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Diagnosis & Management of Chronic Constipation & Dyssynergic Defecation – A Stepwise Approach

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Primary References

Gastroenterology 2020;158:1232–1249

GASTROENTEROLOGY 2013;144:211–217

REVIEWS AND
PRACTICES

REVIEWS IN BASIC AND CLINICAL GASTROENTEROLOGY AND HEPATOLOGY

Douglas J. Robertson and Vincent W. Yang, Section Editors

Mechanisms, Evaluation, and Management of Chronic Constipation



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With a worldwide prevalence of 15%, chronic constipation is one of the most frequent gastrointestinal diagnoses made in ambulatory medicine clinics, and is a common source cause for referrals to gastroenterologists and colorectal surgeons in the United States. Symptoms vary among patients; straining, incomplete evacuation, and a sense of anorectal blockage are just as important as decreased stool frequency. Chronic constipation is either a primary disorder (such as normal transit, slow transit, or defecatory disorders) or a secondary one (due to medications or, in rare cases, anatomic alterations). Colonic sensorimotor disturbances and pelvic floor dysfunction (such as defecatory disorders) are the most widely recognized pathogenic mechanisms. Guided by efficacy and cost, management of constipation should begin with dietary fiber supplementation and stimulant and/or osmotic laxatives, as appropriate, followed, if necessary, by intestinal secretagogues

history and results from examinations and laboratory tests (Table 1).⁴ The Rome IV criteria for primary constipation are based on results from anorectal tests and categorize patients as having functional constipation (FC), constipation-predominant irritable bowel syndrome (IBS-C), or defecatory disorders (DDs) (Supplementary Figure 1).⁵ FC and IBS-C are primarily defined by symptoms alone (Table 2). DDs are defined by symptoms (such as FC or IBS-C) and results from anorectal tests that indicate impaired rectal evacuation. Prior American Gastroenterological Association reviews and this update classify patients with constipation based on assessments of colonic transit and anorectal function; the classifications are normal transit constipation (NTC), slow transit constipation (STC), and pelvic floor dysfunction or DDs (Supplementary Figure 1).⁶

Patients with constipation have infrequent stools (fewer than 3 bowel movements per week) and, more importantly,

AGA

American Gastroenterological Association Medical Position Statement on Constipation

The AGA Institute Medical Position Panel consisted of the lead technical review author (Adil E. Bharucha, MBBS, MD, AGAF), a Clinical Practice and Quality Management Committee representative and content expert (Spencer D. Dorn, MD, MPH), and two gastroenterologists and content experts (Anthony Lembo, MD, and Amanda Pressman, MD).

Podcast interview: www.gastro.org/gastropodcast.
Also available on iTunes.

This document presents the official recommendations of the American Gastroenterological Association (AGA) on constipation. It was drafted by the AGA Institute Medical Position Panel, reviewed by the Clinical Practice and Quality Management Committee, and approved by the AGA Institute Governing Board. This medical position statement is published in conjunction with a technical review¹ on the same subject, and interested readers are encouraged to refer to this publication for in-depth considerations of topics covered by these questions. The technical review was begun before the AGA's decision to

tombs, although rare, life-threatening, or treatable conditions must be excluded. If therapeutic trials of laxatives fail, specialized testing should be considered. We suggest the following practice guidelines for the symptom of constipation; our rationale for these guidelines is supported by the accompanying technical review.

Constipation is a symptom that can rarely be associated with life-threatening diseases. Current recommendations will relate to (1) rational and, where possible, more judicious diagnostic approaches and (2) more rational and efficacious therapies that will improve symptoms, both of which should have beneficial fiscal and logistic impacts on the health care system. Although the overall classification of chronic constipation into 3 categories (ie, normal transit, isolated slow transit, and defecatory disorders) and several recommendations in this version are

Bharucha A, Lacy B. Mechanisms, Evaluation, and Management of Chronic Constipation. *Gastroenterol.* 2020;158:1232-1249; Bharucha A, Dorn D, Lembo A, et al. American Gastroenterological Association Medical Position Statement on Constipation. *Gastroenterol.* 2013;144:211-217.

