

An approach to Functional Bowel Disorders & Chronic Abdominal Pain

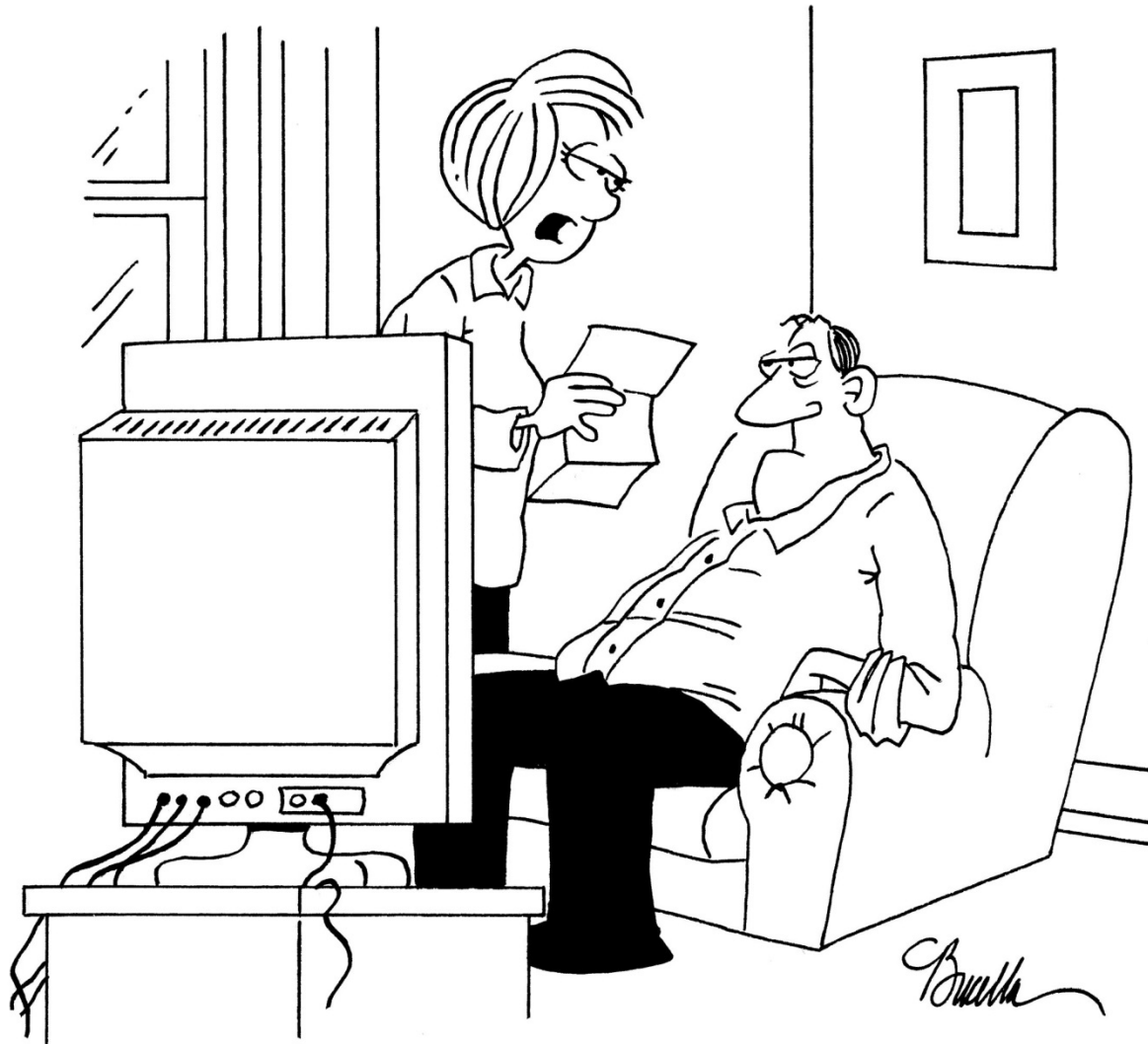
W Manishen, MD, FRCPC
Lecturer, Section of
Gastroenterology, U of MB

Objectives

- To develop an approach to diagnosis of functional bowel disorders, chronic abdominal pain
- To review pathophysiology of brain-gut interactions
- Update on therapy, diet probiotics
- No conflict of interest to report



"You've got irritable bowel syndrome."



"Looks like the doctor confirmed my diagnosis.
It's not just your bowel. Everything
about you is irritable."



SHAW

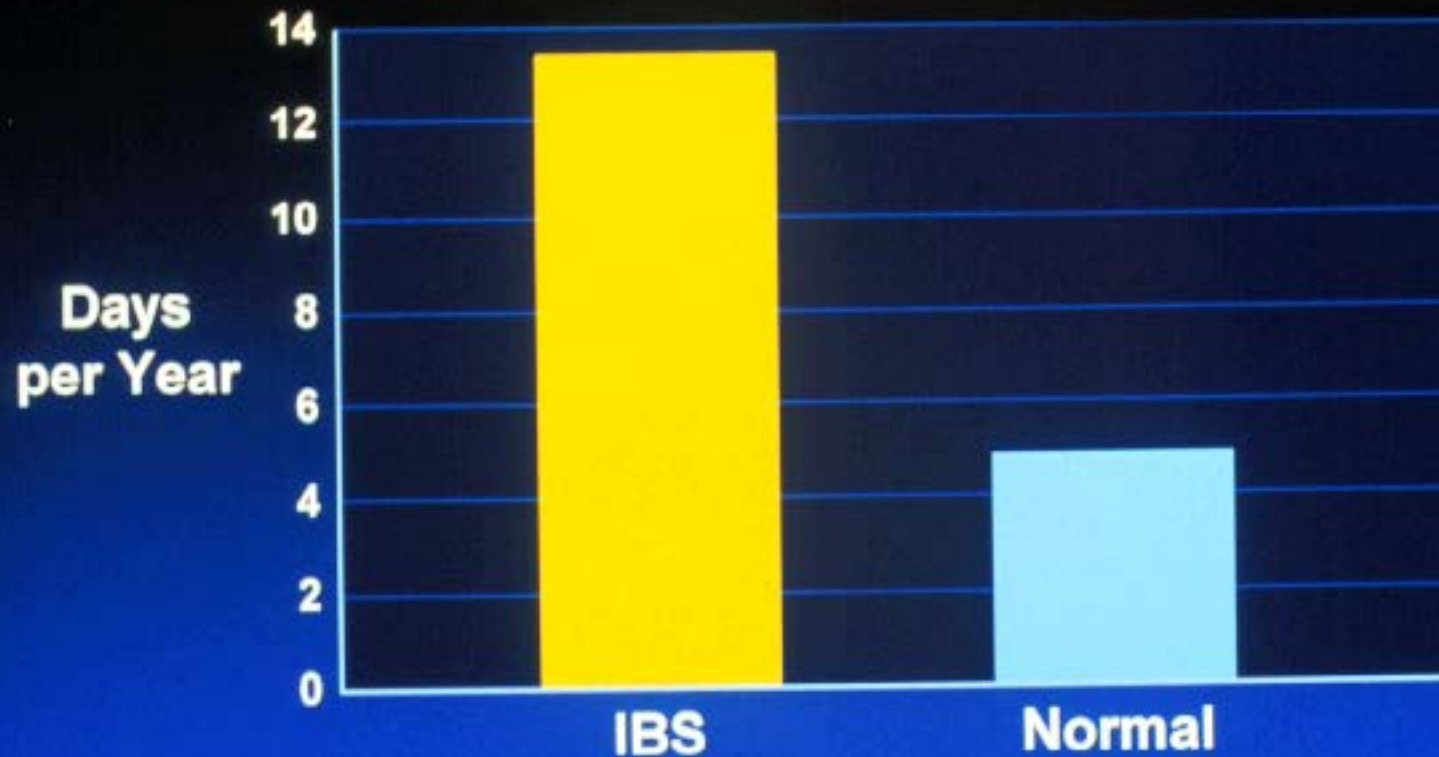
"You have irritable-spouse syndrome."

