Treating Functional Gastrointestinal Disorders

Dan Selvig MD
Montana Gastroenterology

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No disclosures

Outline

Irritable Bowel Syndrome

- **-Basics**
- **-Paradoxical Approaches**
- **-IBS and Agoraphobia**

Belching

- **-Where is all the gas coming from?**

Bloating

- **-Why does it look like I'm pregnant?**

Functional Gastrointestinal Disorders

What are functional gastrointestinal disorders?

-*Disorders of gut-brain interaction (DGBI)*

-Irritable Bowel Syndrome is classic example

-Defined by symptom criteria rather than biomarkers

-May have biologic, psychologic and social elements underlying the cause

Source: Oudenhove LV et al. Biopsychosocial aspects of functional gastrointestinal disorders: How central and environmental processes contribute to the development and expression of functional gastrointestinal disorders.

Irritable Bowel Syndrome

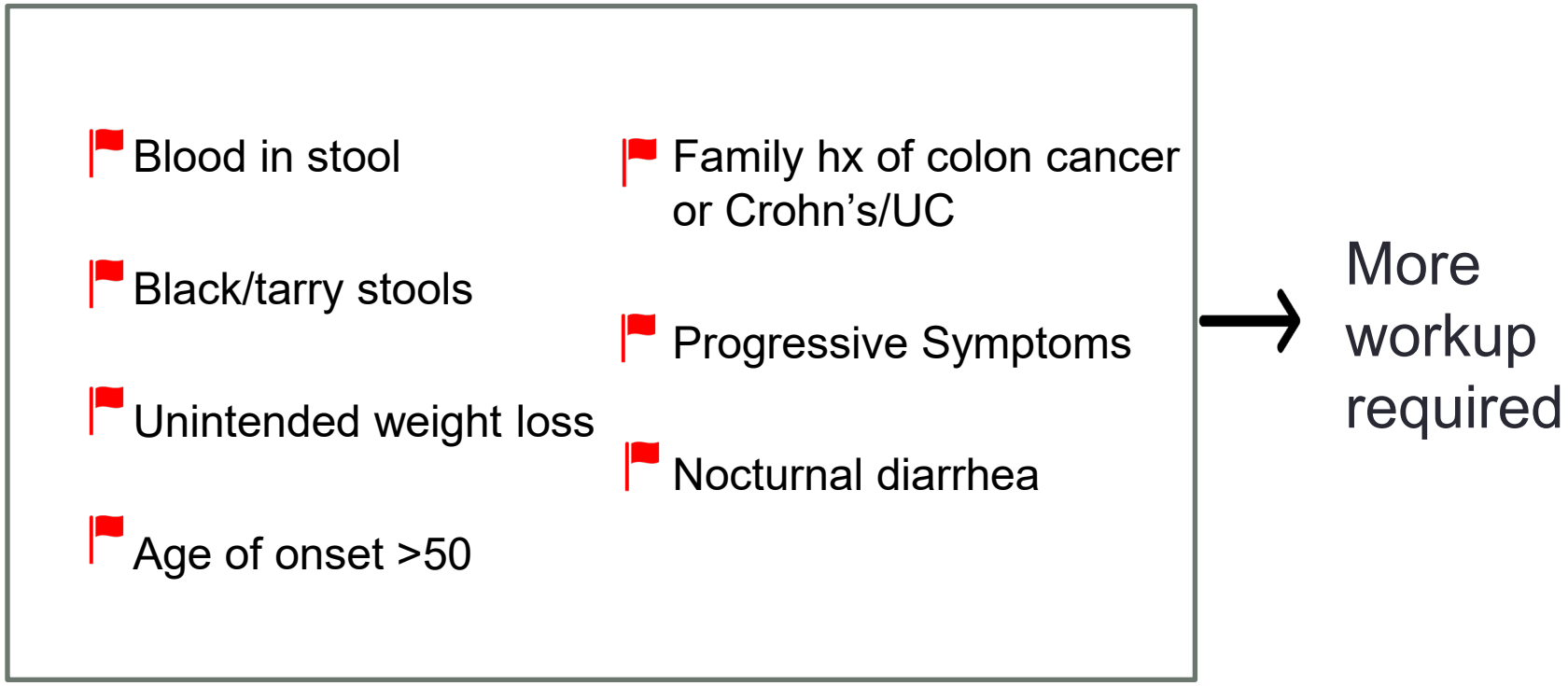
Rome IV criteria:

Diagnosis	Recurrent abd pain, 1/week, for 3 months, onset >6 months ago, with 2 or more: 1) Related to defecation 1) Change in frequency of stool 1) Change in form/appearance of stool

Source: Lacy BE et al. Bowel disorders. Gastroenterology 2016; 150:1393-1407.

