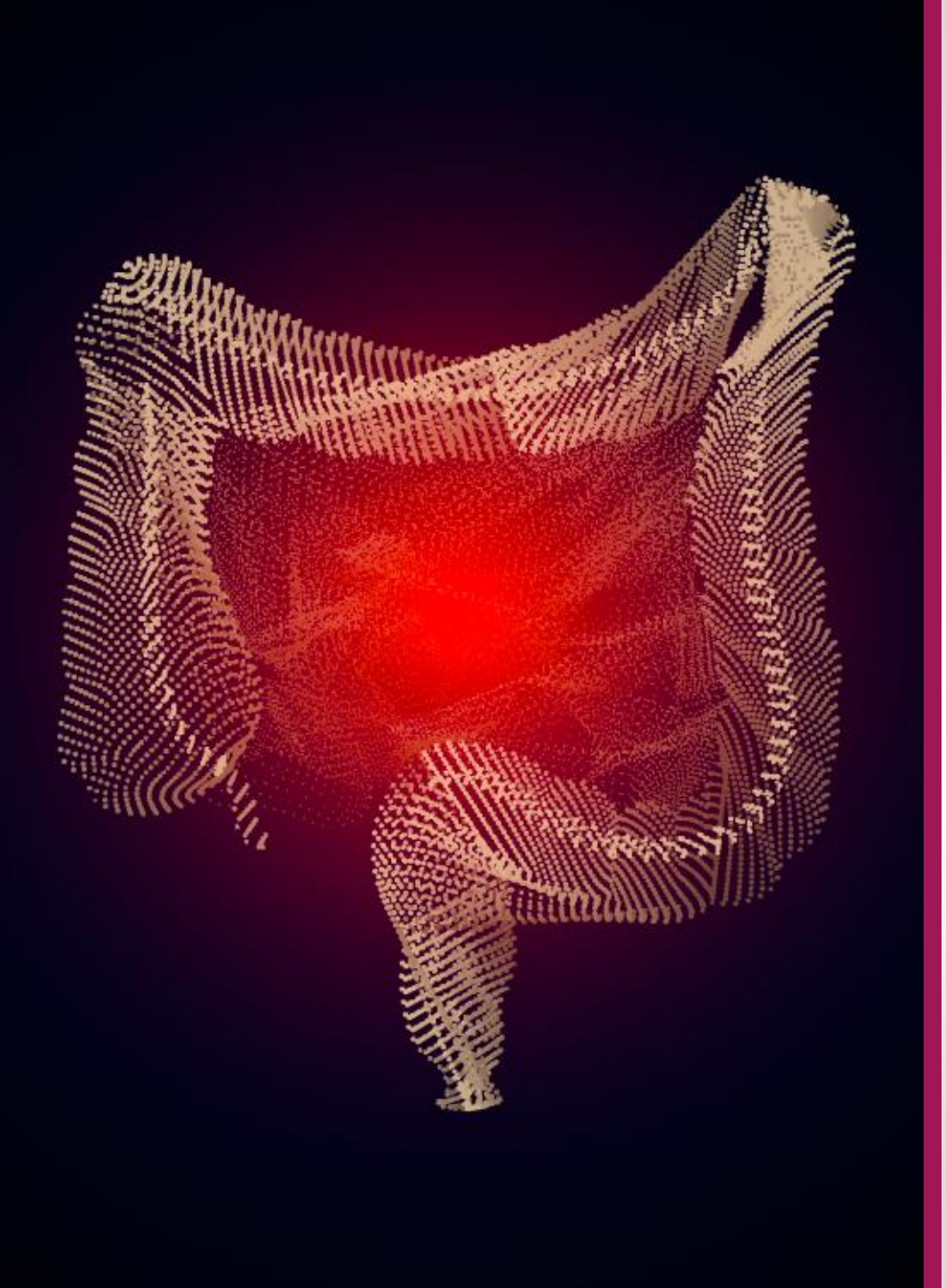
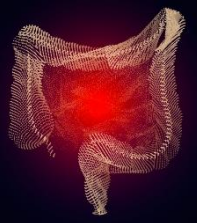


A 37-Year-Old Caucasian Female With Diarrhea, Urgency, and Lower Abdominal Pain

Jeffrey B. Danzig, MD
Summit Medical Group
Ridgewood, NJ



Case Study: Debra

Debra is a 37-year-old white woman who has had diarrhea, urgency, and lower abdominal pain for 3 years. She complains that she:

- Has 4-5 loose stools per day, 5 days per week
- On other days has 0-2 loose bowel movements
- Occasionally has “accidents” because she can’t get to the bathroom on time
- Has intermittent, severe, bilateral, lower abdominal cramping pain, which often improves with bowel movement

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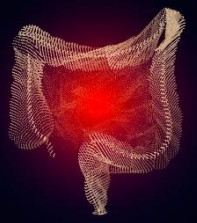
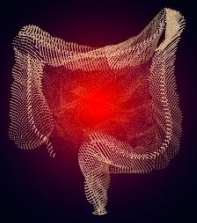


History of Present Illness

- **Debra saw her previous gastroenterologist 8 months ago; blood, stool tests and colonoscopy were normal**
  - Her gastroenterologist told her that her symptoms were anxiety related
  - A fiber supplement was recommended; Debra stopped this after a few days because of lack of efficacy
- **She has tried:**

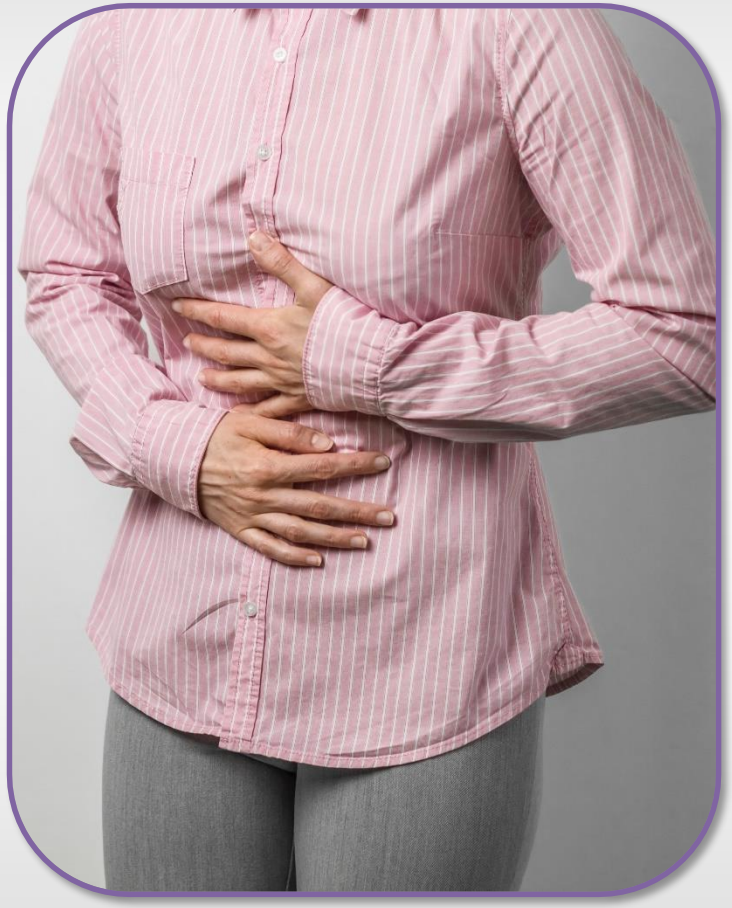
Probiotics (Florastor, Align, VSL3)	no improvement
Metamucil	caused bloating
Loperamide	provided some improvement in diarrhea
Low FODMAP diet	helped the bloating but not other symptoms

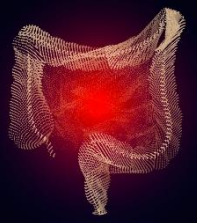
FODMAP = fermentable oligo-, di-, and mono- saccharides and polyols.



History of Present Illness (*cont'd*)

- Has a long history of lactose intolerance, causing bloating, cramps, and diarrhea
- Denies having fever, chills, sweats, gross GI bleeding, weight loss
- Feels anxious; believes her anxiety is secondary to GI symptoms

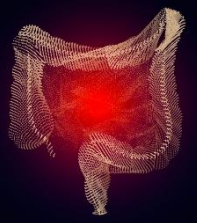




Past Medical History

- **Past medical history includes hypertension (HTN) and 1 pregnancy, 1 NVD 5 years ago**
- **Meds: Irbesartan, PRN loperamide**
- **Social history:**
  - Smokes 4 to 5 cigarettes/day for 5 years
  - No alcohol or substance abuse
  - Works as an administrative assistant in a law office
- **Family history:**
  - Mother and father, both aged 67 years, have HTN
  - Brother, aged 32 years, has digestive issues
  - Daughter, aged 5 years, has no current digestive issues

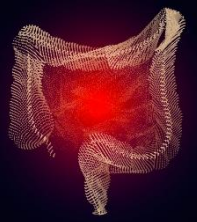
NVD = normal vaginal delivery; PRN = as needed.