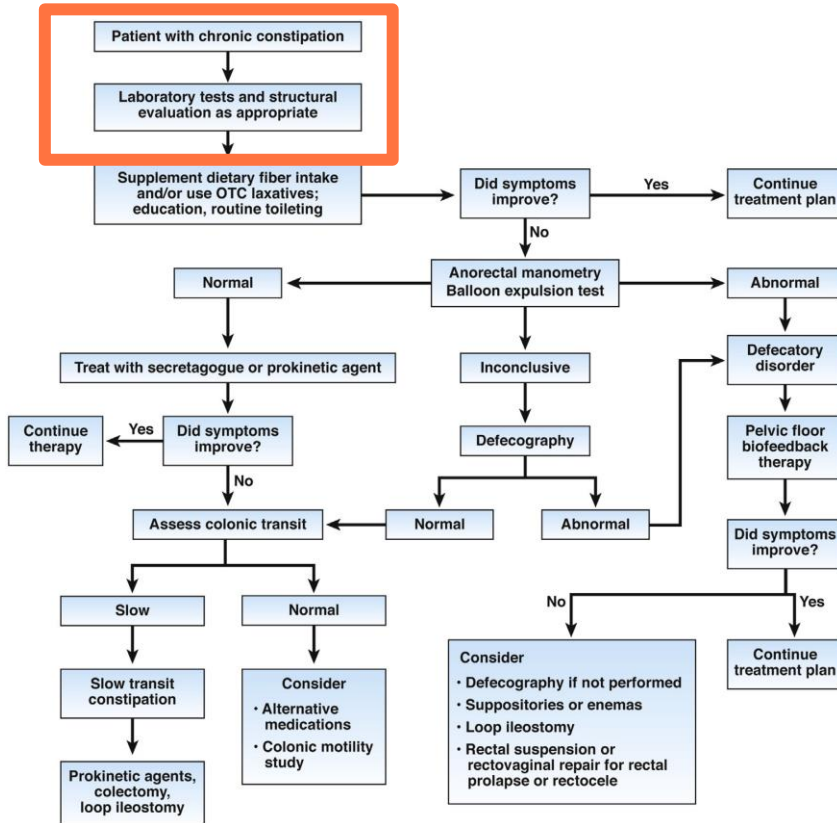
Overview

- Chronic constipation is extremely common
 - 16% of US adults¹
 - 33% in adults >60 yrs¹
- Problem
 - Despite how common it is, there is still confusion and inconsistencies in clinical practice on how to approach the diagnosis and management
- Objectives
 - Review a logical algorithmic approach to diagnosis and management of chronic constipation
 - Discuss practical treatment options for the laxative naïve and laxative refractory patient

Overview of the Stepwise Approach

Step	Approach to Diagnosis and Management of Chronic Constipation
1	Defining and diagnosing chronic constipation
2	Management of constipation for the laxative naïve patient
3	Optimization of laxative therapy
4	Evaluate for a FDD
5	Address refractory constipation
6	Refer to colorectal surgery

Step 1: Defining and Diagnosing Constipation



Step 1: Evaluation of Constipation

- Identify secondary causes of constipation
 - Medications, medical conditions (ex: DM, hypothyroidism, scleroderma, SCI), anatomical (ex: malignancy, stricture, fissure, prolapse)
- Rule out alarm features
- Up-to-date CBC
- Colonoscopy **ONLY IF** patient has alarm S/S or is due for age-appropriate screening/surveillance

In the absence of warning signs, patients should receive a diagnosis of CIC

Perianal and Digital Rectal Exam

- Assess for structural disorders
- Assess for a FDD
 - Increased resting tone, paradoxical contraction of the external anal sphincter upon bearing down, inability to expel finger with valsalva
 - DREs identified patients with dyssynergia with 75% sensitivity and 87% specificity compared to manometry, and 80% and 56%, respectively, compared to the BET
 - **Patients w/ persistent symptoms & normal findings from a DRE should still be referred for anorectal testing to exclude a FDD**