IBS: Diagnosis - Red Flags

Patients with alarm features warrant further workup.



Source: Lacy et al. ACG Clinical Guideline: Management of Irritable Bowel Syndrome. Am J Gastro 2021;116(1):17-44. Wilkins T et al. Diagnosis and Management of IBS in Adults. Am Fam Physician 2012; 86(5):419-426.

IBS: Diagnosis - Limited Testing

Do a few basic lab tests for suspected IBS with diarrhea.

For patients with diarrhea:

Disease to exclude:	Test
Celiac disease	Tissue transglutaminase IgA + total IgA
Crohn's disease or ulcerative colitis	Fecal calprotectin (CRP may be an acceptable alternative)
Chronic infection (if risk factors for giardia*)	Stool Giardia antigen or PCR (preferred over ova and parasites)

*Drinking untreated water; hikers, swallowing water at recreational swimming locations, exposure to human feces through sexual contact, diaper-aged children

Source: Lacy et al. ACG Clinical Guideline: Management of Irritable Bowel Syndrome. Am J Gastro 2021;116(1):17-44.

Talking about IBS

How you talk about IBS is extremely important

You should:

-Give patient a positive diagnosis (tell them they have IBS) – at the first visit

-Ask them what they know about IBS

-Educate about IBS

-Multimodal approaches (dietary, behavioral, medication, psychological)

You should not:

-Do not give the impression that the patient's condition remains undiagnosed

-Do not wait until later to bring up the possibility of IBS

-Do not trivialize the diagnosis

IBS: Management

Treat the patient's most prominent symptoms.

Diarrhea-Predominant:

-Loperamide PRN
-Soluble fiber
-Low FODMAP diet
-Trial lactose elimination
-Antispasmodics*
-Peppermint oil
-Probiotics*
-Bile acid sequestrants (cholestyramine)*
-Rifaximin
-Tricyclic antidepressants
-5HT3 antagonists (Alosetron, women only)
-Eluxadoline
-Gut-direct psychotherapy

Mixed type

-Soluble fiber
-Low FODMAP diet
-Antispasmodics*
-Peppermint oil (IBGard)
-Probiotics*
-Rifaximin
-Tricyclic antidepressants
-Gut-direct psychotherapy

Constipation-Predominant:

-Soluble fiber
-Kiwifruit
-Polyethylene glycol (Miralax)*
-Stimulant laxatives (Senna, bisacodyl)*
-Linaclotide / plecanatide
-Lubiprostone
-Tenapanor
-Tricyclic antidepressants (may worsen constipation)
-Anorectal manometry with potential biofeedback
-Gut-directed psychotherapy

*Not recommended by ACG guidelines but commonly used in practice

Source: Lacy et al. ACG Clinical Guideline: Management of Irritable Bowel Syndrome. Am J Gastro 2021;116(1):17-44. Wilkins T et al. Diagnosis and Management of IBS in Adults. Am Fam Physician 2012; 86(5):419-426.

Avoidance in IBS

-Avoidance can make gut-specific anxiety worse

> *"I can go all day without pooping but as soon as I get in the car I can't go more than 10 minutes"*

-Patients can develop IBS with agoraphobia

> *"I don't want to leave my house and if I do…I have to prepare by not eating for a few days"*