Review of Systems

- Debra has frequent headaches; back and extremity pain; urinary urgency; fatigue
- Physical examination: BP 130/80, height 5’4’’, weight 160 lb
- Abdomen: soft, mild, diffuse tenderness; no rebound, mass, or hepatosplenomegaly; bowel sounds normal
- Rectal exam normal; stool negative for occult blood
- Diagnosis of IBS-D made

BP = blood pressure; IBS-D = irritable bowel syndrome with diarrhea.

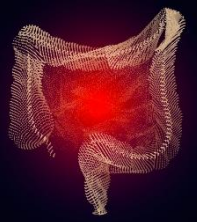


Irritable Bowel Syndrome (IBS)

- **Prevalence: 10% to 15% of population[1]**
- **IBS often is undiagnosed**
- **70% of IBS patients do not actively seek treatment[2,3]**
- **IBS has a major effect on QoL, work productivity, and daily activities[4]**
- **60% of patients have a diarrheal component to their IBS[5]**

QoL = quality of life.

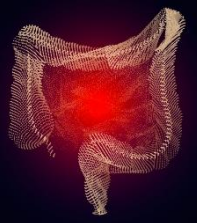
1. Hungin APS, et al. *Aliment Pharmacol Ther*. 2005;21(11):1365-1375.
2. Drossman DA, et al. *Gastroenterology*. 2002;123(6):2108-2131.
3. American Gastroenterological Association. IBS in America: Survey Summary Findings. December 2015. http://www.multivu.com/players/English/7634451-aga-ibs-in-america-survey/docs/survey-findings-pdf-635473172.pdf. Accessed August 24, 2018.
4. American College of Gastroenterology Task Force on IBS. *Am J Gastroenterol.* 2009;104(suppl 1):S1-S35.
5. Lovell RM, Ford AC. *Clin Gastroenterol Hepatol*. 2012;10(7):712-721.



ROME IV Criteria

- **Recurrent abdominal pain 1 or more days per week for the past 3 months**
- **Associated with 2 or more of the following:**
  - Related to defecation
  - Associated with change in stool frequency
  - Associated with change in stool form
- **Duration of symptoms at least 6 months**

Lacy BE, et al. *Gastroenterology*. 2016;150:1393-1407.



Diagnostic Testing

- **Alarm features include:[1,2]**
  - Unexplained weight loss
  - Progressively worsening symptoms
  - Onset after age 50 years

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  - Nocturnal symptoms
  - Family history of celiac disease, colon cancer, IBD
  - Gross GI bleeding

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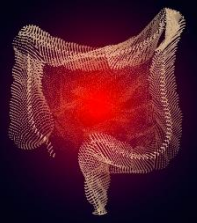
IBD = inflammatory bowel disease.

1. Chey WD, et al. *JAMA.* 2015;313:949-958.
2. American College of Gastroenterology Task Force on IBS. *Am J Gastroenterol.* 2009;104(suppl 1):S1-S35.

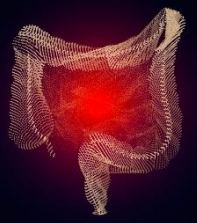


Diagnostic Testing (*cont'd*)

- **Age-related colon screening[1]**
- **Selective testing with ESR, celiac serology, CBC, fecal calprotectin, CRP[2]**
- **Anti-vinculin, anti-CdtB to confirm post-infectious (gastroenteritis) IBS-D[3]**

ESR = erythrocyte sedimentation rate; CBC = complete blood count; CRP = C-reactive protein; CdtB = cytolethal distending toxin B.

1. Chey WD, et al. *JAMA.* 2015;313:949-958.
2. Menees SB, et al. *Am J Gastroenterol*. 2015;110:444-454.
3. Pimentel M, et al. *Clin Ther*. 2016;38:1638-1652.



