

INTEGRATED CLINICAL & RESEARCH
CENTER FOR INTESTINAL DISORDERS



Slow Transit Constipation (STC) is Best Managed Without Surgery



Salma Omran

Director of the GI motility lab, ICRID

Lecturer of Endemic Medicine

Cairo University

MD, MRCP (UK)

Introduction

- Constipation is a symptom-based disorder.
- Includes hard stools, excessive straining, infrequent bowel movements (<3 per week), a sense of incomplete evacuation, or the use of manual maneuvers to facilitate defecation.
- "Chronic" > 3months.

Epidemiology

- General Population: **12%-16%**.
- Prevalence increases significantly with age, nearly **19% to 33%** of adults aged 60 and older.
- **Females** was almost twofold higher than that in males

Primary etiologies of chronic constipation

Chronic idiopathic constipation

Defecatory dysfunction

Slow transit constipation (STC)

Normal transit constipation

Irritable bowel syndrome with predominant constipation

Secondary etiologies of chronic constipation

Neurogenic disorders	
Central	▪ Spinal cord injury or disease ▪ Multiple sclerosis
Peripheral	▪ Hirschsprung disease ▪ Chagas disease
Autonomic	▪ Diabetes mellitus ▪ Parkinson disease ▪ Chronic intestinal pseudo-obstruction
Non-neurogenic causes	
Irritable bowel syndrome	
Endocrine and metabolic	▪ Hypothyroidism ▪ Hypercalcemia ▪ Hypokalemia ▪ Diabetes mellitus (through autonomic neuropathy)
Myopathies	▪ Systemic sclerosis ▪ Amyloidosis ▪ Myotonic dystrophy
Obstructive colorectal conditions	▪ Colorectal cancer ▪ Rectocele ▪ Colonic stricture
Other	▪ Eating disorders (eg, anorexia nervosa) ▪ Pregnancy ▪ Celiac disease
Medications	
More likely to cause constipation	▪ Opioid analgesics ▪ Cation-containing agents (eg, iron supplements, antacids, sucralfate, barium) ▪ 5HT3 antagonists (eg, ondansetron)
Less likely to cause constipation	▪ Anticholinergic agents (antihistamines, antispasmodics, tricyclic antidepressants, antipsychotics) ▪ Antihypertensives (eg, calcium channel blockers and clonidine) ▪ Vinca alkaloids (eg, vincristine)

Rome V Criteria for Chronic Idiopathic Constipation (CIC)

- Diagnosis requires **symptoms for ≥ 3 months**, with onset **≥ 6 months before diagnosis**.
- **Must have ≥ 2 of the following:**
 - Straining in **$>25\%$** of bowel movements
 - Hard/lumpy stools (Bristol **1–2**) in **$>25\%$**
 - Sensation of incomplete evacuation in **$>25\%$**
 - Sensation of anorectal blockage/obstruction in **$>25\%$**
 - Manual maneuvers to facilitate defecation in **$>25\%$**
 - **<3 spontaneous bowel movements/week**
- **Additional criteria:**
 - Loose stools are **rare without laxatives**
 - **Insufficient criteria for IBS**

Defecatory dysfunction

- Refers to impaired rectal evacuation, usually due to discoordination of muscles in the pelvic floor (i.e., dyssynergic defecation); however, it can also include structural obstruction to defecation (e.g., rectocele).

Slow transit constipation (STC)

- **Chronic constipation:** typically <3 bowel movements/week
- **Normal resting colonic motility**, but **blunted postprandial motor response**
- Suggests **enteric nervous system dysfunction**
- May be associated with reduced **interstitial cells of Cajal (ICC)** in the myenteric plexus
- Impaired colonic propulsion → **delayed colonic transit**

Normal-Transit Constipation

- **Normal colonic transit with normal anorectal function**
 - Normal **ARM** and **BET**
 - Normal transit on **radiopaque marker study**
- **No identifiable secondary cause**
- May involve **anorectal sensory/motor abnormalities**
- Often associated with **psychosocial distress** and altered perception of bowel frequency

Evaluation of adults with chronic constipation

Patient presents with symptoms of constipation ongoing for at least 3 months

Symptoms may include:

- Hard stools
- Excessive straining
- Fewer than 3 bowel movements per week
- Sense of incomplete evacuation
- Use of manual maneuvers to facilitate defecation

