

Irritable Bowel Syndrome

Definition (ROME IV criteria)

Recurrent abdominal pain on average at least 1 day/week in the last 3 months, associated with two or more of the following:

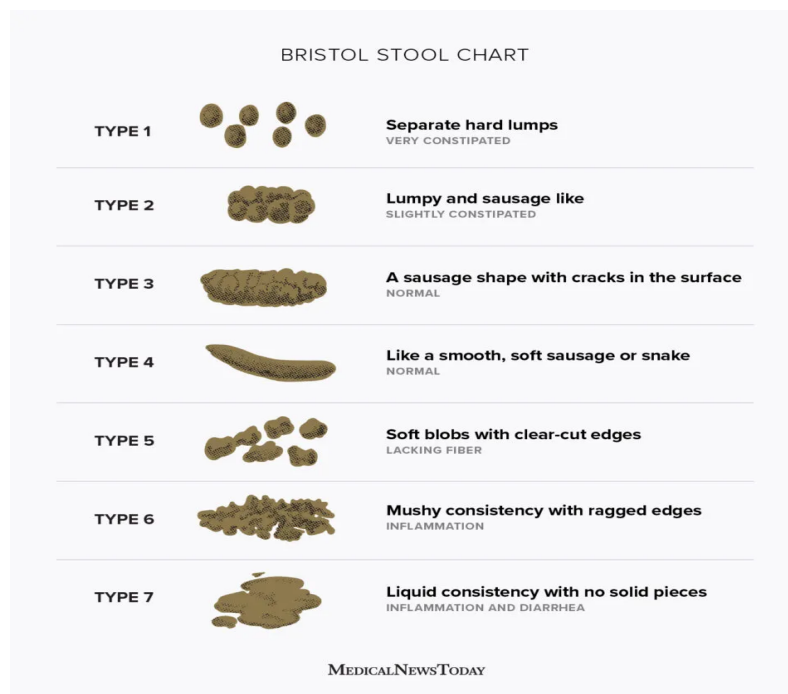
1. Related to defecation
2. Associated with a change in the frequency of stool
3. Associated with a change in the form (appearance) of stool

Etiology

Peripheral factors - Food, Acute GI infection, Mucosal inflammation, Abdominal/pelvic surgery, Menses

Psychosocial factors - Life stress, Anxiety, Depression, Poor coping skills, Poor social support, Maladaptive cognitions, Abuse

Bristol stool scale



Diagnosis - CLINICAL

1. Absence of warning signs - age > 50, overt GI bleeding, nocturnal passage of stool, unintentional weight loss, family history of IBD or colorectal cancer, recent changes in bowel habits, or presence or palpable abdominal mass or lymphadenopathy
2. Recommended testing
 - a. Celiac disease (if diarrhea)
 - b. Fecal calprotectin and CRP (if diarrhea)
 - c. Anorectal testing (if constipation not responsive to standard medication therapy)

IBS-C treatment

1. PEG alone (ie MIRALAX) is not recommended for IBS symptom use but acceptable to use it for constipation treatment
- 2.

Chloride channel activator (prostaglandin E1 analog)	Lubiprostone (Amitiza)	Increases intestinal secretion and peristalsis
Guanylate cyclase activators (GC-C agonist)	Linaclotide (Linzess) Plecanatide (Trulance)	Increases intestinal secretion and peristalsis
Serotonin (5-HT) agonist	Tegaserod for women younger than 65 years with <1 CV risk factor.	Reductions in visceral hypersensitivity
Serotonin typer 4 (5-HT4) receptor agonist	Prucalopride (Motegrity)	Stimulates colonic peristalsis and reduces visceral hypersensitivity
Sodium/hydrogen exchanger isoform 3 (NHE3) inhibitor	Tenapanor (Ibsrela)	Reduces colonic sodium absorption and decreases intestinal permeability and reduces visceral hypersensitivity

IBS-D treatment

Inhibits DNA-dependent RNA polymerase (non-absorbed antibiotics)	Rifaximin (Xifaxan)	Impacts abnormal microbiome
Serotonin (5-HT3) antagonist	Alosetron for women	Slowing intestinal transit
Mixed opioid agonist/antagonist	Eluxadoline (Viberzi) if no prior cholecystectomy	

Global IBS treatment

1. Low FODMAP (fermentable oligosaccharides, disaccharides, monosaccharides, and polyols) - FODMAP diet increases GI water secretion and fermentation which causes luminal distention and meal-related symptoms
2. Soluble (but not insoluble) fiber - improve gut microbiome, metabolism, transit time, stool consistency, and bile acid absorption
 - a. Soluble fiber - psyllium, oat, barley, and beans
3. Peppermint - L-menthol's blockade of calcium channel that leads to smooth muscle relaxation but also can impact visceral sensation and have direct antimicrobial and anti-inflammation effect
4. Currently data does not support use of probiotics or anti-spasmodics

5. Antispasmodic agents

- a. Hyoscamine (Levsin) 0.125-.025mg 4x daily
- b. Dicyclomine (Bentyl) 10-20mg 4x daily
- c. Glycopyrrolate (Robinul) 1-2mg 3x daily
- d. Clidinium/chlordiazepoxide (Librax) 2.5/5mg 4x daily
- e. Hyoscyamine/atropine/phenobarbital (Donnatal) 0.1mg/0.02mg/16mg 4x daily

6. Antidepressants

a. First line

	TCAs	SNRIs	SSRIs
Agents	Amitriptyline, Desipramine, Nortriptyline	Duloxetine, Venlafaxine, Desvenlafaxine, Milnacipran	Flooxetine, Sertraline, Paroxetine, Citalopram, Escitalopram
Dose range	10-200mg	30-90mg (duloxetine) 75-225mg (venlafaxine) 100mg (milnacipran)	10-100mg
Adverse effects	Sedation, constipation, Dry mouth/eyes, Weight gain, Sexual dysfunction	Nausea, Agitation, Dizziness, Fatigue, Sexual dysfunction	Insomnia, Diarrhea, Agitation, Weight loss, Sexual dysfunction
Efficacy	IBS and FD symptoms Best Evidence	Limited studies (IBS > FD?)	Good (IBS > FD) but less pain benefit

b. Second line (other neuromodulators)

	Tetracyclics	Azapirones	Atypical	A2d ligands
Agents	Mirtazapine, Trazodone	Buspirone	Quetiapine, Olanzapine	Gabapentin, Pregabalin
Dose range	7.5-45mg (mirtazapine) 12.5-100mg (trazodone)	5-60mg a day	25-150mg (quetiapine) 2.5-10mg (olanzapine)	300-1800mg (gabapentin) 150-600mg (pregabalin)
Adverse effects	Sedation, dry mouth/eyes, weight gain, constipation, sexual dysfunction	Headache, Dizziness, Nausea, Jitteriness. Anxiety, Serotonin syndrome (rare)	Sedation, Weight gain, Metabolic syndrome, QT elongation	Sedation/fatigue, Dizziness, nausea
Efficacy	Good for IBS-D + FD symptoms Minimal data	Adjunctive agent Data in FD (postprandial distress)	IBS (adjunctive, monotherapy) Overlap FD/vomiting (olanzapine)	Adjunctive to TCA/SNRI (pain. anxiety)

7. Alternative therapy - yoga, cognitive behavioral therapy, acupuncture, etc