Step 1: Defining Chronic Constipation

Rome IV Classification

Functional Constipation (FC)

- AKA: Chronic Idiopathic Constipation (CIC)

Irritable bowel syndrome with constipation (IBS-C)

Functional defecatory disorders (FDDs)

- Dyssynergic defecation
- Inadequate defecatory propulsion

Opioid Induced Constipation (OIC)

AGA Classification of CIC

Normal Transit Constipation (NTC)

Slow Transit Constipation (STC)

FDDs

Combined Disorders

- Ex: STC +FDD

Step 1: Rome IV Criteria

Rome IV Criteria FC (CIC)

Constipation for ≥ 3 mo with onset ≥ 6 mo

Must have ≥ 2 of the following:

(at least 25% of defecations)

- Straining
- Lumpy or hard stools (Bristol 1-2)
- Sensation of incomplete evacuation
- Sensation of anorectal obstruction/blockage
- Manual maneuvers to facilitate defecation (digital evacuation, splinting, pelvic floor support)
- < 3 spontaneous bowel movements per week

Loose stools rarely present without use of laxatives

Does not meet criteria for IBS-C

Rome IV Criteria IBS-C

Recurrent abdominal **pain**, on average, ≥ 1 day per week in the last 3 months, associated with ≥ 2 of the following:

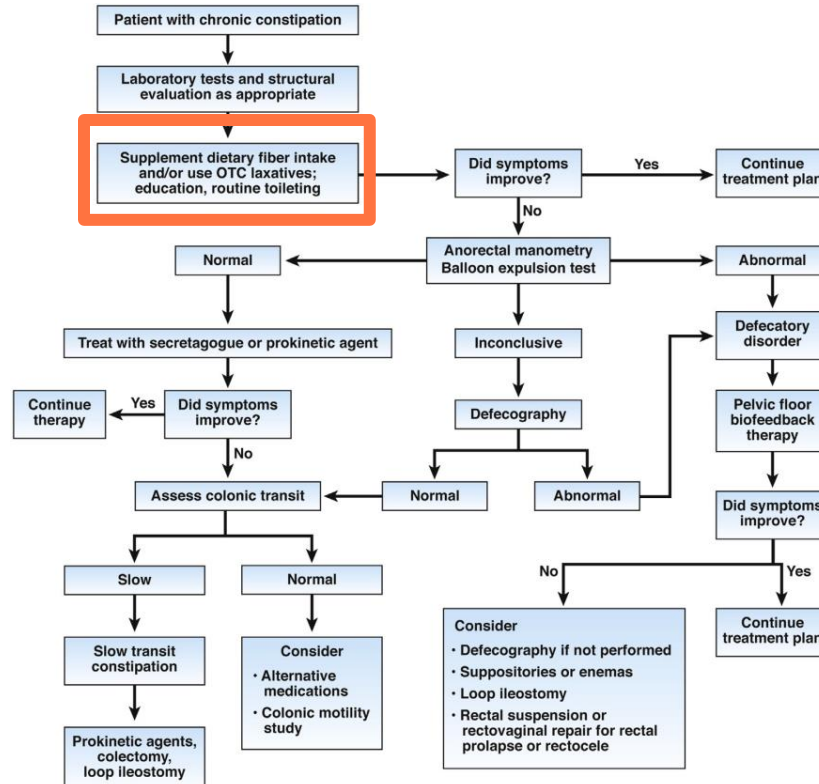
- Related to defecation
- Change in frequency of stool
- Change in form (appearance) of stool

AND: $>25\%$ of BMs w/ Bristol 1-2 and $<25\%$ of BMs w/ Bristol 6-7

Criteria should be fulfilled for the last 3 months with symptom onset ≥ 6 months before the diagnosis