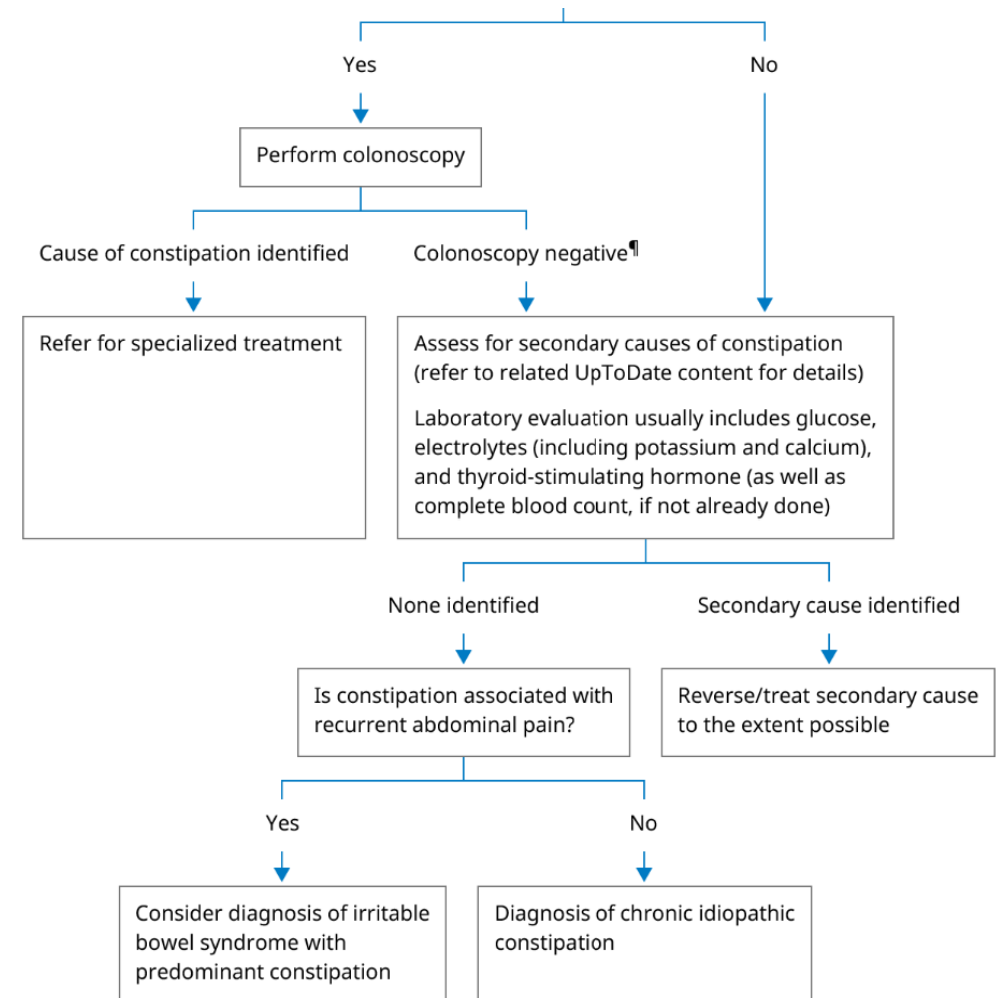
Initial evaluation includes history, examination, and laboratory testing (complete blood count) to assess for alarm features

Does the patient have any of the following?

- Age ≥ 45 years*
- Alarm features:
 - Hematochezia or heme-positive stool
 - Iron deficiency anemia
 - Unexplained weight loss ≥ 10 pounds
 - New onset of unexplained constipation
 - New obstructive symptoms (eg, bloating, distension, abdominal pain during stool passage)
 - Rectal pain or tenesmus
 - Family history of colorectal cancer or inflammatory bowel disease

Yes

No



THERAPEUTIC TRIAL OF LIFESTYLE MODIFICATION AND LAXATIVES

Optimize dietary and lifestyle factors:

- Adequate fiber intake (20 to 35 g daily from foods, with supplementation if needed)
- Adequate hydration (at least 1.5 L daily water intake)
- Regular physical activity (ideally 140 minutes/week of aerobic exercise)
- Bowel movement attempts after waking and/or within 2 hours after meals (ie, when colonic motility is highest)
- Defecation posture modification, using a squat-assist device if needed