IBS

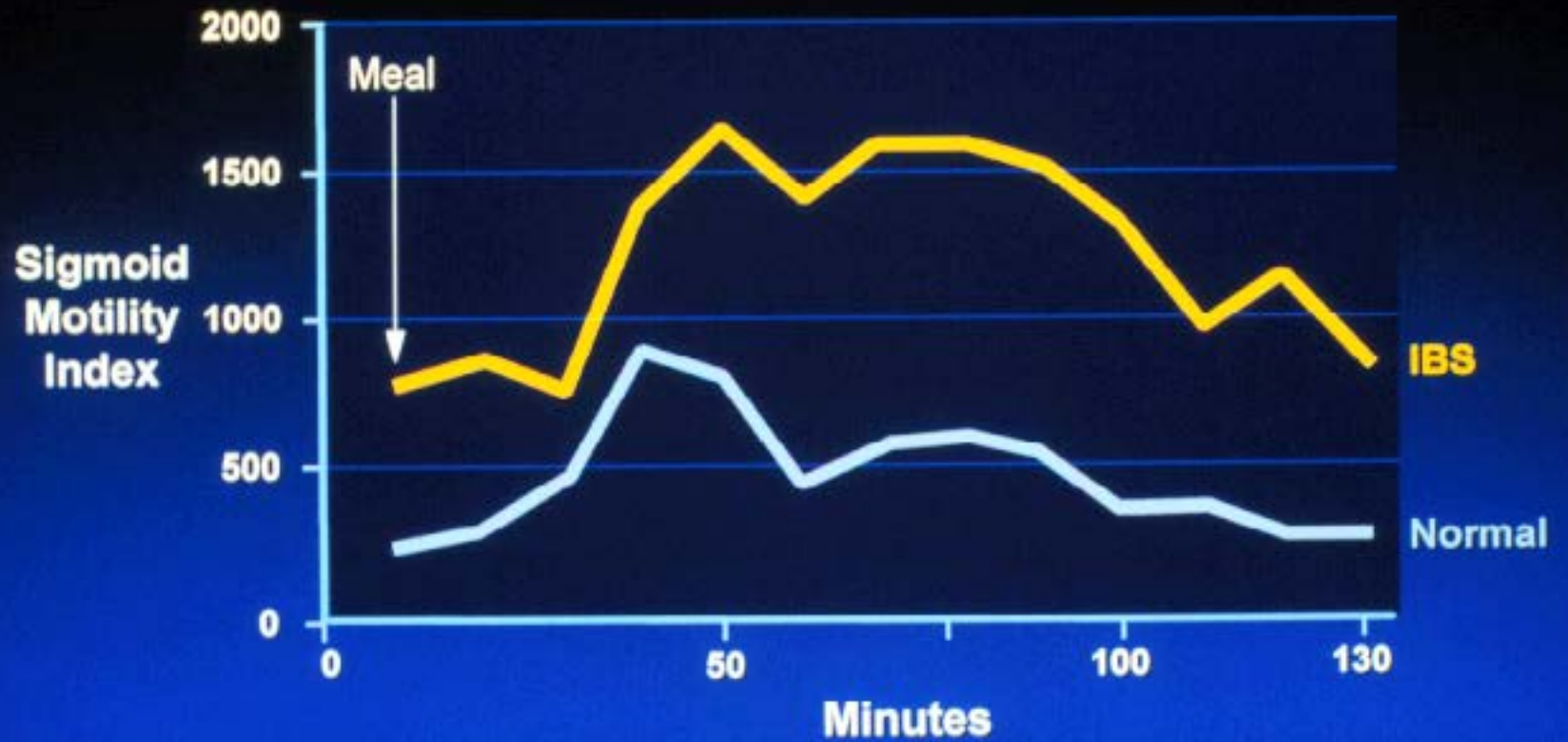
- Bowel irregularity; diarrhea alternating with constipation
- Abdominal discomfort/pain associated often relieved with defecation
- Sense of incomplete evacuation or change in frequency/form of stool
- Mucous in the stools, bloating/abd distension
- > 3 BM/d or < 3 BM/week
- Continuous or off and on for at least 12 weeks