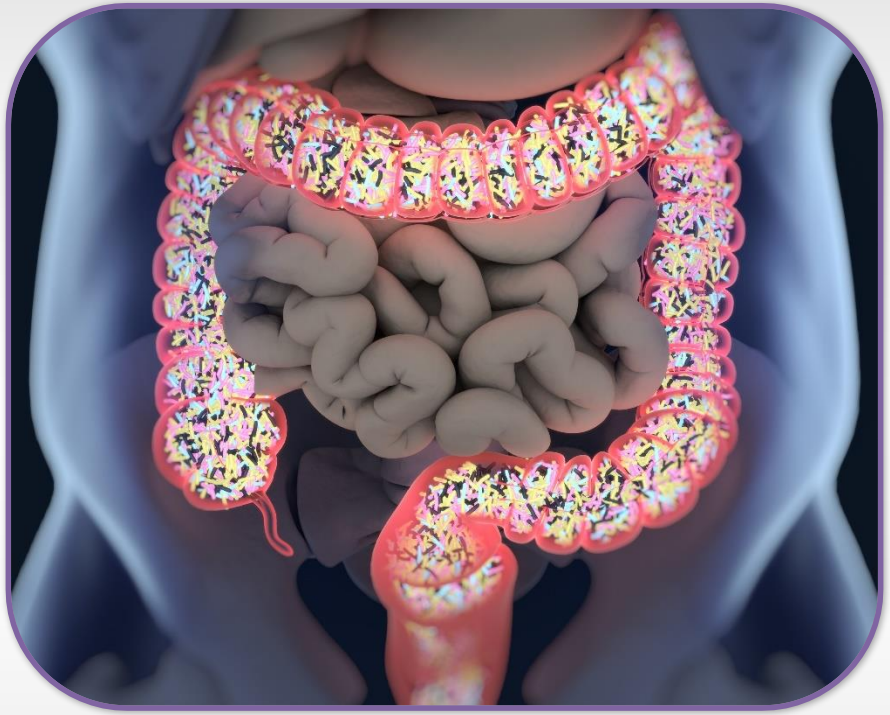
Pathophysiology

- **Altered gut motility:[1,2]**
  - Increased frequency, irregularity of contractions
  - Abnormal sensitivity to meals and cholecystokinin
- **Visceral hypersensitivity:[3,4]**
  - Increased sensitivity to balloon distention
  - Normal or increased threshold to somatic pain

1. Chey WY, et al. *Am J Gastroenterol*. 2001;96(5):1499-506.
2. Kumar D, Wingate DL. *Lancet*. 1985;2:973-977.
3. Whitehead WE, et al. *Gastroenterology*. 1990;98(5 PT 1);1187-1192.
4. Cook IJ, et al. *Gastroenterology*. 1987;93(4):727-733.

Pathophysiology (*cont'd*)

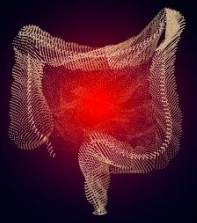
- **Altered microbiome:[1-3]**
  - Altered fecal flora in IBS-D patients
  - Altered composition, quantity of small bowel and fecal bacteria
  - May lead to increased gas and SCFA production, altered serotonin metabolism; mucosal inflammation, mucosal immune response