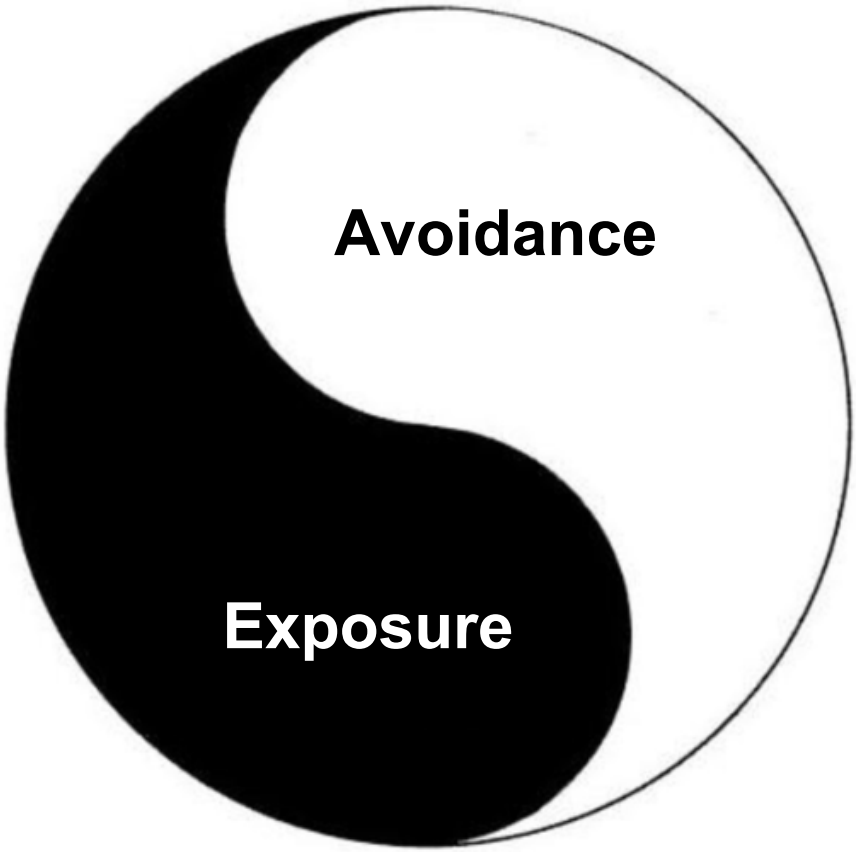
-Watch out if patients seem to be spiraling further into unhelpful avoidance behaviors

IBS: Paradoxical Techniques

Avoidance:

-Limit Foods

-Avoid situations



Exposure:

-Exposure therapy to broaden foods

-Cognitive behavioral therapy

Source: Biesiekierski JR et al. Review article: Exclude or Expose? The paradox of conceptually opposite treatments for irritable bowel syndrome. Aliment Pharmacol Ther 2022. 1;56(4): 592-605

Exposure therapy for IBS

Anxiety Hierarchy	
Activity	**Subjective Units of Distress**
Going for a road trip with no bathroom access	100
Eating a bowl of Wheaties	75
Visiting a restaurant without a public bathroom	60
Going to class without taking Imodium first	40
Sitting in the front of the classroom	20
Eating a teaspoon of milk	10
Walking around the block one time	5

Source: Biesiekierski JR et al. Review article: Exclude or Expose? The paradox of conceptually opposite treatments for irritable bowel syndrome. Aliment Pharmacol Ther 2022. 1;56(4): 592-605

Exclusion diets vs exposure diets

	Exclusion Diets	Exposure Therapy
Mechanisms	Reduce fermented carbohydrates / osmotic activity	Reduce GI-specific fear/anxiety
Limitations	–Adherence -Incomplete nutrition -Risk of ARFID	-Accessibility -Intolerance -Patient buy-in

Source: Biesiekierski JR et al. Review article: Exclude or Expose? The paradox of conceptually opposite treatments for irritable bowel syndrome. Aliment Pharmacol Ther 2022. 1;56(4): 592-605