IBS - Epidemiology

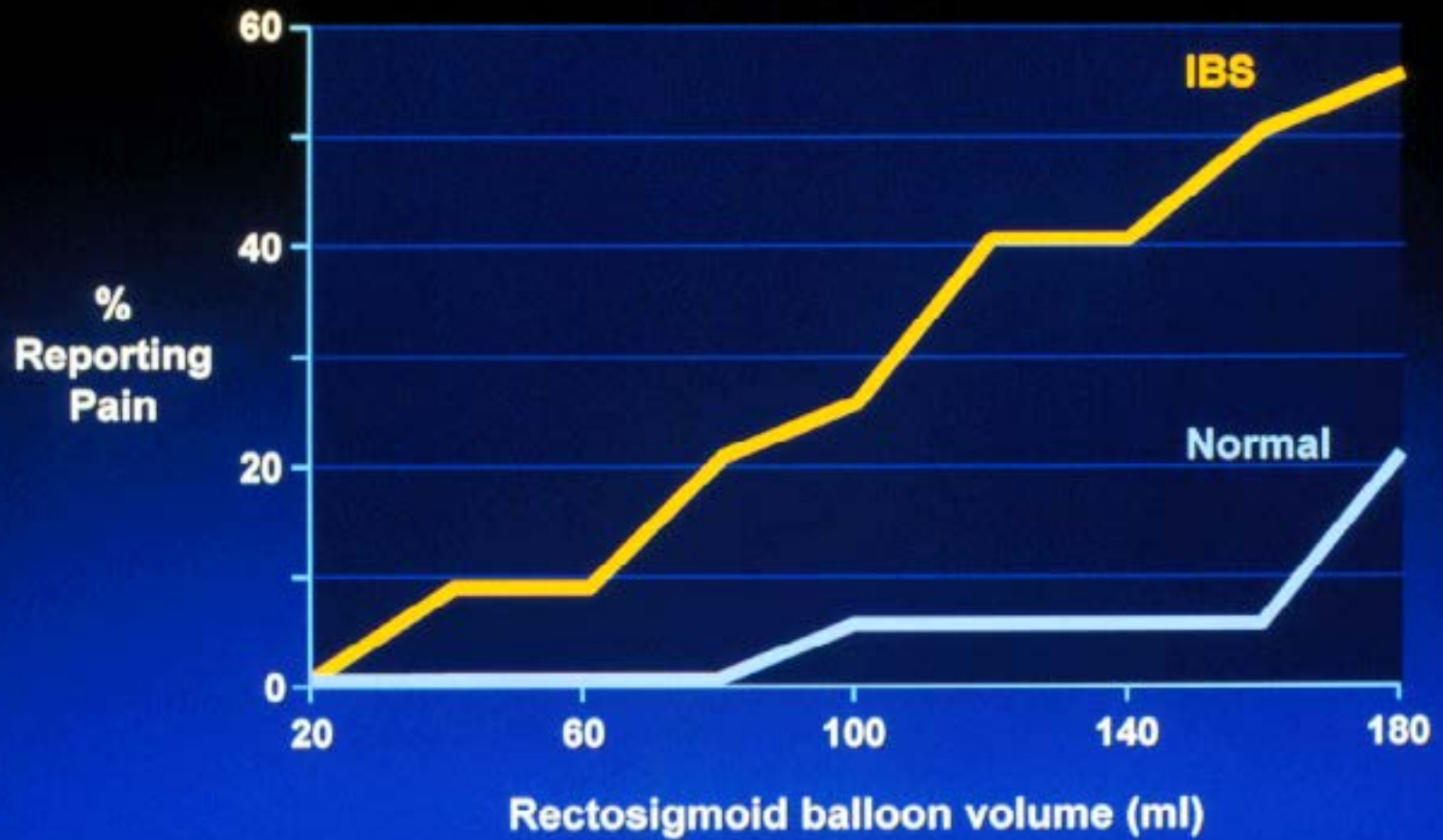
Work or School Absences



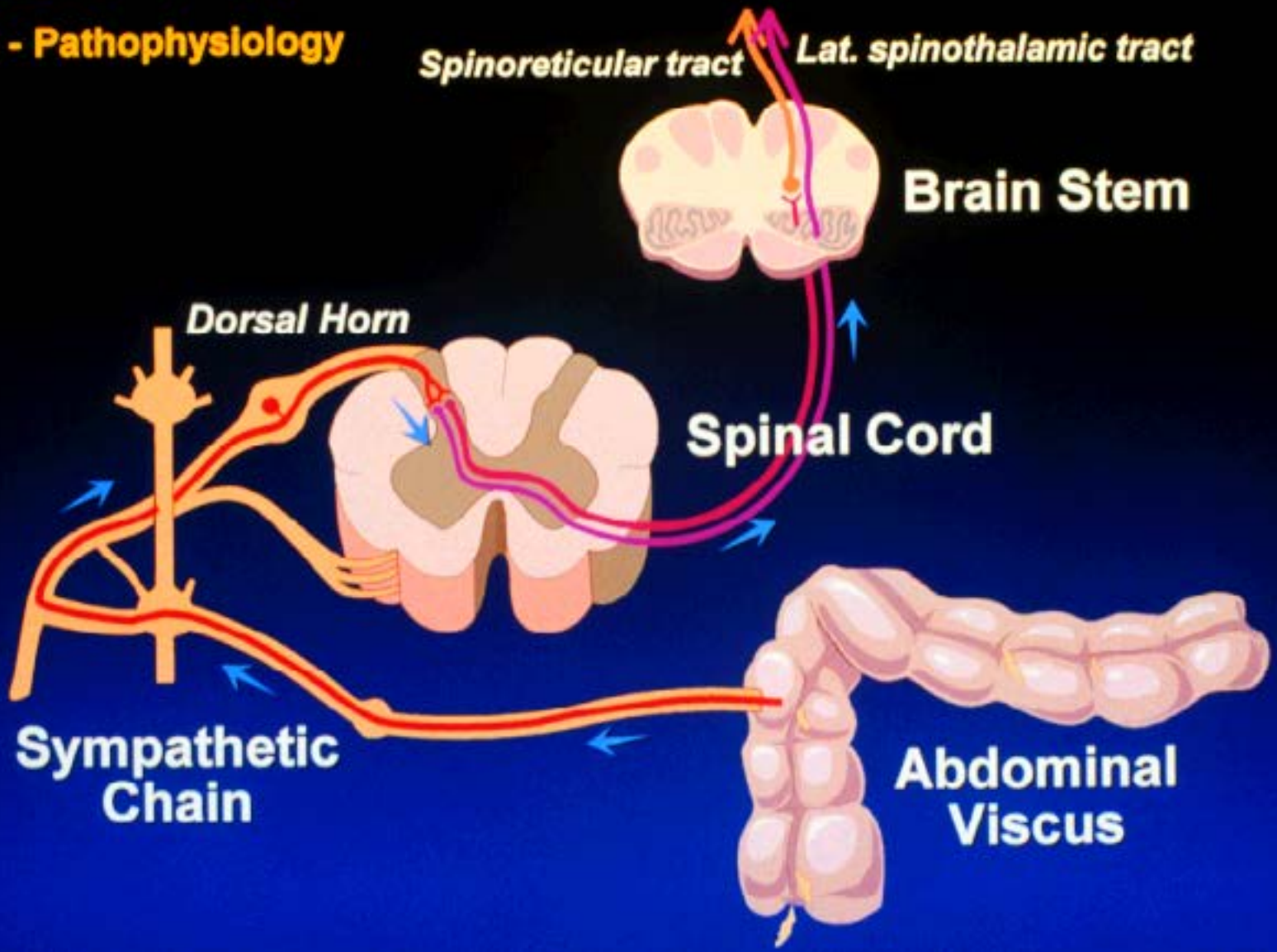
IBS - Physiology



IBS - Physiology



IBS - Pathophysiology



Spinoreticular tract

Lat. spinothalamic tract

Brain Stem

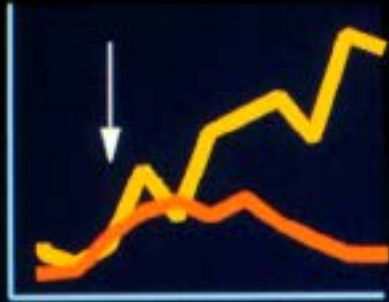
Dorsal Horn

Spinal Cord

Sympathetic Chain

Abdominal Viscus

IBS - Pathophysiology



- Increased motor reactivity
- Altered visceral sensation
- Involves small and large intestine
- CNS - ENS dysregulation



IBS – >12 weeks abd pain, change frequency/form of stool, relieved by BM, passage of mucous, urgency

IBS- C Constipation <3BM/wk

IBS –D Diarrhea >3BM/day

Chronic Abdominal Pain- Bloating, Distension

Brain-Gut Axis

Prebiotics

Probiotics

Diets: Lactose Free- Gluten Free, Low FODMAP

Post Infectious IBS after travellers diarrhea , peptobismol, ?vaccine/Dukoral

IBS-Constipation

- Fiber 20-35 g/d
- Soluble – psyllium (Metamucil) with water++, fermentable/gas++
- oatmeal, legumes (peas, beans, lentils), oranges, apples, carrots, nuts, blueberries, beans, bananas, whole wheat flour, asparagus
- Insoluble fiber: bran , cellulose, lignans, brown rice, seeds and skins of fruit, flax seed, chia seed
- Above fiber can act as ‘prebiotic’ fertilizer for good bacteria
- Stimulant Laxatives Senokot, Dulcolax/ bisacodyl
- Stool softeners: Docusate, Colace
- Polyethylene Glycol powder: Restoralax, Lax-a-day
- Other laxatives: Olive Oil, aloe vera, Milk of Magnesium, lactulose
- Rx: Constella (guanyl-cyclase agonist: increeases secretion) , Prucalopride (prokinetic 5HT-4 agonist) Cost \$\$\$

If I only had some bran.



Reynolds



“Large coffee and three bran muffins...
hopefully to go!”