Source: www.shutterstock.com/license/639806734

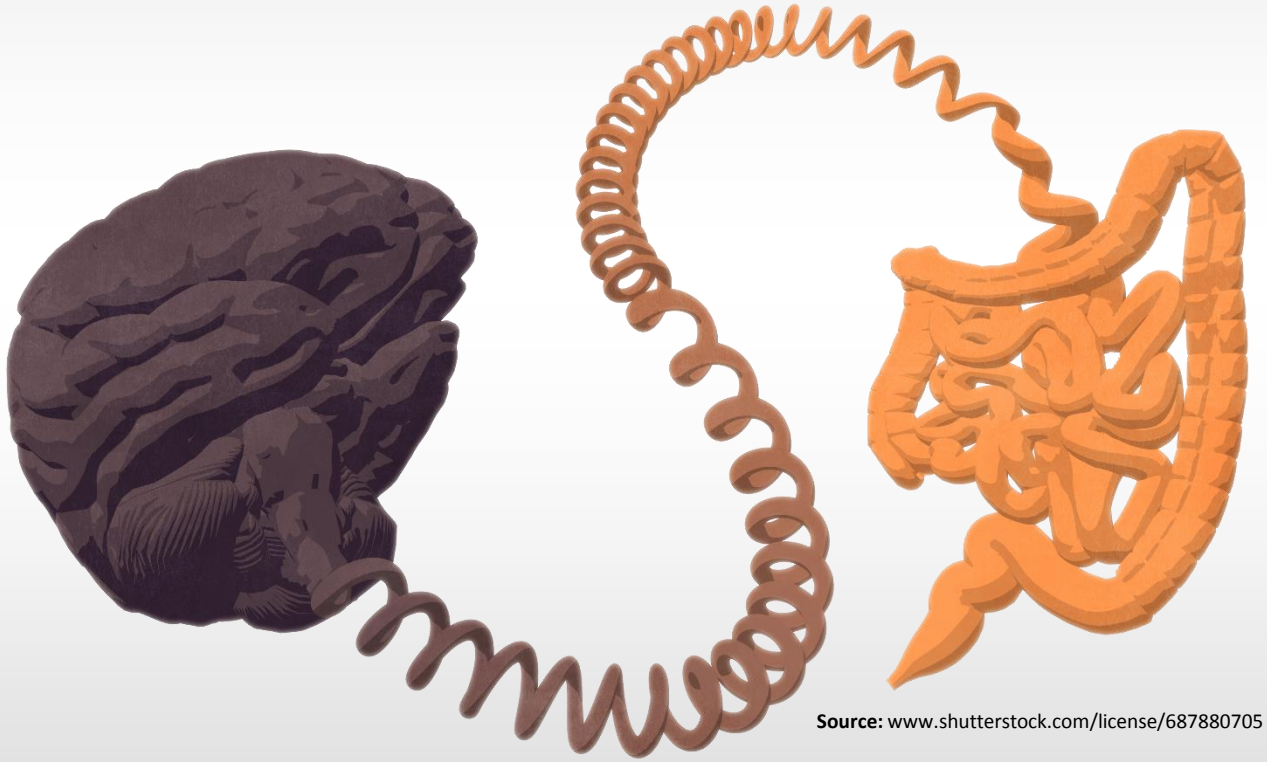
SCFA = short chain fatty acids.

1. Lacy BE, Moreau JC. *J Am Assoc Nurse Pract*. 2016;28(7):393-404.
2. Zhuang X, et al. *J Gastroenterol Hepatol*. 2017;32(1):28-38.
3. Kennedy PJ, et al. *World J Gastroenterol.* 2014;20(39):14105-14125.



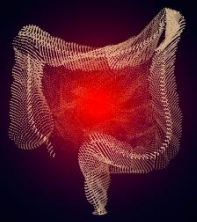
Pathophysiology *(cont'd)*

- **Brain/Gut interaction;[1] psychosocial factors[2]**
  - Exhibit increased somatization, anxiety, depression, phobias
- **Genetics[3]**
  - Modest effect at most
- **Possible role for corticotropin-releasing factor**