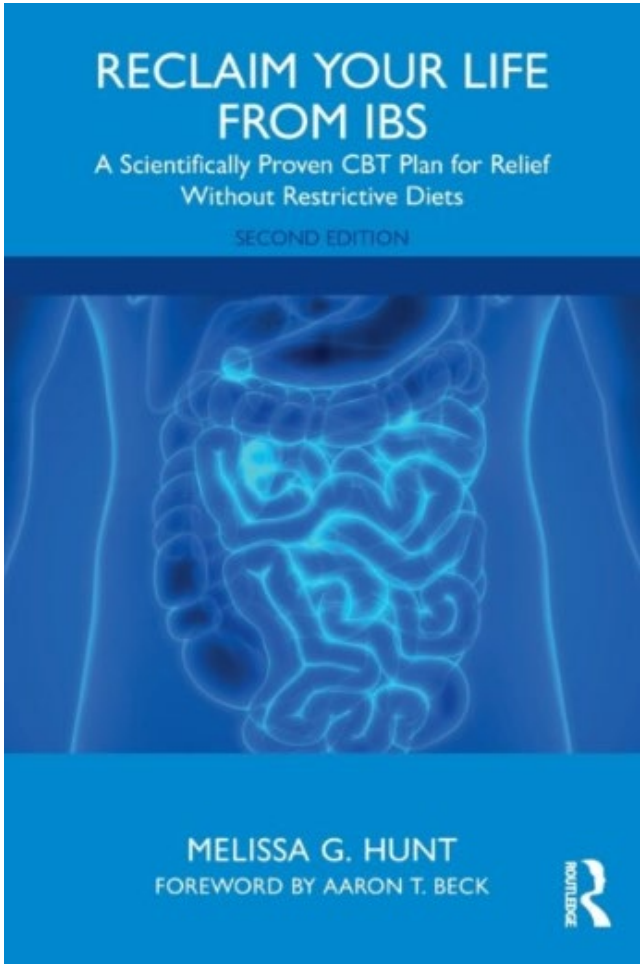
Bibliotherapy for IBS

-6 weeks self-help course

-Workbook for:

- **-Relaxation**
- **-Exercise**
- **-Unhelpful thoughts**
- **-Exposure therapy**

-Benefit in randomized trial



Source: Hunt MG et al. Empirical Support for a Self-Help Treatment for IBS. Cognitive Therapy and Research 2014. 39: 215-227.

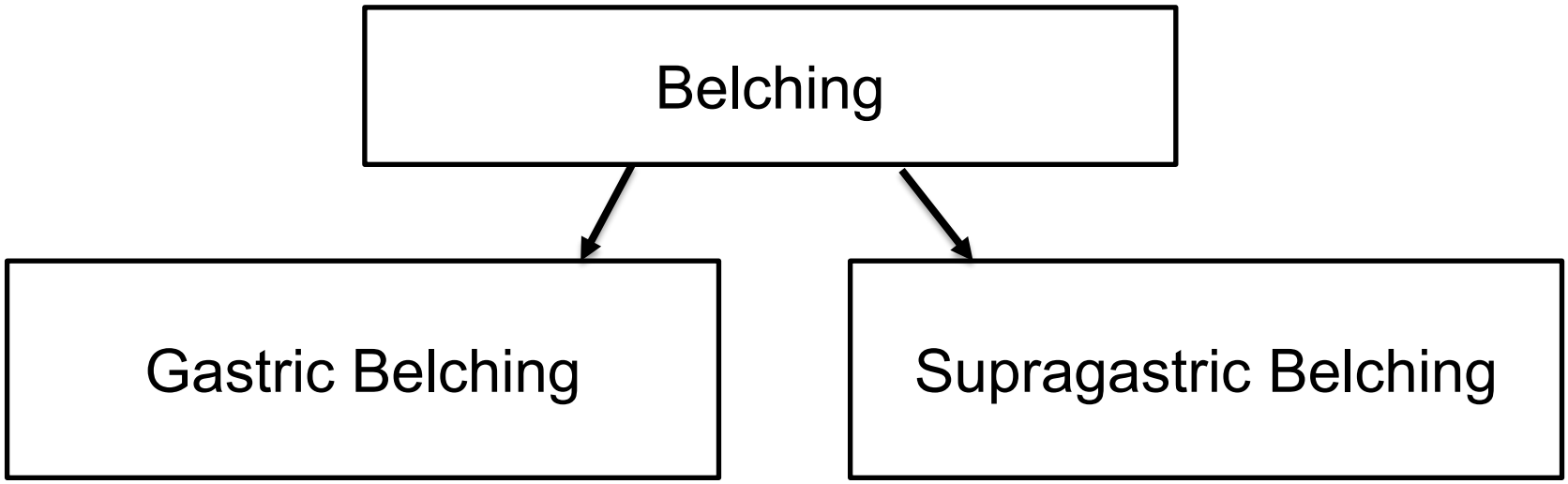
Apps for Functional GI Disorders

App	Approach	Evidence
Nerva	Hypnotherapy, 20 min/day for 6 weeks. Automated with in-app chat support	Comparable to low FODMAP in RCT
Zemedy (Bold Health)	CBT-based. 8 modules, chatbot, fully automated.	Improvement vs wait list control
Mahana IBS (Mahana)	CBT-based 3 month program, 10min/day	Symptom improvement in uncontrolled pilot study

Peters, S., et al, 2016. Randomised clinical trial: the efficacy of gut-directed hypnotherapy is similar to that of the low FODMAP diet for the treatment of irritable bowel syndrome. Alimentary Pharmacology & Therapeutics, 44(5), pp.447-459.
Hunt M, Miguez S, Dukas B, Onwude O, White S. Efficacy of Zemedy, a Mobile Digital Therapeutic for the Self-management of Irritable Bowel Syndrome: Crossover Randomized Controlled Trial. JMIR Mhealth Uhealth. 2021 May 20;9(5):e26152. doi: 10.2196/26152. PMID: 33872182; PMCID: PMC8176342.
Owusu et al. A pilot feasibility study of an unguided, internet delivered cognitive behavioral therapy program for irritable bowel syndrome. Neurogastroenterology and Motility 2021.

