

Irritable Bowel Syndrome

Irritable bowel syndrome (IBS) is a gut-brain signaling mix-up — the wiring works, but the volume is turned way up, so normal gut movement feels painful and poop timing goes haywire; we treat the symptoms because there is no structural break to fix.

THE ONE-LINE TRUTH

Belly pain that comes back again and again, paired with a change in how often you poop or what your poop looks like, lasting more than 3 months, with no warning signs of bleeding, weight loss, or serious disease.

The chain — how it unfolds

1. Visceral hypersensitivity develops: gut stretch receptors and pain sensors fire at lower thresholds than normal. — why: The dorsal horn of the spinal cord and the anterior cingulate cortex (the brain's pain hub) amplify normal gut signals instead of filtering them out, so everyday the gut's squeezing waves (peristalsis) and gas feel like sharp cramps or aching pressure.
2. Gut-brain signaling goes haywire: the vagus nerve and enteric nervous system send louder, more frequent alarm signals up to the brain. — why: The brain's prefrontal cortex (the calming brake) fails to dampen these alarms, and the amygdala (the fear center) and insula (the body-sensation reader) stay on high alert, keeping the gut in a state of hypervigilance.
3. Serotonin floods the gut lining, and mast cells release histamine and inflammatory molecules near nerve endings. — why: Enterochromaffin cells overproduce serotonin, speeding up the gut's squeezing waves (peristalsis) and lowering the pain threshold. Mast cells act like overeager guards, dumping chemicals that make nerves jumpy and muscles contract harder or more erratically.
4. Gut motility shifts: the gut's squeezing waves (peristalsis) becomes too fast (IBS-D), too slow (IBS-C), or swings between both (IBS-M). — why: Excess serotonin and misfiring enteric nerves speed waves and reduce water absorption in IBS-D, pushing stool out loose and urgent. In IBS-C, low serotonin or uncoordinated waves slow transit, and the colon absorbs too much water, leaving stool hard and stuck. In IBS-M, the system flips unpredictably.

5. Abdominal pain clusters around bowel movements and often improves after pooping. — why: Because the pain is driven by gut wall stretching and wave intensity, emptying the colon relieves the stretch and lowers serotonin release, so pain eases temporarily — this pattern (pain related to defecation) is a hallmark of IBS.
6. Stool form and frequency change noticeably: loose and urgent, hard and infrequent, or alternating. — why: The speed and coordination of the gut's squeezing waves (peristalsis) directly shape stool consistency and timing. Faster waves and less water absorption mean loose, frequent stools; slower waves and more absorption mean hard, infrequent stools.
7. No alarm features appear: no blood, no weight loss, no nocturnal diarrhea, no fever, no anemia. — why: IBS is a signaling and motility problem, not a structural disease — there is no ulcer to bleed, no tumor to obstruct, no inflammation to cause fever or anemia. The gut lining looks normal on biopsy. This absence of red flags is what lets you diagnose IBS clinically (using Rome IV criteria: recurrent abdominal pain ≥ 1 day/week for 3 months, related to defecation and/or associated with change in stool frequency or form) without invasive testing in low-risk patients.
8. Stress, certain foods (high FODMAP: fermentable carbs like lactose, fructose, beans), and gut dysbiosis perpetuate the cycle. — why: Stress raises cortisol and corticotropin-releasing factor, which sensitize gut nerves and amplify symptoms. High-FODMAP foods ferment in the colon, producing gas that stretches the hypersensitive gut and triggers pain. Dysbiosis (fewer butyrate-making bacteria, more gas-formers) keeps gut cells and nerves on edge, closing the loop so every trigger restarts the pain-motility-hypersensitivity cascade.

Spot it — what you see, and why

- Belly pain that comes and goes, often tied to when you poop: The nerves in the gut become extra sensitive and the muscles squeeze too hard or too little, so normal stretch or movement feels painful and gets worse or better with a bowel movement.
- Bloating or feeling full of gas: The intestines may move food and gas slower or faster than normal, and some people's guts make extra gas or don't handle gas well, so it builds up and stretches the belly.
- Diarrhea (loose, watery stools): The colon (the large intestine that stores waste) squeezes too fast and doesn't give enough time to pull water back out of the stool, so it stays loose and urgent.
- Constipation (hard, lumpy stools or trouble going): The colon squeezes too slowly or not enough, so stool sits longer, more water gets pulled out, and it hardens up and gets stuck.
- Mixed bowel habits (some days diarrhea, some days constipation): The signals that control how fast the gut moves swing back and forth, so sometimes it rushes and sometimes it crawls, giving you both patterns.

- Mucus (clear or white slime) in the stool: The lining of the colon makes mucus to help stool slide, and when the gut is irritated the cells can make extra, so you see it on or mixed with the poop.

Red flags — act now

- Blood in the stool or black, tarry stools
- Losing weight without trying
- Fever or night sweats
- Severe pain that wakes you up at night or doesn't improve after a bowel movement
- New symptoms starting after age 50

Treat it — in this order

1. Rome IV criteria check plus ruling out red flags (blood in stool, weight loss, fever, family history of colon cancer, age over 50 with new symptoms) → Confirms irritable bowel syndrome diagnosis and excludes dangerous conditions that look like irritable bowel syndrome but need different treatment. This step prevents missing cancer or inflammatory bowel disease that could kill you.
2. Low FODMAP diet for four to six weeks, then bring foods back one at a time → Removes foods (like wheat, onions, milk, beans) that feed bad gut bacteria and cause extra gas and bloating. Less gas means less gut stretching, which means fewer pain signals shot to the brain.
3. Antispasmodic medicine (dicyclomine 20 mg, hyoscyamine 0.125 mg, or peppermint oil 180 mg) before meals → Relaxes the smooth muscle in the gut so it does not squeeze too hard when food moves through. Fewer hard squeezes means less cramping pain.
4. Selective serotonin reuptake inhibitor (like sertraline 25-50 mg daily) or tricyclic antidepressant (like amitriptyline 10-25 mg at bedtime) at low dose → Increases serotonin (a brain and gut messenger that steadies mood and gut movement). Better serotonin means the brain stops turning normal gut sensations into pain, and the gut and brain listen to each other better.
5. Symptom-specific agents: loperamide 2 mg for diarrhea-irritable bowel syndrome, linaclotide 145-290 mcg or plecanatide 3 mg for constipation-irritable bowel syndrome, rifaximin 550 mg three times daily for ten days if bacterial overgrowth suspected → Loperamide slows gut movement so stool firms up. Linaclotide and plecanatide draw water into the bowel to soften stool and speed it along. Rifaximin kills overgrown bacteria in the small intestine. Each targets the specific broken step in your subtype.

Your top priorities at the bedside

1. Assess pain location, severity on 0-to-10 scale, and relation to meals and bowel movements every shift — why: Irritable bowel syndrome pain follows predictable patterns tied to eating and defecation (pooping) through abnormal gut motility (muscle squeezing) and visceral hypersensitivity (nerves in gut feel too much)
2. Document stool frequency, consistency using Bristol Stool Chart, and presence of mucus daily — why: Bowel habit changes define irritable bowel syndrome subtypes and track treatment response because serotonin (gut chemical) imbalance affects colon transit time (how fast stool moves)
3. Screen for red flag symptoms including rectal bleeding, unintended weight loss, fever, and night symptoms at every visit — why: Red flags indicate serious pathology (disease) like cancer or inflammatory bowel disease that causes mucosal damage (lining injury) unlike irritable bowel syndrome which has normal tissue