“Real world” FC (CIC) and IBS-C likely appear along a spectrum

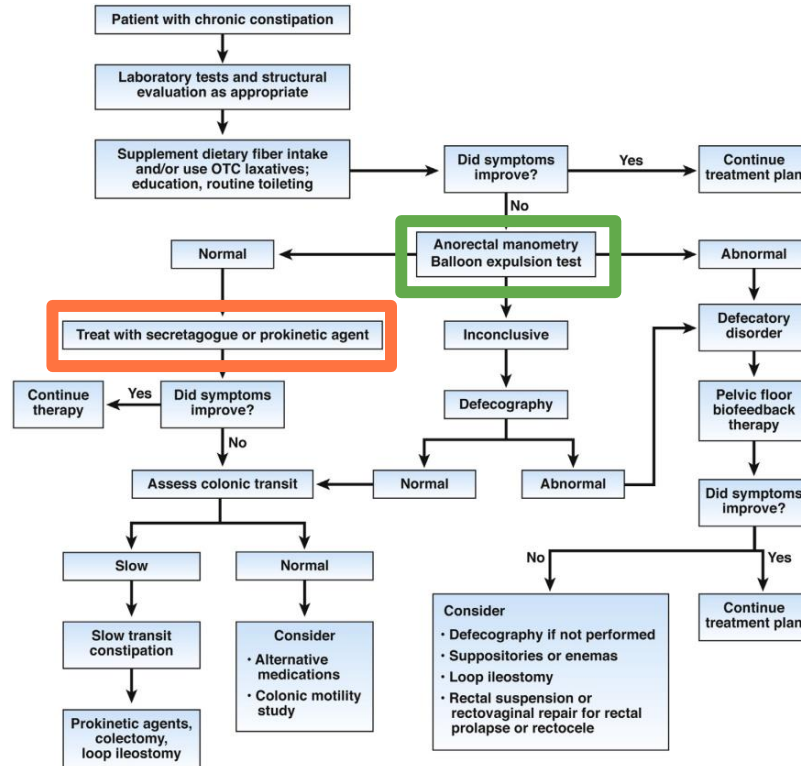
Step 2: Management of constipation for the Laxative Naïve Patient



Step 2: Start/Optimize Dietary & OTC Laxative/Fiber Therapies

Daily Therapies		Rescue Therapies q 2-3 d	
Fiber	25-30 g	Bisacodyl oral	10 mg = 2 tabs
Psyllium	15g = 1 tbsp QD = 5 capsules = 2 wafers slowly increase up to 3x QD as tolerated	Bisacodyl suppository	1 PR
PEG	17 g = 1 capful QD or BID	Senna	2 tabs
MOM	1 oz BID	Fleet enema PR	Up to 3 at a time
Toileting behavior: <ul style="list-style-type: none"> Don't ignore the urge, after meals (gastrocolic reflex), limit pushing to 5-10 min Step stool to elevate knees above hips, lean forward, bulge out abdomen, straighten spine 		Magnesium citrate	6-10 oz x 1 (after above therapies fail)
		Prescription bowel prep	Last resort!

Step 3: Optimize Laxative Therapy



Step 3: Optimize Laxative Therapy vs Proceeding With ARM+BET

Consider proceeding with ARM+BET IF:

Patient has RF or S/S of a FDD

And/or

ARM+BET testing is easily accessible

Risk Factors and Signs/Symptoms of a FDD

DRE with increased EAS tone, paradoxical contraction upon bearing down, inability to expel finger with valsalva

Difficulty with passing soft stools and even enema fluid

Requires perianal or vaginal pressure (splinting) to evacuate

Hx of emotional, sexual or physical abuse, PTSD or trauma

Step 3: Indications to Transition From OTC to Rx

- Constipation persistent despite optimized dosing of daily OTC therapy (i.e., PEG BID) + rescue therapy
- Side effects of bloating, cramping and urgency limit use of OTCs
- Administration of OTCs is too difficult to adhere to
- Patient has IBS-C with primary abdominal symptoms of abdominal pain, bloating & distension