Belching

Tell patients about supragastric belching.



-Gases belched from stomach

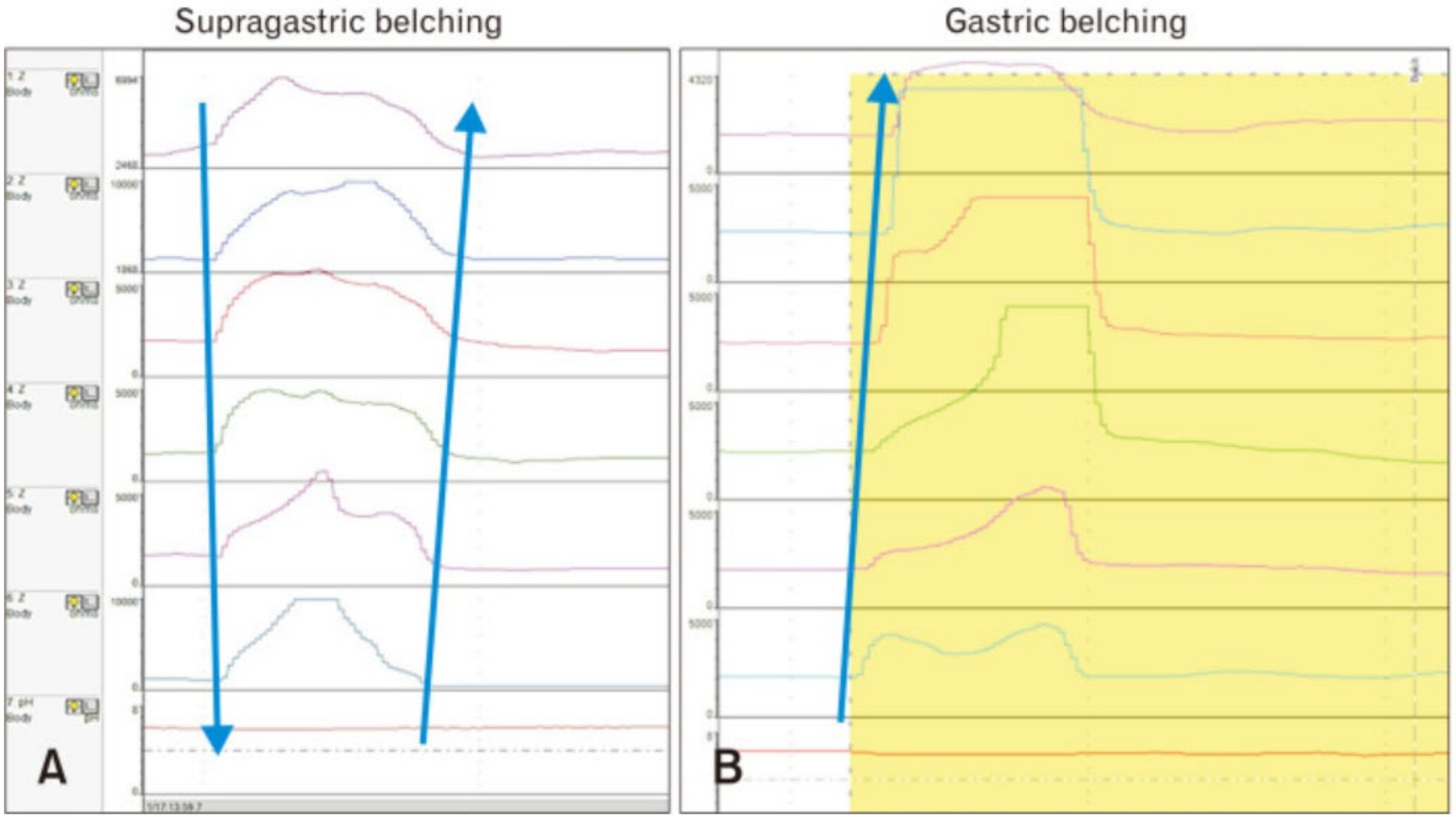
-Air sucked into esophagus from pharynx, then belched

-LES does not relax, air does not reach stomach

-May observe frequent, repetitive belching

Source: Stanghellini V et al. Gastroduodenal disorders. Gastroenterology 2016;150:1380-1392.