Persistent symptoms

Symptoms resolve

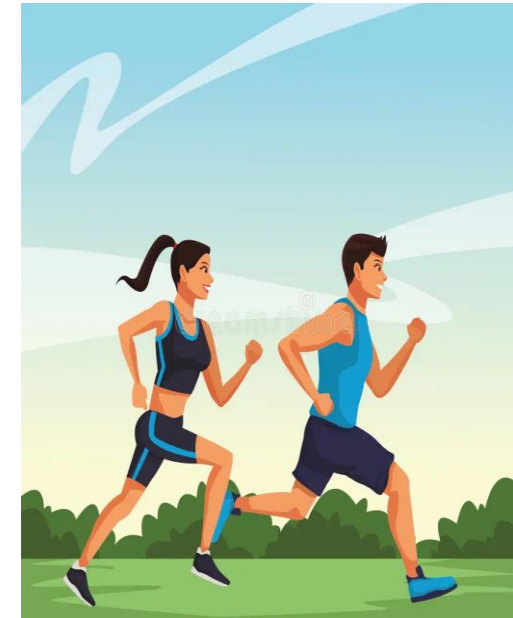
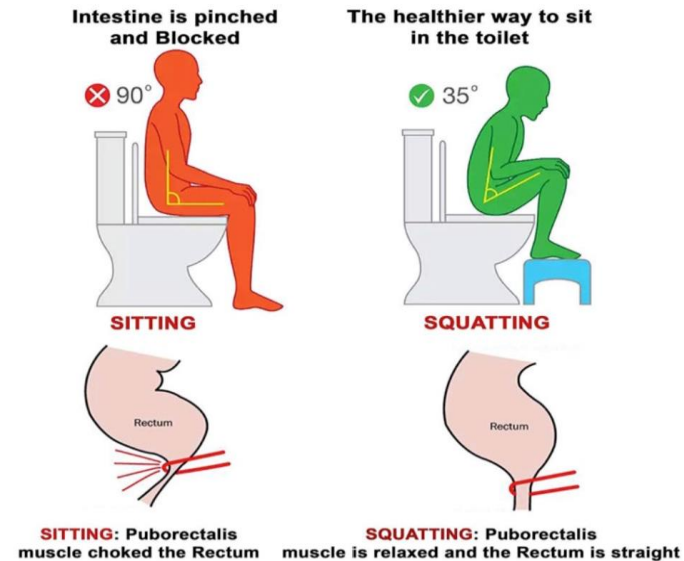
Add daily osmotic laxative (can be done concomitantly with the above measures):

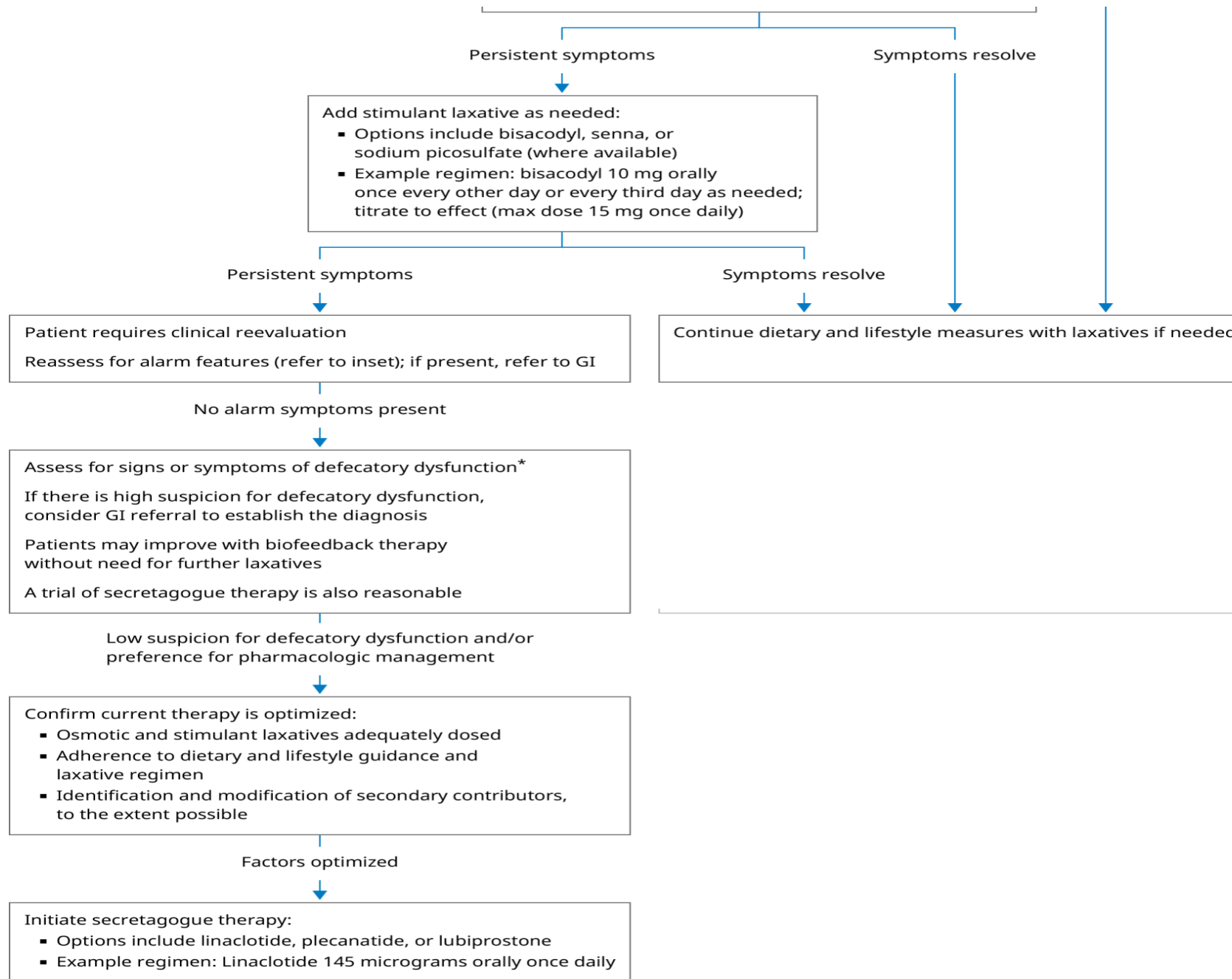
- Options include polyethylene glycol 3350 (preferred), lactulose, sorbitol, or magnesium-based laxatives
- Example regimen: polyethylene glycol 3350 (sample US brand name MiraLAX) 17 g orally once daily; titrate to effect (max dose 34 g orally once daily)