Step 3: Rx Therapies

Secretagogues	
Plecanatide	3 mg QD (CIC & IBS-C)
Linacotide	72 & 145 (CIC), 290 mcg (IBS-C) QD \geq 30 min before 1st meal
Lubiprostone	8 mcg (IBS-C), 24 mcg (CIC) BID w/food
*Tenapanor	50 BID w/food (IBS-C) *FDA approved, but not on the market yet

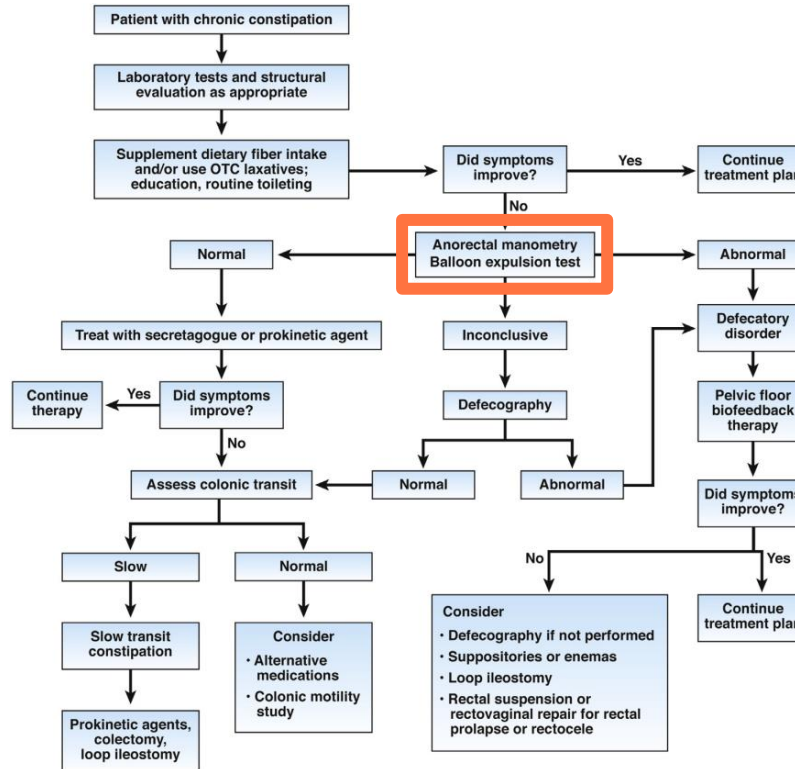
5HT4 agonists (prokinetics)	
Prucalopride	2 mg QD (CIC)
Tegaserod	6 mg BID (IBS-C) *only approved in <i>women w/ IBS-C <65 yrs w/o hx of CV disease (Angina, MI, TIA, CVA). Safest in this population w/1 CV RF= (age <55, HTN, HL, DM, tobacco, BMI >30)</i>
Note: Generally, second line therapy, if fails secretagogues. Although not FDA approved, consider for patients with concomitant gastroparesis/global dysmotility	

Don't forget Rescue Therapies q 2-3 days PRN
refer to step 1

Step 3: Additional Referrals

- Registered Dietitian
 - Disordered eating/restrictive diet, malnutrition, drastic weight loss, obesity
- GI Behavioral Therapist
 - PTSD, anxiety, perseveration, disordered eating, hx of emotional/physical/sexual trauma
- Treat the patient holistically!