CHAPMAN

PHARMACY

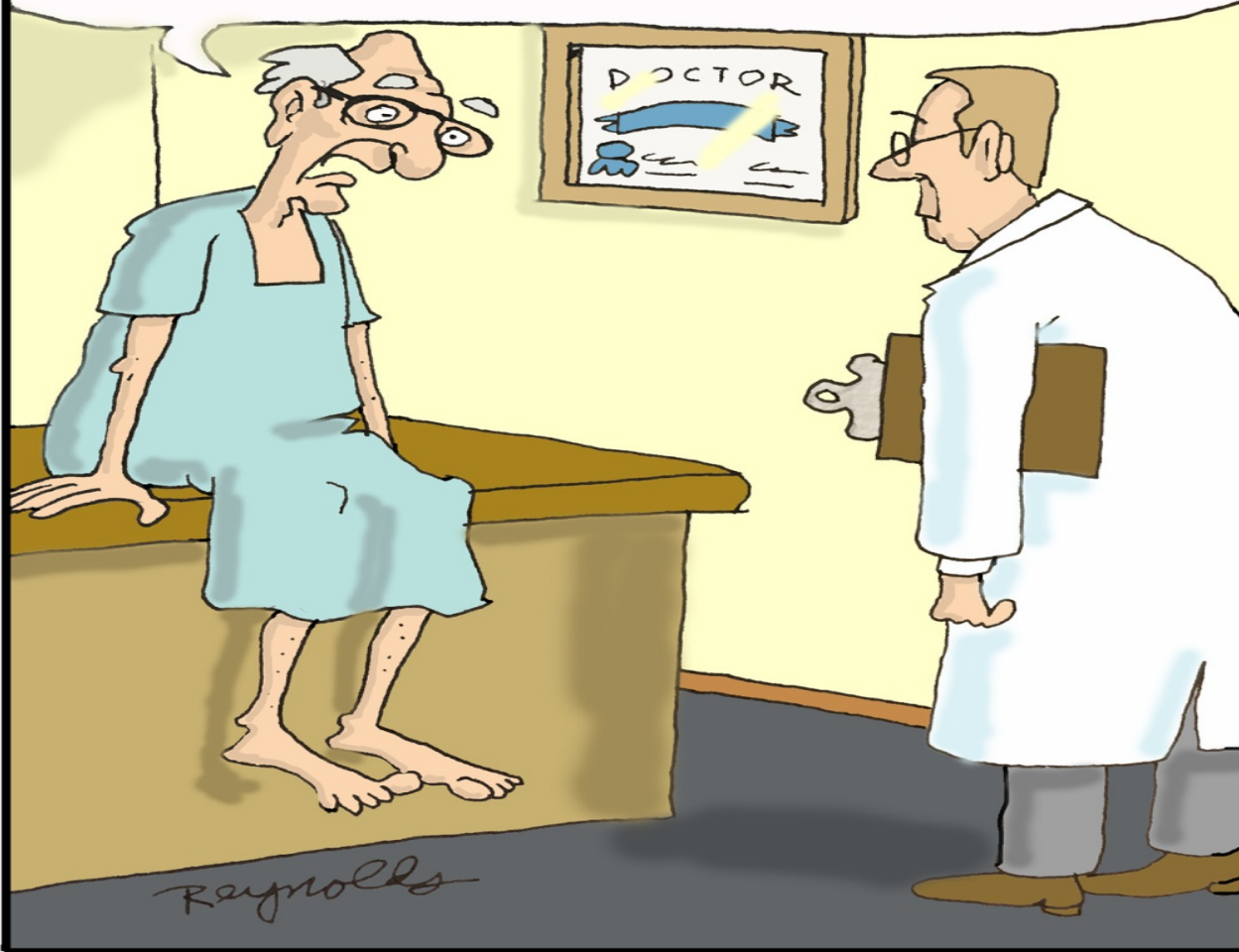


"Price check on the stool softener!"

IBS- Diarrhea

- Metamucil/Psyllium 1tsp at night in an 8oz glass of water: Bulk forming laxative, more complete emptying in am, less residual stool left in colon
- Anti-spasmodic meds: Dicetel (pinavarium), Buscopan (hyoscine)
- Pepto-bismol (bismuth)
- Imodium (loperamide) , codeine, lomotil, cholestyramine

My bowels are like clockwork.
I go every morning at 6AM. The
problem is I don't get out of
bed until 7AM...



Chronic Abdominal Pain

Functional Abdominal Pain/bloating

Centrally Mediated Abdominal Pain

Syndrome/Visceral hypersensitivity

Not associated with change in bowel pattern

Post-infectious IBS

Symptoms can worsen with stress

Table 1. Abdominal pain characteristics

Pain qualifiers	Examples
Location	Pain of pancreatitis classically bores to the back
	Renal colic radiates to the groin
Onset	Pain of pancreatitis may be gradual and steady
	Perforation and peritonitis are sudden and maximal at onset
Quality	Burning/gnawing pain is typical of GERD and PUD
	Colicky/cramping pain is typical of gastroenteritis or intestinal obstruction
Pattern of pain	Pain shortly after meals can be seen with dyspepsia
	Chronic pain within 1 hr of eating can be seen with chronic mesenteric ischemia usually starts within 1 hr of eating, pain relieved with meals and recur several hours after a meal is seen with duodenal ulcers
Associated symptoms	Bloating/abdominal distension should indicate small intestinal bacterial overgrowth, chronic intestinal pseudoobstruction, or small bowel obstruction
Radiation	Pain of pancreatitis bores to the back
	Renal colic radiates to the groin

[An Approach to the Patient With Chronic Undiagnosed Abdominal Pain](#)

Pichetshote, Nipaporn; Pimentel, Mark
American Journal of
Gastroenterology114(5):726-732, May
2019.

doi: 10.14309/ajg.000000000000130

Abdominal pain characteristics

Table 2

[An Approach to the Patient With Chronic Undiagnosed Abdominal Pain](#)

Pichetshote, Nipaporn; Pimentel, Mark
American Journal of
Gastroenterology 114(5):726-732, May
2019.

doi: 10.14309/ajg.000000000000130

Table 2. Abdominal pain by location

Location	Possible disease etiologies
Right upper quadrant	Diseases of the liver or biliary tree; sphincter of Oddi; functional gallbladder
Epigastrium	Pancreatitis, gastric etiologies such as PUD; functional dyspepsia
Left upper quadrant	Splenic etiologies
Lower abdomen	Distal intestinal tract; irritable bowel syndrome

AMERICAN JOURNAL OF GASTROENTEROLOGY

Abdominal pain by location

Choosing Wisely – Abdominal Pain Investigations

1 American Gastroenterological Association (AGA)

Recommendation: *For a patient with functional abdominal pain syndrome (as per Rome criteria), computed tomography (CT) scans should not be repeated unless there is a major change in clinical findings or alarm symptoms.*

Alarm symptoms

iron deficiency anemia

blood in stool

awakening at night with

gastrointestinal symptoms

unexplained weight loss

family history of colorectal cancer

age at onset over 50 years.

Figure 2

[An Approach to the Patient With Chronic Undiagnosed Abdominal Pain](#)

Pichetshote, Nipaporn; Pimentel, Mark
American Journal of
Gastroenterology 114(5):726-732, May
2019.