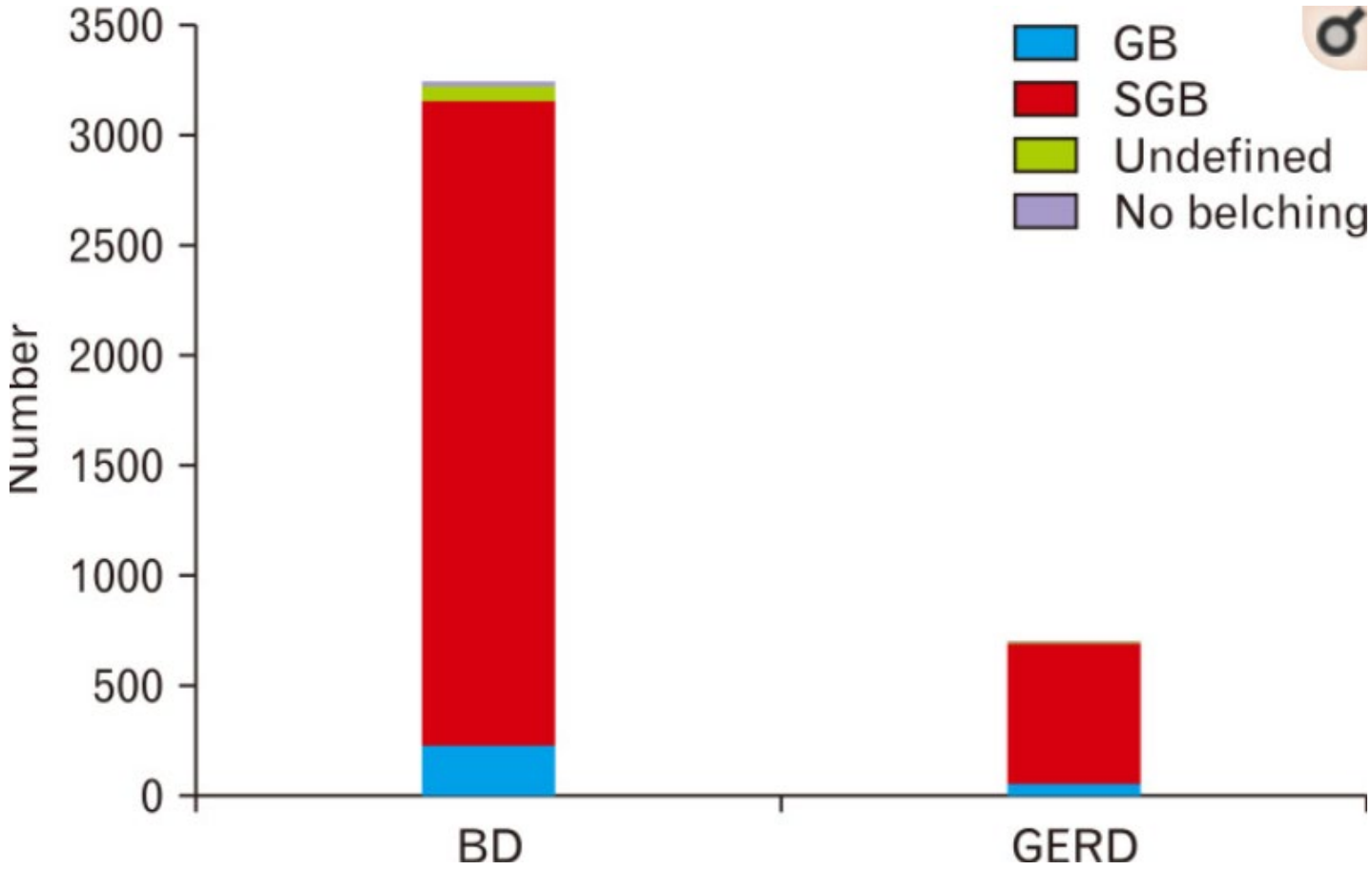
Belching



Source: Jeong SO et al. Characterics of symptomatic belching in patients with belching disorder and patients who exhibit gastroesophageal reflux disease with belching. J Neurogastroenterol Motil 2021. Apr 30; 27(2): 231-239.

Belching

Most bothersome belching is supragastric.