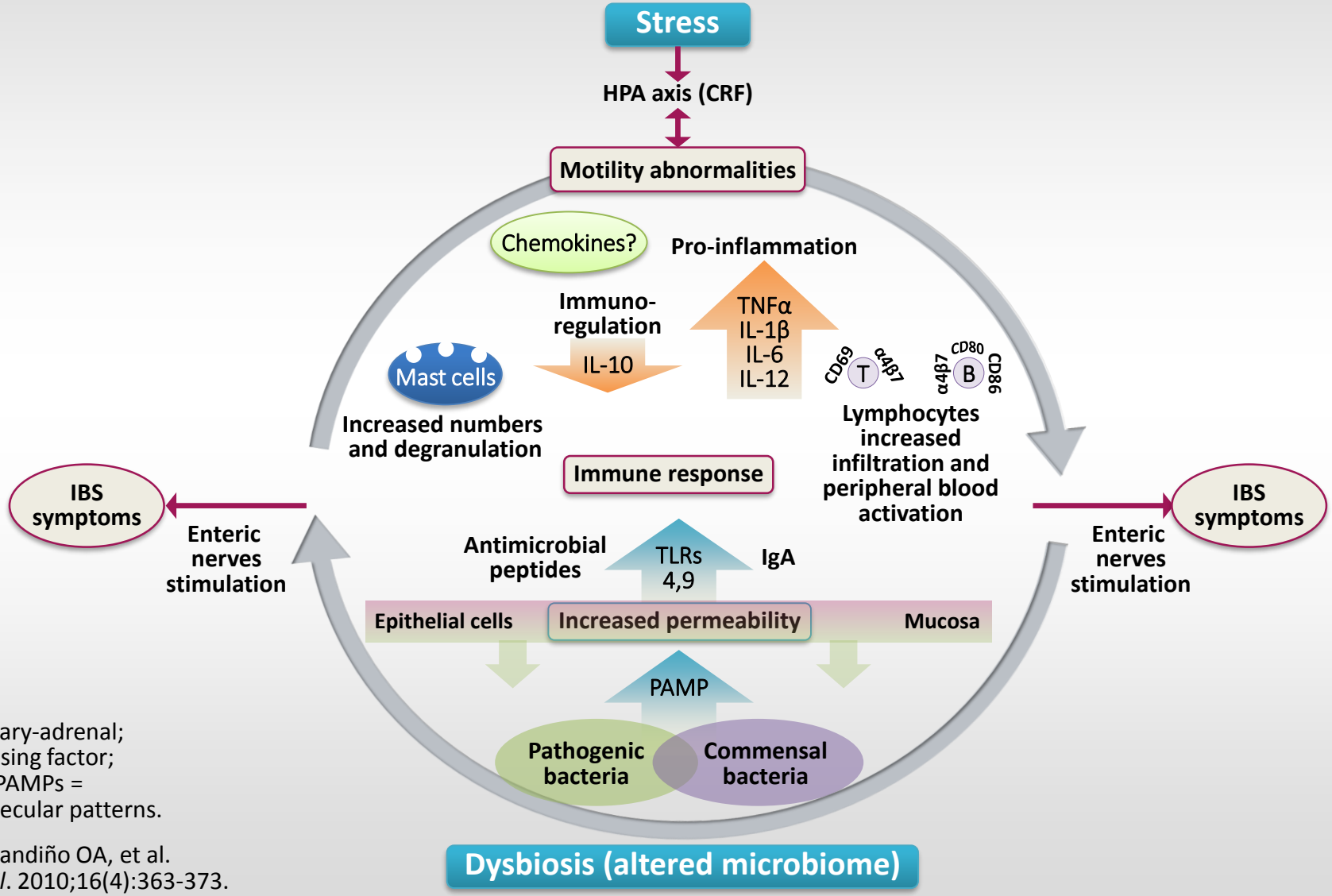


Source: www.shutterstock.com/license/687880705

1. Fukudo S, et al. *Gut*. 1998;42(6):845-849.
2. Solmaz M, et al. *Eur J Med Res*. 2003;8(12):549-556.
3. Saito YA, et al. *Clin Gastroenterol Hepatol*. 2005;3(11):1057-1065.

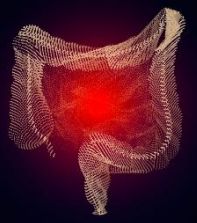


Integrated Model of IBS Pathophysiology



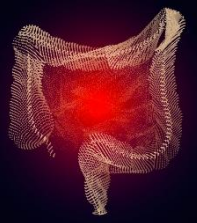
HPA = hypothalamic-pituitary-adrenal;
CRF = corticotrophin-releasing factor;
TLRs = toll-like receptors; PAMPs = pathogens-associated molecular patterns.

Adapted from Rodriguez-Fandiño OA, et al. *J Neurogastroenterol Motil*. 2010;16(4):363-373.



IBS-D treatment options that alter the microbiome include:

1. Agents that weaken mucosal barrier function
2. Antispasmodics that reduce power propulsions in the colon
3. Agents that modulate bacteria in the gut
4. Lifestyle changes that decrease intake of trigger foods



Treatment

- **Most patients self-medicate with limited success[1]**
- **Lifestyle changes[2]**
  - Decrease intake of fructose, alcohol, caffeine, artificial sweeteners, trigger foods
  - Have unhurried meals
  - Low FODMAP diet can reduce IBS symptoms
- **Alter motility**
  - Antispasmodics
  - Tricyclics
  - SSRIs
  - Eluxadoline
  - 5HT3 antagonists

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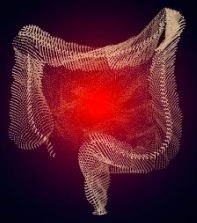
F ERMENTABLE
O LIGOSACCHARIDES
D ISACCHARIDES
M ONOSACCHARIDES
A ND
P OLYOLS