doi: 10.14309/ajg.000000000000130

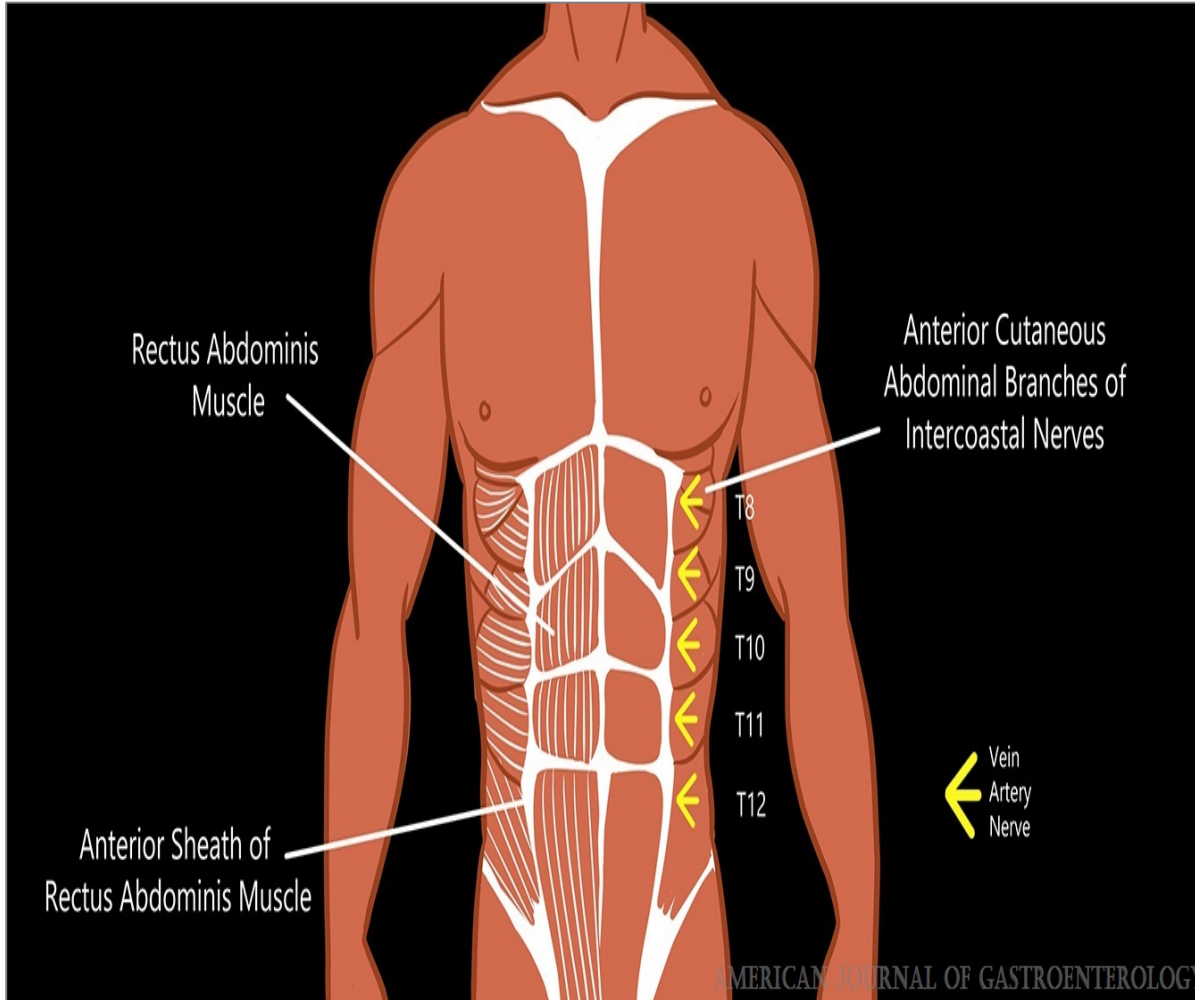


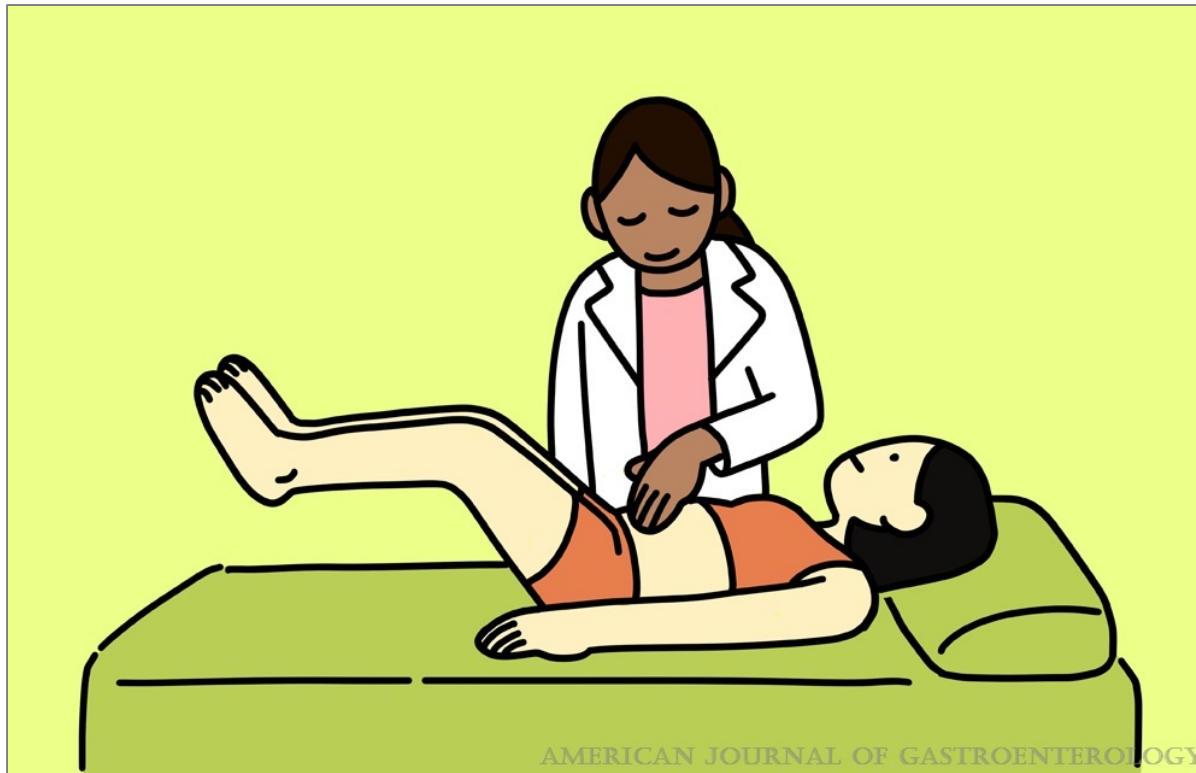
Diagram of abdominal innervation.

Figure 3

[An Approach to the Patient With Chronic Undiagnosed Abdominal Pain](#)

Pichetshote, Nipaporn; Pimentel, Mark
American Journal of
Gastroenterology 114(5):726-732, May
2019.

doi: 10.14309/ajg.000000000000130



Performance of Carnett's sign test. First determine the site of maximum tenderness on the abdomen. The patient is then asked to contract the abdominal muscles by raising his/her head from the examination table while the examiner continues to apply pressure to the tender site or zipping his legs together and raising both legs. The test is positive if tenderness becomes more severe or is unchanged. A positive test suggests that the abdominal wall is the source of pain. The test is negative, when tenderness is reduced, which suggests that the pain has an intra-abdominal source.

Table 3. Workup of patients with undiagnosed abdominal pain

For localized pain	
Positive Carnett's sign	Consider CAWP
Negative Carnett's sign	Consider FD or IBS
For diffuse/nonspecific abdominal pain	
And appropriate ethnic group	Consider FMF with empiric trial of colchicine
And h/o abdominal surgery, autoimmunity, cancer, abnormal imaging with mass/LAD	Consider sclerosing mesenteritis with laparoscopy
And h/o peripheral vascular disease or coronary artery disease	Consider chronic mesenteric ischemia and obtain CT angiography
And h/o angioedema	Consider HAE and check C4, C1 inhibitor
And concomitant neurovisceral symptoms (muscle weakness, psychiatric symptoms, pain in limbs, head, neck chest)	Consider AIP and check urine PBG (at time of attack)
And symptoms of mast cell activation (flushing, tachycardia, MSK pain, hypotension)	Consider MCAS and check tryptase (at baseline and time of attack)
And physical examination consistent with skin hyperextensibility, joint hypermobility, or tissue fragility	Consider EDS (with Brighton criteria) and evaluate for visceroptosis with UGI with SBFT with upright films
And associate symptoms of dyspareunia, dyschezia, catamenial diarrhea	Consider endometriosis with laparoscopy
No associated symptoms	Consider CAPS
And use of opiates with increased dosages causing worsening pain	Consider NBS

[An Approach to the Patient With Chronic Undiagnosed Abdominal Pain](#)

Pichetshote, Nipaporn; Pimentel, Mark
 American Journal of
 Gastroenterology 114(5):726-732, May
 2019.