Source: Jeong SO et al. Characterics of symptomatic belching in patients with belching disorder and patients who exhibit gastroesophageal reflux disease with belching. J Neurogastroenterol Motil 2021. Apr 30; 27(2): 231-239.

Diaphragmatic Breathing for Belching

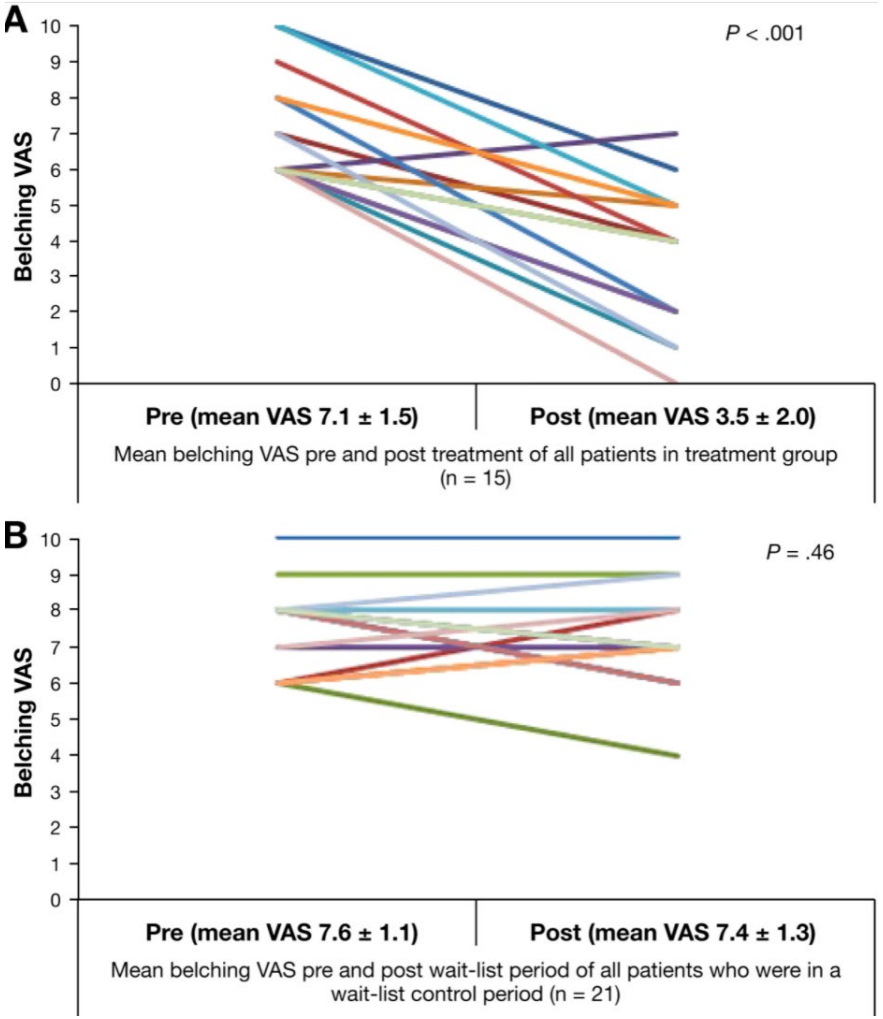
Use diaphragmatic breathing for belching.

Patients	**-15 patients with PPI-refractory GERD and troublesome belching (67% with reflux hypersensitivity)**
Intervention	Diaphragmatic breathing taught by a speech therapist (4 weekly sessions of 30 minutes)
Comparator	21 patients on wait list
Primary outcome:	Belching severity (>50% reduction)
Study type	Prospective cohort study

Source: Ong AM et al. Diaphragmatic breathing reduces belching and proton pump inhibitor refractory gastroesophageal reflux symptoms. Clinical Gastroenterology and Hepatology 2018; 16:407-416.

Belching Disorders

60% had >50% reduction in belching severity (compared to 0% of patients on wait list



Source: Ong AM et al. Diaphragmatic breathing reduces belching and proton pump inhibitor refractory gastroesophageal reflux symptoms. Clinical Gastroenterology and Hepatology 2018; 16:407-416.