Step 4: Evaluate for a FDD



Overview Dyssynergic Defecation

- Dyssynergic Defecation (DD) present in 27-59% of patients with chronic constipation¹
- An overlap of DD and STC or IBS-C is commonly present¹
- Etiology of DD is unclear
 - 31% of patients had constipation since childhood
 - 29% after an event such as pregnancy, trauma or back injury
 - 40% with no cause¹
- Excessive straining to expel hard stools over time may also lead to dyssynergic defecation¹
- Sexual abuse was reported by 22% of subjects with DD, mostly women. Physical abuse reported by 32%²

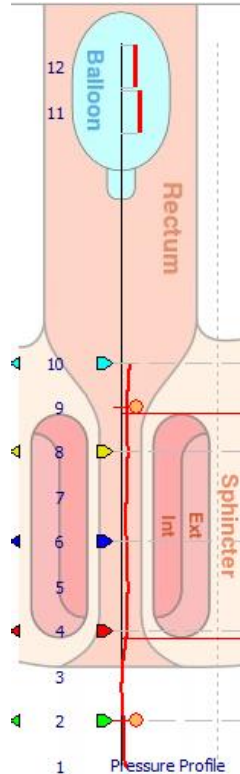
Rome IV Diagnostic Criteria

1. Satisfy the diagnostic criteria for functional constipation and/or IBS-C
2. Demonstrate dyssynergic pattern during repeated attempts to defecate via ARM or defecography
3. Must satisfy >1:
 - Inability to expel an artificial stool (50 mL water-filled balloon) within 1-2 minutes.
 - Inability to evacuate or $\geq 50\%$ retention of barium during defecography.

Step 4: ARM+BET

Indications for ARM+BET

- Patients with CIC or IBS-C refractory to standard laxative therapy (optimized OTC +/- 1 secondary intervention secretagogue or prokinetic)
- RF or S/S of FDD



Balloon expulsions test (BET)

- Most useful test to make a diagnosis of DD
- Performed in conjunction with ARM
- Try to pass a 50cc water filled balloon from rectum within 1 min

Anorectal manometry (ARM)

- Identifies inadequate pushing force, paradoxical anal sphincter contraction, impaired anal sphincter relaxation

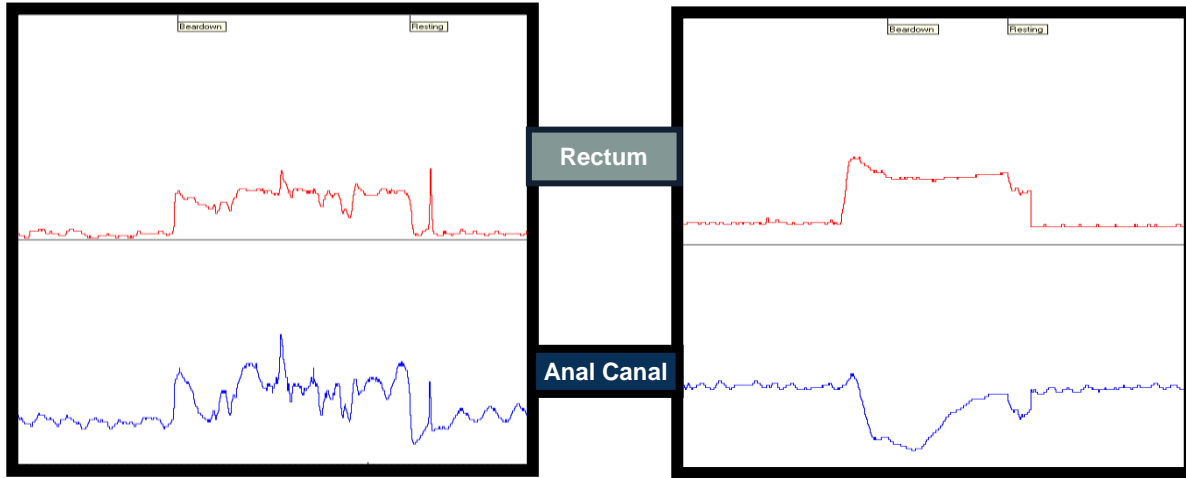
Step 4: ARM+BET Results & Biofeedback

ARM+BET Results	Next Steps
Normal	Colonic transit testing to assess for STC
Inconclusive	Barium or MR defecography to assess for an anatomical etiology or to support a FDD
Abnormal	Refer for pelvic floor physical therapy with biofeedback +/- balloon/barostat retraining