doi: 10.14309/ajg.000000000000130

Workup of patients with undiagnosed
 abdominal pain

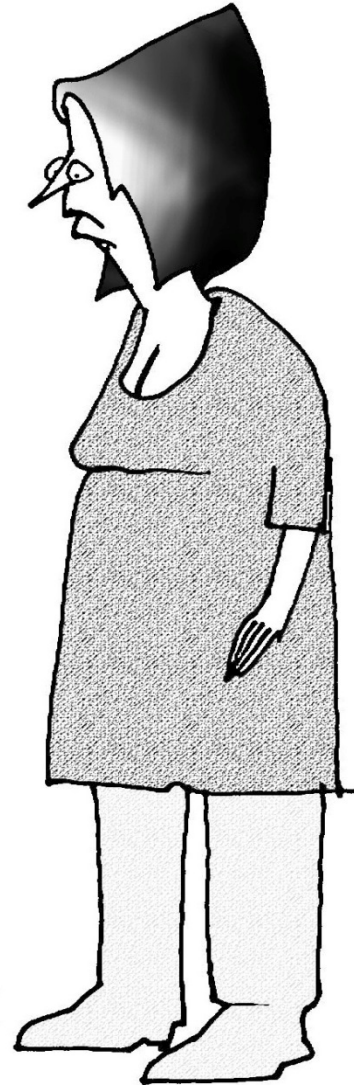
Chronic Abdominal Pain-Treatment

- Bloating: avoid food triggers or gas promoting foods: cabbage, cauliflower, turnip, onions, refined white starchy foods with poorly digested carbohydrates (High FODMAP), beans, lentils, nuts, broccoli
- Lactaid enzyme replacement (lactose intolerance)
- Diovol-plus, Ovol 180 Gas-X (Simethicone)
- Activated Charcoal tablets
- Peppermint (tea), peppermint capsules
- Ginger
- Probiotics; “friendly bacteria”

I THOUGHT I'D HELP
YOUR IBS BY
INTRODUCING YOU TO
MORE BACTERIA



FRAN



Probiotics

- ‘Friendly’ bacteria may help digestion, flora
- Bifido-bacteria species reduces bloating
- Yogurt, kefir, (yogurt-like drink)
- Fermented foods, sauerkraut, tempeh
- However, magnitude of viable bacteria often uncertain and less than needed, plus effects may be short lived, may not alter bowel flora, costly
- Main use is for prevention of antibiotic induced diarrhea, C. difficile infection



PROBIOTIC PROTECTION FOR THE ENTIRE FAMILY!



ON SALE 30 vegetable capsules
29⁹⁹

CRITICAL CARE



ON SALE 30 vegetable capsules
39⁹⁹

COLON CARE



ON SALE 30 vegetable capsules
39⁹⁹

ULTRA POTENT



ON SALE 30 vegetable capsules
29⁹⁹

FOR WOMEN



ON SALE 30 chewable tablets
17⁹⁹

FOR KIDS



ON SALE 60 g
19⁹⁹

FOR INFANTS

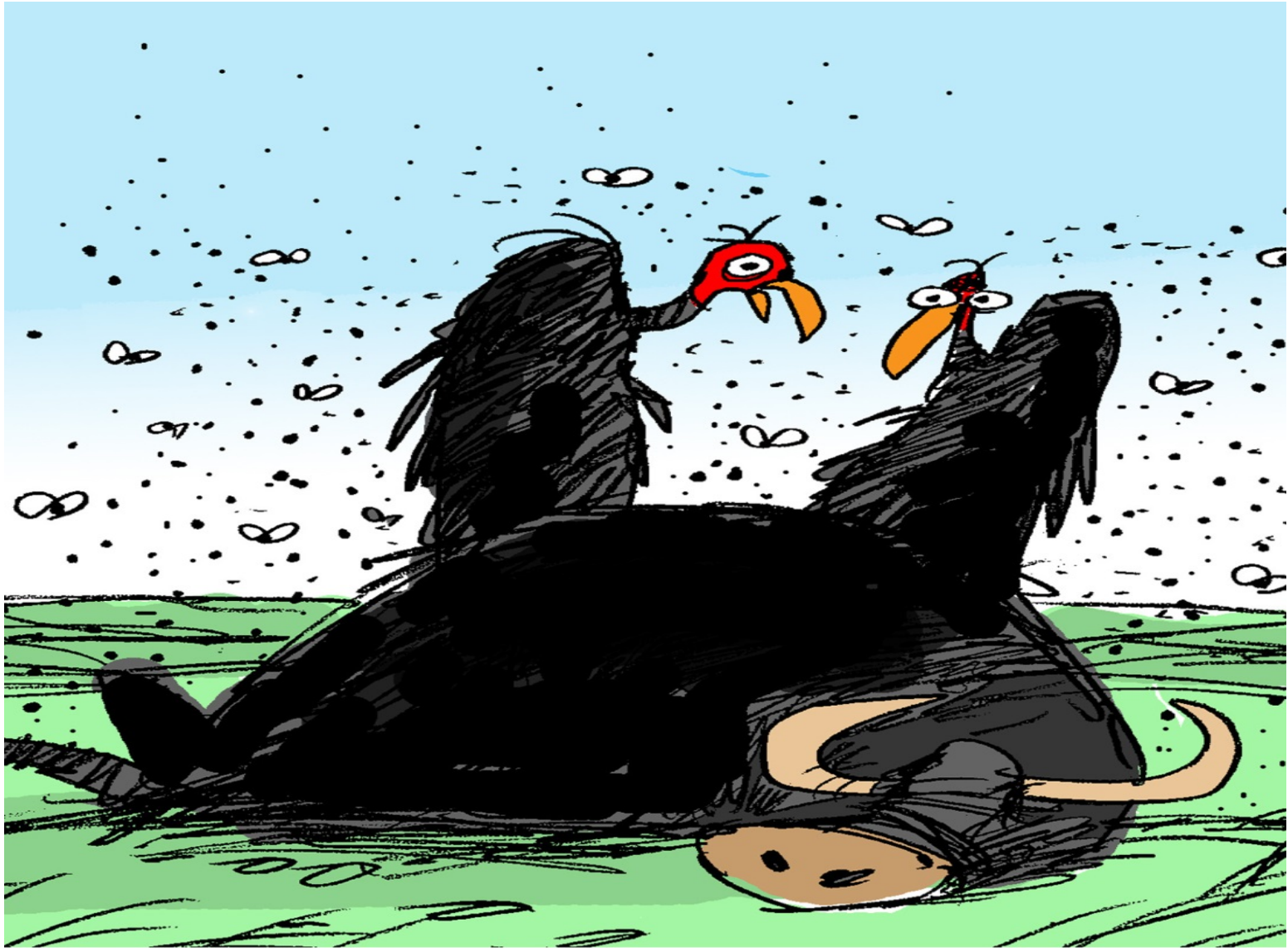
THERE ARE MANY PROBIOTICS TO CHOOSE FROM. WHAT SHOULD I LOOK FOR?

- ✓ **CULTURE COUNT:** refers to the total amount of bacteria per serving (e.g. 50 or 100 billion bacteria).
- ✓ **NUMBER OF STRAINS:** important to choose a probiotic with multiple strains, that should include both bifidobacteria (large intestine) and lactobacilli (small intestine).
- ✓ **TARGETED FORMULAS:** choose formulas that are specific to certain areas of concern (e.g. colon health, vaginal support, child-specific formula for kids).
- ✓ **DELIVERY SYSTEM:** most bacteria cannot survive the high acid environment of the stomach. For this reason, make sure the probiotic you are buying has a delivery system (i.e. enteric coated or delayed release capsule, or bio-tract tablet). This ensures that the beneficial bacteria arrive alive in the intestinal tract where they are able to populate.
- ✓ **GUARANTEED POTENCY:** always make sure that the product packaging states that the potency is guaranteed at expiry, not at the date of manufacture. Guaranteeing potency at expiry means that you are getting what you paid for and getting the health benefits of the probiotic itself.

Diets

- Gluten-free: Celiac disease-immune reaction to protein in wheat causing mucosal damage to intestine, gas production, pain, diarrhea and malabsorption of calcium, iron. Diagnosed by blood test or biopsy, 35,000 patients dx in Canada, another 300,000 undiagnosed
- Gluten sensitive/mild celiac; 7M gluten avoiders (C\$90M)
- U.S. \$4.2B market for gluten free foods
- Benefits also related to altered fiber intake, not just gluten
- Less xylose/arabinose (wheat/rye) more mannose/galactose from veg, berries/oats can alter microbiome.