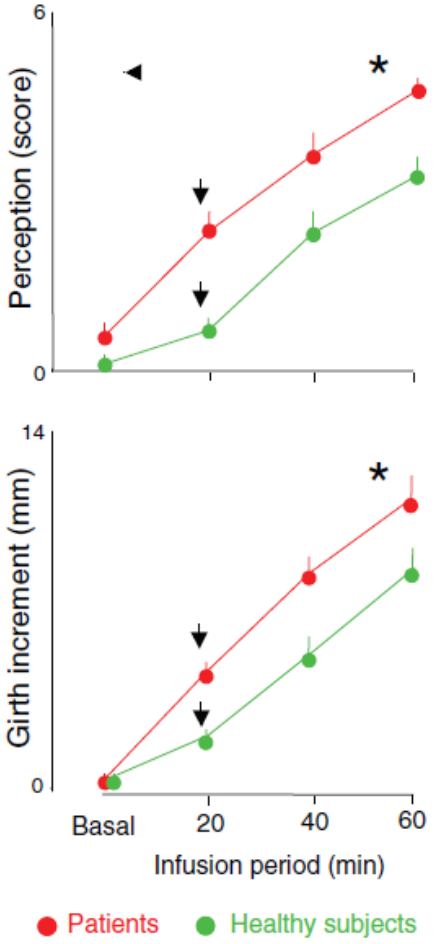
Bloating/Distension Physiology

Patients really do get distended.

Abdominal distension induced by colonic gas infusion

15 healthy controls, 20 patients with bloating

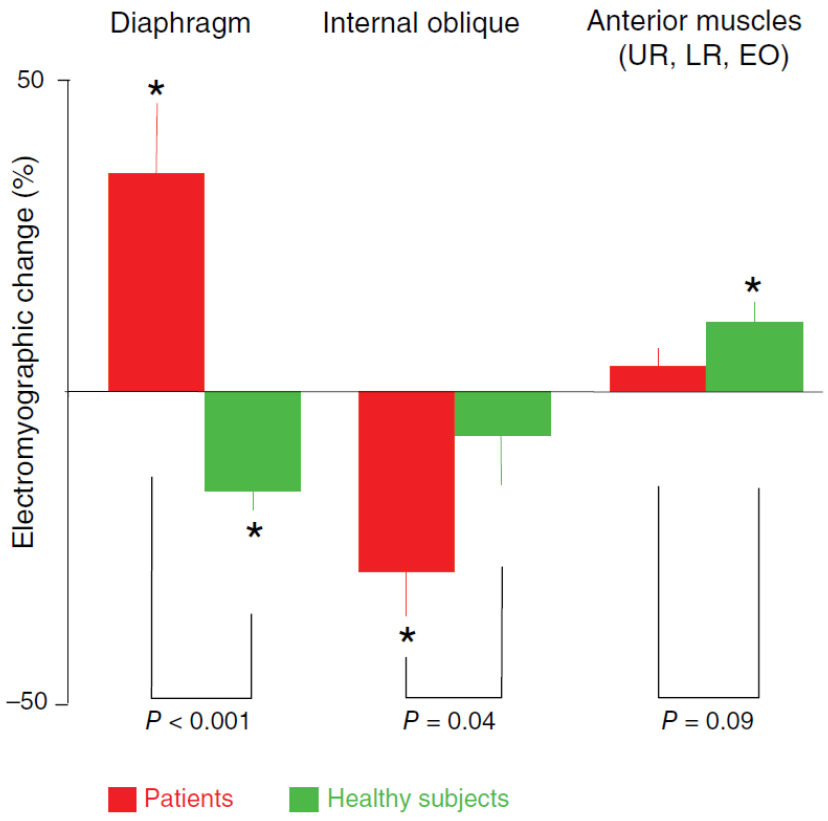
Patients had objectively more increase in abdominal girth



Source: Villoria A et al. Abdomino-phrenic dyssynergia in patients with abdominal bloating and distension. Am J Gastro 2011; 106:815-819.

Abdominophrenic Dyssynergia

Patients with bloating have different muscular response to abdominal gas



Source: Villoria A et al. Abdomino-phrenic dyssynergia in patients with abdominal bloating and distension. Am J Gastro 2011; 106:815-819.

Bloating Basics

Underlying cause	Management
Dietary factors	FODMAP avoidance, trial of restricting lactose, fructose
Constipation	Laxatives / pelvic floor therapy
SIBO	Breath test or empiric treatment
Visceral hypersensitivity	Neuromodulator / CBT
Abdominophrenic Dyssynergia	Biofeedback or diaphragmatic breathing (GiOnDemand free video)

Source: Cangemi DJ and Lacy BE. A practical approach to the diagnosis and treatment of abdominal bloating and distension. Gastroenterol Hepatol 2022; 18(2): 75-84.

Questions