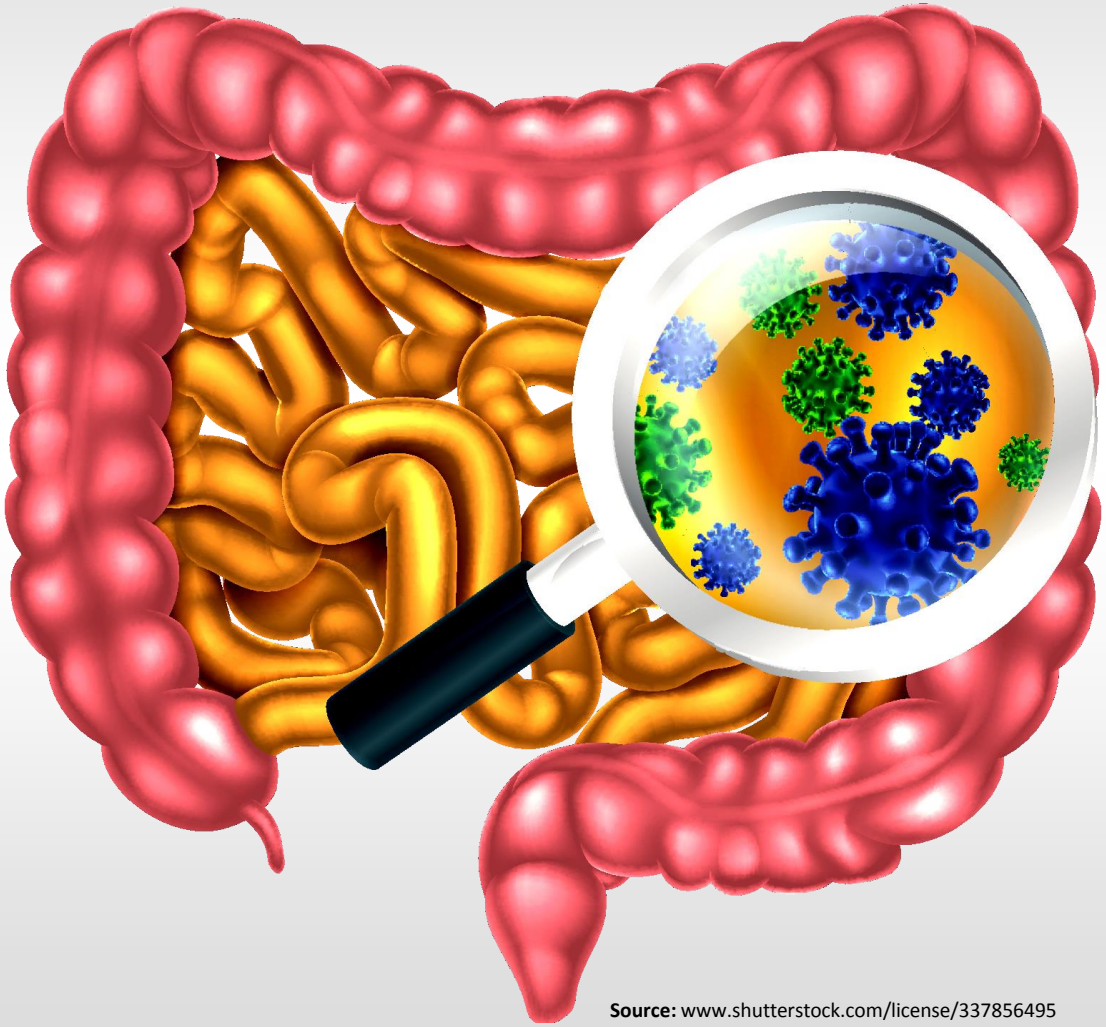
SSRIs = selective serotonin reuptake inhibitors.

1. Talley NJ, Fodor AA. Gastroenterol. 2011;141(5):1555-1559. 2. Halmos EP, et al. *Gastroenterology*. 2014;146:67-75.



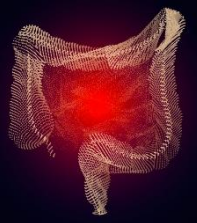
Treatment: Altering the Microbiome

- **Alter microbiome**
  - Rifaximin modulates bacteria in the gut, reduces IBS-D symptoms[1]
  - Serum-derived bovine immunoglobulin may improve IBS-D symptoms by binding microbial products and improving mucosal barrier function[1,2]



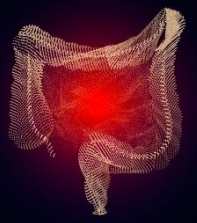
Source: www.shutterstock.com/license/337856495

1. Pimentel M, et al. *N Engl J Med*. 2011;364(1):22-32.
2. Petschow BW, et al. *Clin Exp Gastroenterol*. 2014;7:181-190.