- Low-FODMAP: Fermentable, Oligo-Di-Mono-saccharides and Polyols) avoid fructose (apples, pears, corn syrup, mild/dairy, cabbage, artichokes, grains, wheat, high fructose corn syrup.
- Avoid Polyols: bulk sweetener also in stone fruits, cherries, peaches, pears, plums, cauliflower, mushrooms, pumpkins to reduce bloating, alter bacterial flora
- Low FODMAP Fiber Supplement

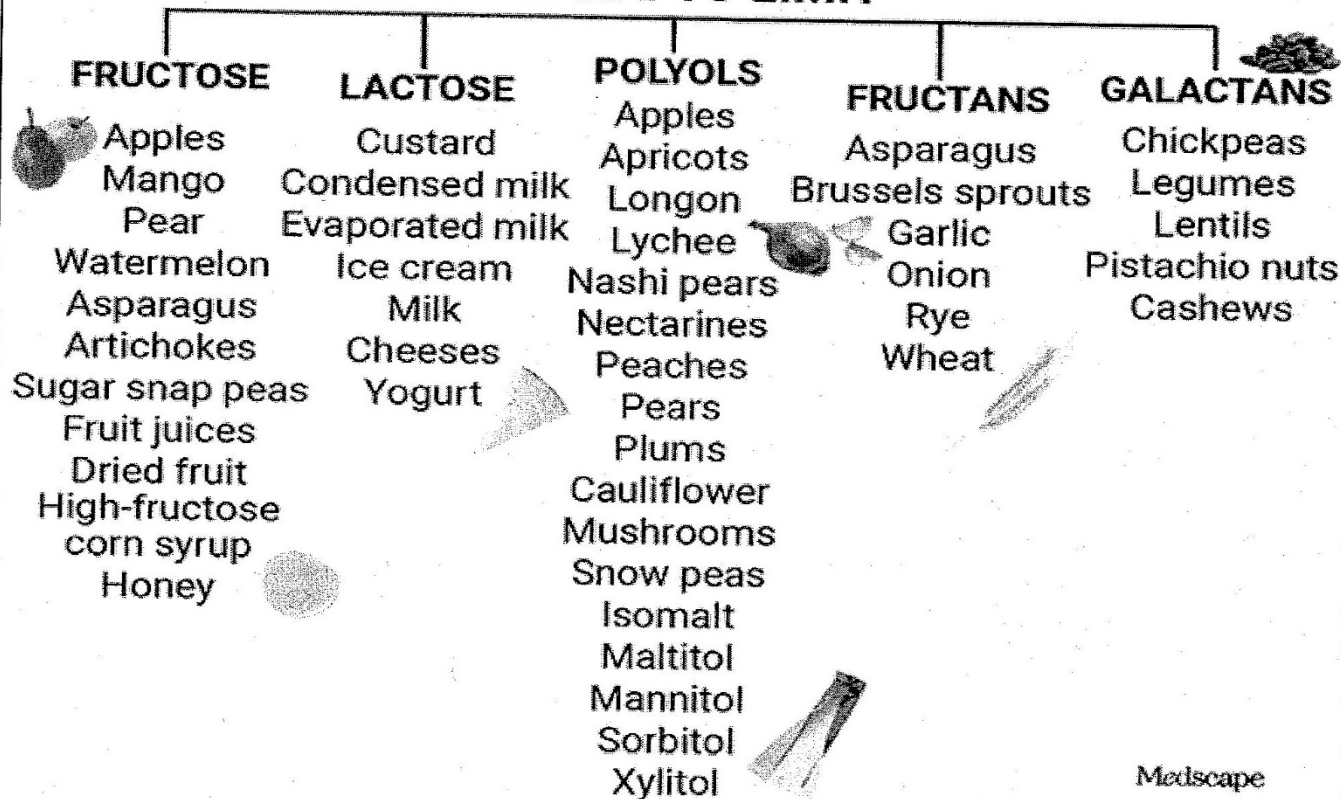


“Are you sure this is gluten free?”

LOW-FODMAP DIET

APPROPRIATE FOR IBS

FOODS TO LIMIT



Medscape

Figure. Key examples of foods to limit on a low-FODMAP diet.

"When the sugars contained in these foods start to ferment, they pull extra water into the lumen of the small intestine, causing increased cramping, stomach pain, gas, and diarrhea," says King. "By consuming a low-FODMAP diet and then gradually reintroducing FODMAPs, you can better identify which foods are your trigger foods—those that your body has difficulty digesting," she adds. King emphasizes that this dietary approach is designed to help minimize the troublesome symptoms of IBS and not to cure the condition.



“We couldn’t find a raw-vegan, gluten-free, sugar-free, non-G.M.O. cake for your birthday, so we got you nothing.”

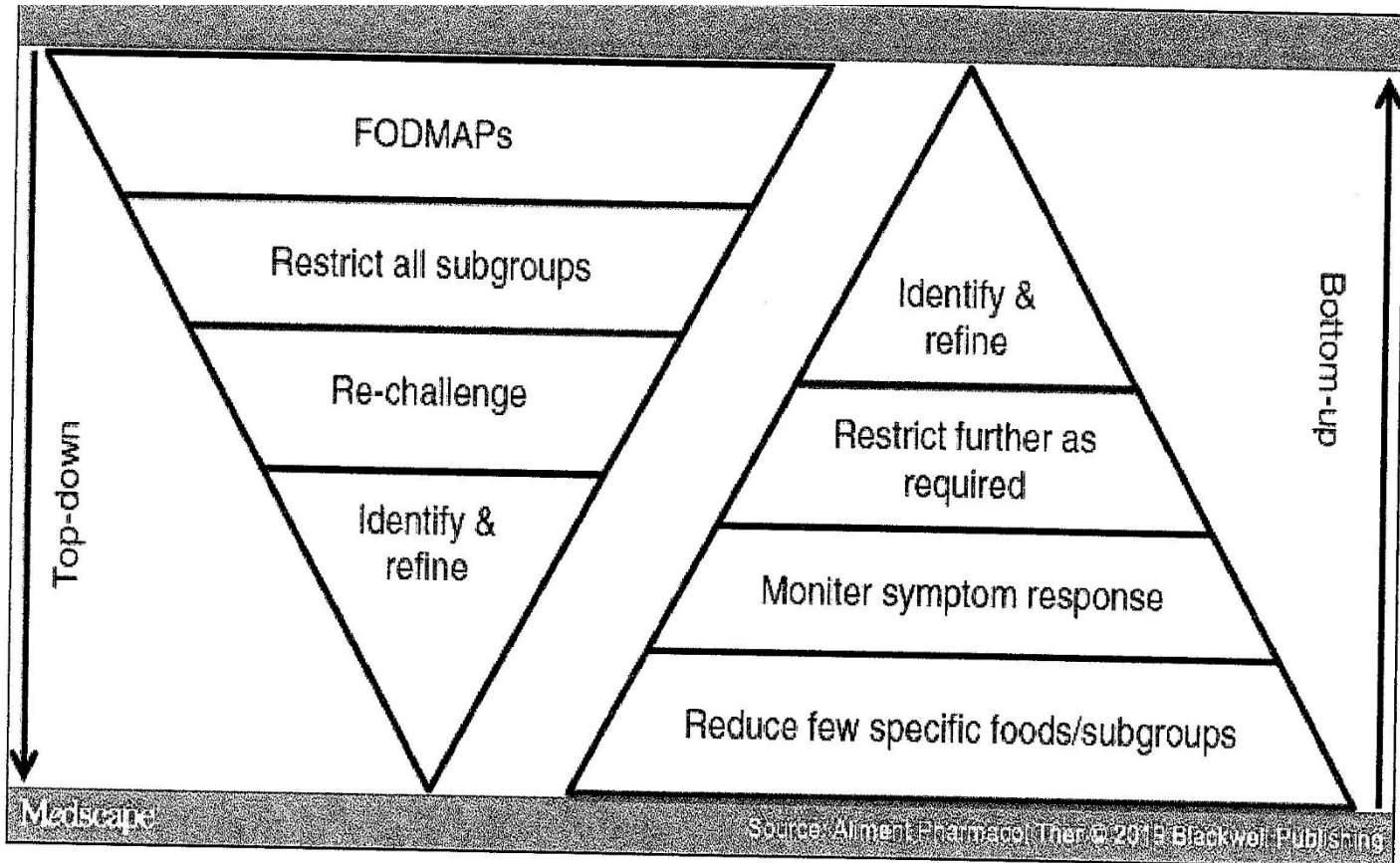


Figure 1.