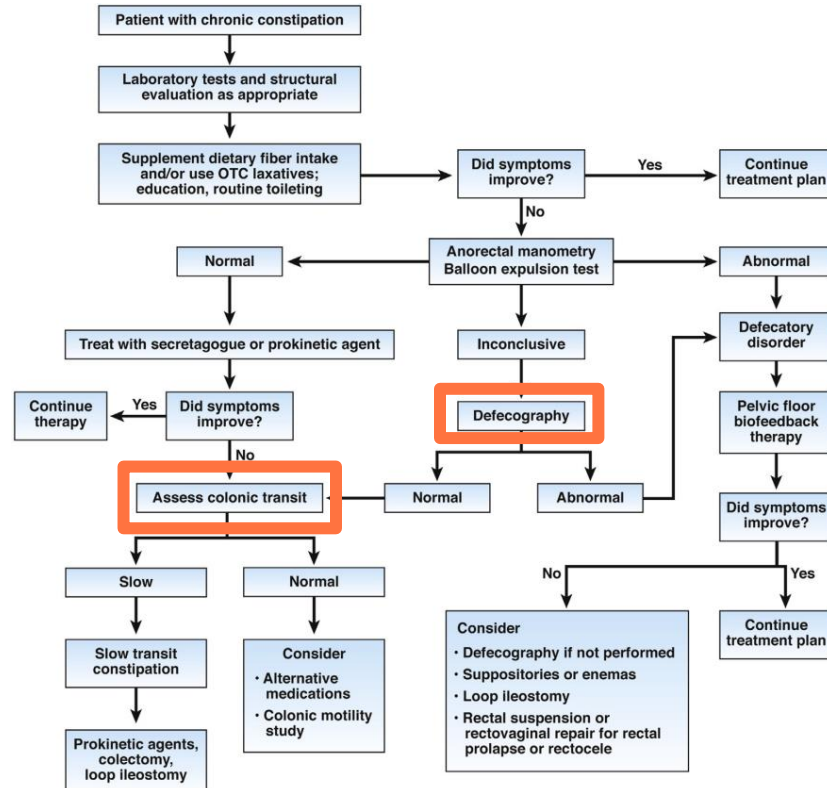
Biofeedback

- Biofeedback: visual or auditory feedback of anorectal activity recorded by EMG sensors or manometry
- If patient has rectal hypo/hypersensitivity, therapy should include balloon or barostat sensation retraining
- Number of sessions is determined on an individual basis
- Biofeedback improves symptoms in more than 70% of patients with FDD¹
- Biofeedback is superior to laxatives and diazepam rectal therapy¹

Effects of Biofeedback

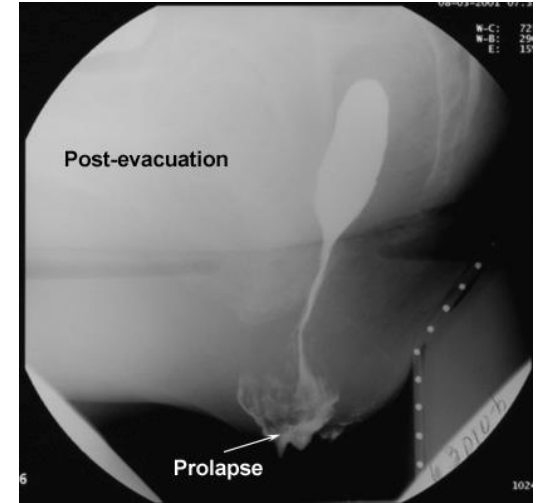


Step 5: Address Refractory Constipation



Step 4: Defecography

- Types:
 - Barium: preferred, seated position
 - MR: excellent resolution of sphincters/muscles/soft tissue surrounding rectum, no radiation exposure
- Indication:
 - Equivocal ARM+BET
 - Persistent symptoms despite biofeedback
 - Assess quality of PFPT w/ biofeedback
 - Consider repeating an ARM+BET
- Abnormalities detected:
 - Spastic puborectalis sling, excessive perineal descent, internal intussusception, solitary rectal ulcers, rectoceles and rectal prolapse
- Treatment:
 - PFPT w/ biofeedback
 - **If patient has a diagnosis of FDD confirmed on ARM+BET, proceed with PFPT first as anatomical abnormalities could co-exist but improve prior to needing a defecography**



