:

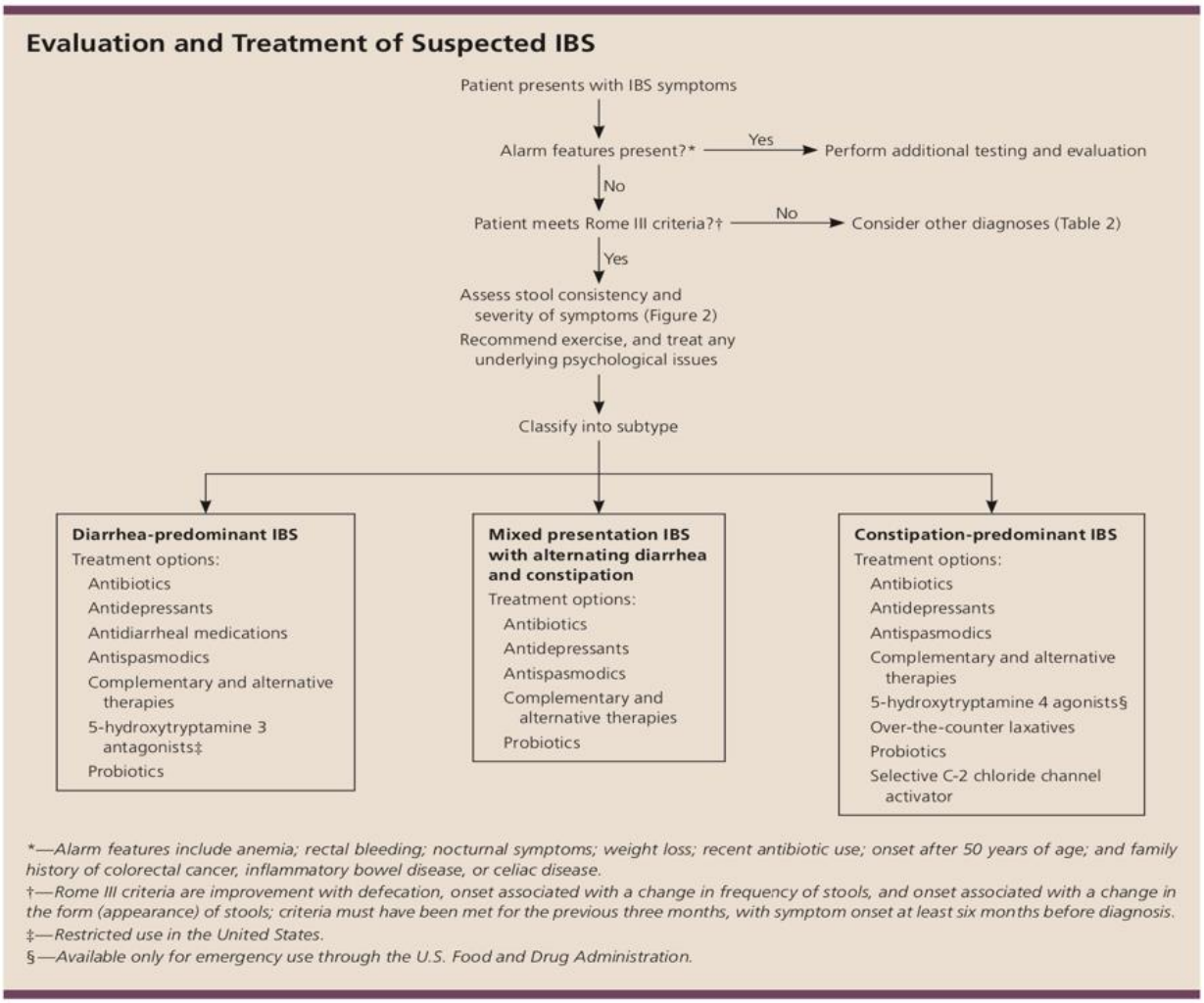


Figure 1. Algorithm for the evaluation and treatment of patients with suspected irritable bowel syndrome (IBS).

A. Non Pharmacological Management

- First line of treatment is patient education and reassurance

1. **Patient education**
2. **Advise** the patient to change lifestyle, quit smoking, start a healthy diet, avoid foods that trigger symptoms, drinking a lot of fluids and do daily physical activities at least 30 minutes & get enough sleep, stress management to maintain health issues.

B. Pharmacological Management

- In patients who fail to respond to initial management and symptoms that affect quality of life, we suggest pharmacological therapy as adjunctive treatment
- Decisions about pharmacological management should be based on the nature and severity of symptoms.
- The choice of single or combination medication is determined by the predominant symptom.

Category	Examples	IBS Subtype	Comments
Antispasmodics	• Hyoscyamine (Levsin) • Dicyclomine (Bentyl)	All types	• For abdominal pain or bloating. • Side effects as dry mouth, dizziness, blurred vision
Antidiarrheals	• Loperamide (Imodium)	Diarrhea predominant	• It decreases intestinal transit and enhances intestinal water and ion absorption. • It should be the first choice of antimotility agent for diarrhea in people with IBS. • It is very effective at decreasing stool frequency & increasing its consistency. • Doesn't improve abdominal pain • Increased nocturnal pain
Laxative	• Polyethylene glycol (Miralax)	Constipation predominant	• Studies showed that it improved stool frequency but didn't alleviate abdominal pain.
Selective C-2 Chloride Channel Activators	• Lubiprostone (Amitiza)	Constipation predominant	• It induce intestinal secretion & relive constipation. • Side effects: diarrhea & nausea.
Antibiotics	• Rifaximin (Xifaxan)	• Diarrhea predominant • Mixed type	• It improve abdominal pain, bloating & stool consistency.
	• Neomycin	Constipation predominant	
Probiotics	• Lactobacillus • Bifidobacterium • Streptococcus	All types	• It help in decrease pain & IBS symptoms.
Antidepressants	• TCAs, SSRIs	All types	• Statistically significant benefit in improving abdominal pain & symptoms.
5-hydroxytryptamine 3 Antagonists	(Associated with uncommon but serious adverse events so there are restrictions for its use)	Women with sever diarrhea predominant	• It reduce IBS symptoms • Side effects: ischemic colitis, constipation and death.
5-hydroxytryptamine 4 Agonists		Constipation predominant	• It improve bowel movement. • Side effects: increased risk of myocardial infarction, unstable angina and stroke. • According to FDA, used only in emergency.

C. Complementary and Alternative Therapies

1. Psychological Therapy
2. Hypnotherapy
3. Acupuncture
4. Herbal Therapies

D. Follow up

- Set appropriate follow-up to reassess patient health status and compliance.
- Tell the patient to inform the physician \ seek urgent medical care in case of any red flag symptoms arise.

E. Referral Criteria

Indications For Referral:

★ Unexplained weight loss
★ Unexplained iron deficiency anemia
★ Rectal bleeding
★ Family history of colon cancer
★ Nocturnal symptoms
★ Abnormality on examination or investigation
★ Constant diarrhea, distension or pain
★ Uncertainty of diagnosis
★ Failure of primary care management

IBS Prognosis

IBS is associated with a good prognosis and the diagnosis is unlikely to be changed to that of an organic disease during follow-up.