Top Down vs. Bottom Up approach to a low FODMAP diet



Download the FODMAP App



Your complete on-the-go guide to the FODMAP Diet

With the Monash University FODMAP Diet app you'll have easy access to recommendations about the foods you should eat – and those you should avoid – at every meal.



Feedback

www.monashfodmap.com

**Or Canadian Digestive Health
Foundation Website**

www.cdhf.ca



Low FODMAP Fiber Supplement

hydrolyzed guar gum (Fibersense, Reliefibre, Fiber 4)

Natural Factors Organic Reliefibre Low FODMAP Unflavoured - 200 Grams - Google Chrome

yeswellness.com/natural-factors-organic-reliefibre-low-fodmap-unflavoured/?gclid=Cj0KCQiA2ITuBRDkARIsAMK9...

Apps Outlook Web App... https://webmail.ma... The New York Time... Imported From IE Waiting for medical... Computed Tomogr...



Natural Factors Organic Reliefibre Low FODMAP Unflavoured - 200 Grams

☆☆☆☆☆ Write a review

Facebook Email Twitter Pinterest

NATURAL FACTORS

SKU: NFR-1450-001

UPC: 068958049915

\$33.97 ~~\$38.99~~

(You save \$5.02)

Quantity:

▼ 1 ▲

ADD TO CART

ADD TO WISH LIST

TrustedSite

Yes Rewards

High-FODMAP fibres can trigger IBS symptoms. So replace fibres like inulin, psyllium, and bran with a low-FODMAP fibre supplement like [The Right Fibre 4](#).



[Back to Top](#)

Gut-Brain Axis

- Stress-related visceral hypersensitivity
- Stress reduction techniques can help reduce/cope with IBS symptoms
- Mindfulness
- Psychotherapy/cognitive behavioral therapy – treat associated anxiety/depression
- Exercise
- Anti-depressants (IBS-D), control pain
- Anti-anxiety treatment
- hypnotherapy



**" DON'T TALK TO LARRY TONIGHT, HE'S
GOT IRRITABLE OWL SYNDROME ! "**

K FARTIDAS



I TOLD YOU! SEEING YOUR REFLECTION
ON A RECENTLY WASHED AND POLISHED
CAR'S ROOF IS THE BEST REMEDY
FOR CONSTIPATION.



HEALTH / NUTRITION / ADDICTION

Bummed out by irritable bowel syndrome

Food for thought

ESLIE
ECK



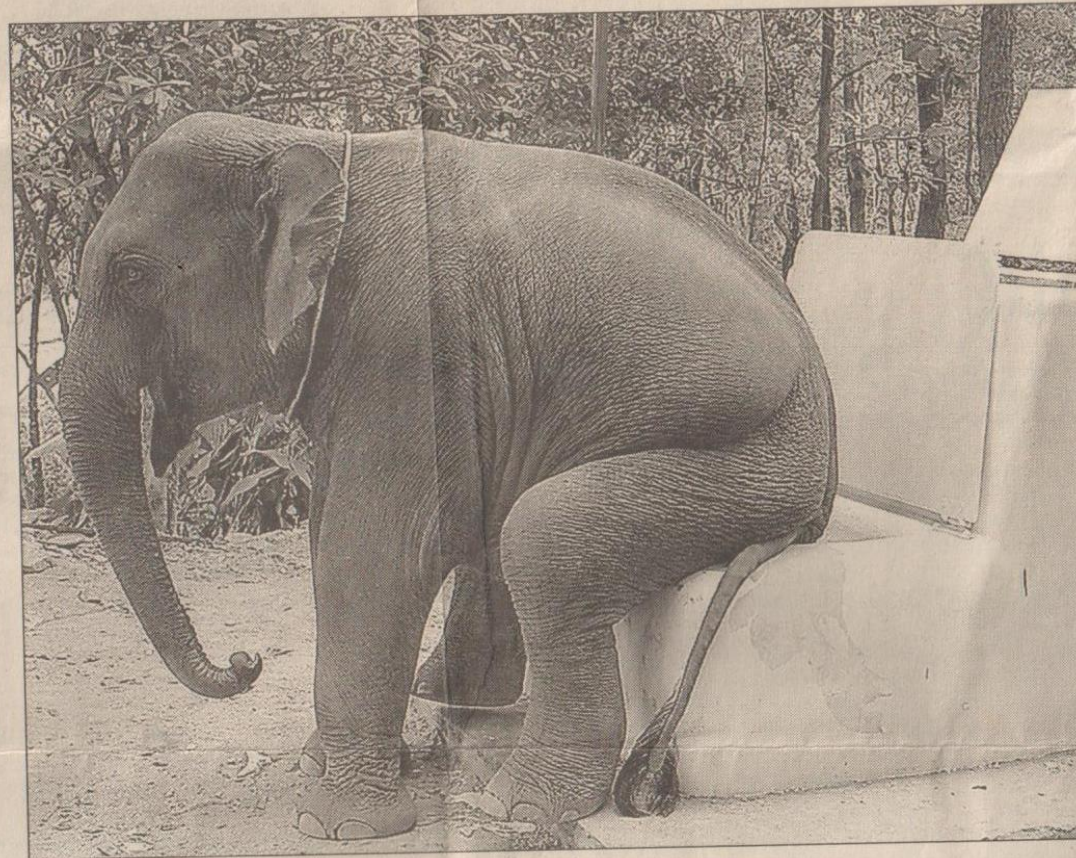
Gut trouble — gas, diarrhea, bloating, constipation — is often the elephant in the room no one wants to talk about

Most people have suffered an occasional bout of bloating, gas, constipation, even diarrhea. But for people with irritable bowel syndrome, these uncomfortable, often painful symptoms persist, frequently interfering with daily life. While foods don't cause the syndrome, altering your diet can help control and treat symptoms. Skipping meals, eating too much

It's not known what causes the condition to develop in the first place, but hormones, stress, bacterial infection, antibiotic use, food sensitivities and disorders that affect intestinal muscle contractions are among the suspects. It is known, however, that certain foods can stimulate reactions in the gut. If you have the condition, eating too much of these foods might bring on or worsen your symptoms.

To get relief, the best place to start is your diet. Before making changes — especially unnecessary ones — keep a daily food and symptom journal for two weeks to identify what foods, or patterns of eating, set off symptoms. Keep track of meal and snack times, types of foods eaten and portion sizes. Note symptoms, as well as what time they start and end. Keep in mind that factors such as stress, certain medications (e.g. magnesium-containing antacids), the menstrual cycle, and a lack of physical activity may also aggravate symptoms.

The influence of diet on irritable bowel is unique to each person. No single piece of dietary advice will work for everyone. Many, or only a few, of the following strate-



Deep doo-doo? Diew, a bull elephant, is trained to sit on a toilet — a location with which irritable bowel syndrome are all too familiar. As many as 20 per cent of Canadians have t



Discount tickets to uniquely Orlando attractions.

BUY NOW



Politics

Does Donald Trump Have Irritable Bowel Syndrome? A Theory



BY

JOSHUA RIVERA

Mar 18, 2017



Here is all the circumstantial evidence.