Step 4: Colonic Transit Testing

Types:

- Radiopaque markers
- Wireless motility capsule

Indication:

- ARM+BET is normal
- Defecography is normal
- If pelvic floor physical therapy w/ biofeedback is successful in improving FDD, but subjective symptoms persist

Treatment:

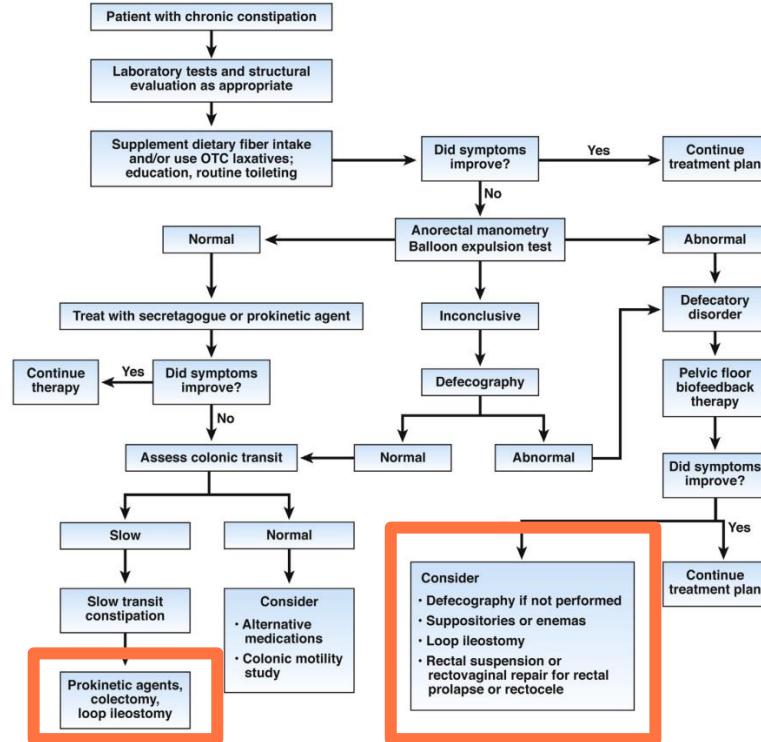
- Multi-laxative approach (ex secretagogue + prokinetic + rescue)
- Further supports use of a prokinetic
- Medical approach for managing NTC & STC are similar



Never proceed with colonic transit testing prior to ARM+BET!

- Up to 50% of patients with FDD can have overlapping STC¹
- Colonic transit normalized after biofeedback therapy in 65% of patients with FDD, but in only 8% of patients with STC, indicating that delayed colonic transit could be 2/2 a FDD¹
- STC does not exclude FDD
- STC can improve spontaneously with treatment of the FDD

Step 6: Refer to CRS (Last Resort)



Referral to Colorectal Surgery

Indications for Referral	Types of Surgeries
Failed biofeedback	Temporary diverting loop ileostomy (DLI) <ul style="list-style-type: none">• Refractory FDD• Consider before colectomy for patients with IBS/functional dyspepsia to see if symptoms improve or persist after DLI
Failed multi-laxative therapy (orals + enemas/suppositories)	Subtotal Colectomy <ul style="list-style-type: none">• STC• Last resort!
Severe anatomical abnormalities <ul style="list-style-type: none">• Large poorly emptying rectocele• Grade IV-V rectal prolapse	Rectal suspension
	Rectovaginal repair

- Evaluate for overlapping FDDs and upper GI motility disorders!
- Recommend a behavioral therapy and nutrition eval
- Surgery for severe refractory constipation is a **LAST RESORT**

Thank You!