Effective patient communication includes:

1. Avoiding asking questions about symptoms that might embarrass the patient
2. Explaining that IBS is a chronic condition with a variable course
3. Assuring patients that their symptoms can improve quickly.
4. Referring any questions about potential food triggers to a nutritionist

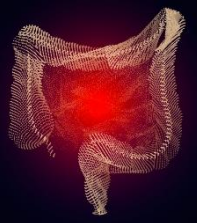


Patient vs. Physician Perspectives

Patients often feel that:[1-3]
Physicians don't believe them
HCPs are not supportive
HCPs think their symptoms are solely stress related
IBS is the same as colitis
IBS is life-threatening

Healthcare providers:[4,5]
Generally underestimate the impact of IBS on QoL
Perceive a psychological role exists to a greater extent than patients do
Consider IBS symptoms to be less important or less serious than patients do
Perceive patients' requests as less reasonable than patients do

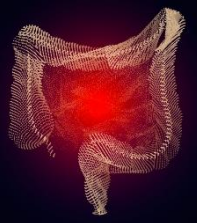
1. Halpert A, et al. *Dig Dis Sci*. 2010;55(2):375-383.
2. Bjorkman I, et al. *J Clin Nurs*. 2016;25(19-20):2967-2978.
3. Håkanson C, et al. *Qual Health Res*. 2010;20(8):1116-1127.
4. Dhaliwal SK, Hunt RH. *Eur J Gastroenterol Hepatol*. 2004;16(11):1161-1166.
5. Riedl A, et al. *J Psychosom Res*. 2009;67(5):449-455.



Improved Physician-Patient Communication

- **Improved communication in a nonjudgmental manner is essential when managing IBS**
  - Explaining pathophysiology can be helpful
  - Point out that treatment progress may be slow
  - Explain that IBS is a chronic condition with a variable course
  - Note that IBS does not threaten the patient's health
  - Acknowledge that stress may play a role in IBS

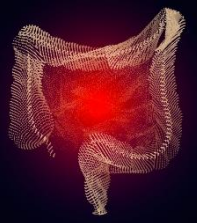
Di Palma JA, Herrera JL. *J Clin Gastroenterol*. 2012;46(9):748-751.



Debra: Treatment Recommendations

- **Treatment options are discussed with Debra, taking into consideration her lifestyle and potential for adherence as well as the pathophysiology of her disease**
- **Debra decides to follow the FODMAP approach to improve dietary influences on her IBS-D**
- **She also decides to try new treatment options that alter the microbiome, choosing rifaximin since evidence for serum-derived bovine immunoglobulin use in IBS-D is limited[1-3]**

1. Petschow BW, et al. *Clin Exp Gastroenterol.* 2014;7:181-190.
2. Good L, et al. *World J Gastroenterol.* 2015;21:3361-3366.
3. Wilson D, et al. *Clin Med Insights Gastroenterol.* 2013;6:49-60.



Summary

- **The frequency and severity of IBS-D symptoms, particularly abdominal pain and diarrhea, can vary over time and negatively affect quality of life[1-3]**
- **OTC medication and changes in diet and exercise may not provide adequate relief of all symptoms[4,5]**
- **Considering the potential underlying cause of IBS-D can aid in selecting appropriate treatment[4]**
- **Effective communication and fortification of the provider-patient relationship can help improve outcomes in IBS-D[6]**

OTC = over-the-counter.

1. Chey WD, et al. *JAMA*. 2015;313(9):949-958. 2. Hungin APS, et al. *Aliment Pharmacol Ther*. 2005;21(11):1365-1375. 3. Buono JL, et al. *Health Qual Life Outcomes.* 2017;15(1):35. 4. Holtmann GJ, et al. *Lancet Gastroenterol Hepatol.* 2016;1(2):133- 146. 5. Sayuk GS, et al. *Am J Gastroenterol*. 2017;112(6):892-899. 6. Di Palma JA, Herrera JL. *J Clin Gastroenterol*. 2012;46(9):748-75.