Persistent symptoms

Symptoms resolve

Continue dietary and lifestyle measures with laxatives if needed





Persistent unresponsive constipation

- Patients with CIC who fail ≥ 1 month of lifestyle /fiber /osmotic / stimulant laxative therapy.
- **General approach:**
 - Management depends on (1) presence of DD and/or (2) colonic transit status (normal vs. slow).
 - Defecatory dysfunction $\rightarrow$ **biofeedback**.
 - Normal/slow transit $\rightarrow$ New agents' **pharmacotherapy** per the stepwise algorithm.
 - Severe, intractable STC is rare; **surgery** is an option but requires comprehensive evaluation to exclude pelvic floor dysfunction.
 - **Overlapping** with DD— treat first, then reassess for need of additional slow-transit therapy.
 - Continue **lifestyle measures** (Fiber is not emphasized in STC)
 - Osmotic and stimulant laxatives are generally continued **as new agents are added**.

- **Colonic motility studies** can distinguish normal transit from **(STC)** but generally **do not change treatment** and are therefore **not routinely required** unless **surgery is being considered**.

Pharmacologic therapy -Colonic secretagogues

○ **Lubiprostone:**

- This agent is a locally acting chloride channel activator that enhances chloride-rich intestinal fluid secretion.
- We use 24 mcg twice daily.
- Nausea may occur; however, the risk is dose-dependent and seems to be lower when taken with food and water

Pharmacologic therapy -Colonic secretagogues

- **Guanylate cyclase-C (GC-C) receptor agonists** are preferred as **initial therapy** in persistent unresponsive constipation.
 - **Linacotide**
 - **Plecanatide**
- They are **minimally absorbed peptide drugs** that increase **intestinal fluid secretion and transit**.
- May be associated with side effects of diarrhea leading to
- discontinuation of treatment

Prucalopride (prokinetic agent)

- 5HT₄ receptor agonist that stimulates the peristaltic reflex, intestinal secretions, and gastrointestinal motility.
- Start at 2 mg daily, titrating up to 4 mg
- May be associated with side effects of headache, abdominal pain,
- nausea, and diarrhea

Tenapanor

- Sodium/hydrogen exchanger 3 inhibitor. It reduces the absorption of sodium and phosphate and enhances intestinal fluid volume and transit.
- This agent hasn't been formally studied for CIC, but it's proven effective for IBS-C. It's not FDA-approved for CIC

Misoprostol

- Prostaglandin analog that stimulates intestinal transit.
- Can be used for refractory CIC in patients otherwise being considered for surgery
- Evidence is limited to small trials.

Nonpharmacologic Options for Severe Constipation (Refractory Patients)

- **Vibrating Capsule**

- Mechanical stimulation + circadian modulation of colonic motility
- Also improves straining, stool consistency, QoL
- Contraindicated: GI obstruction, IBD, gastroparesis, complicated diverticular disease



Nonpharmacologic Options for Severe Constipation (Refractory Patients)

- **Surgery (Subtotal colectomy + ileorectal anastomosis)**
 - Reserved for medically refractory, disabling symptoms
 - Criteria: no significant abdominal pain, slow-transit (inertia) pattern, pseudoobstruction and pelvic floor dysfunction were excluded

THANK YOU

Salma Omran

01066558309

salma_omran@kasralainy.edu.eg

