

Management of Pain In GI Disorders

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Conflict of Interest

- I am the author of a self-help book for IBS that has been publicly available. It is based on the theories and research I will be presenting today.

Pain in GI Disorders

- IBS – Central/Enteric pain processing
- IBD – Biological inflammation *and* secondary IBS and visceral sensitivity
- GERD
- In all these disorders, pain is exacerbated by stress and pain catastrophizing.

- IBS involves abdominal *pain* and change in bowel habits, as well as:
 - *Urgency*
 - Fear of fecal incontinence
 - Bloating, gas and flatulence
 - Impaired quality of life secondary to:
 - Dietary restrictions and fear of food
 - Avoidance of travel, crowds, recreational activities
 - Hyper-vigilance towards visceral sensations
 - Anxiety about proximity/availability of bathrooms

Typical Case in GI

"Doc – ya gotta help me.

There's something REALLY wrong!"

- But all tests (blood work, fecal occult, fecal calprotectin, gastric emptying, transit time, methane breath testing, even colonoscopy, capsule endoscopy and MRE) come back negative.
- Patient is distressed, anxious, frustrated, and increasingly symptomatic.

Psychiatric Co-Morbidity

- Stress often precedes onset and is strongly associated with IBS severity and course.
- Highly comorbid with psychiatric disorders including
 - Depression
 - Panic Disorder
 - Agoraphobia (avoidance secondary to fear of "other incapacitating or embarrassing symptoms (e.g. fear of falling, fear of incontinence)")
 - Social Phobia
 - GAD
- About 65% of IBS patients overall have psychiatric comorbidity, but up to **90%** of IBS patients actively seeking treatment (the folks YOU see.)

Bio-Psycho-Social Model of IBS

- Abnormal Gut-Brain connections
 - Enteric nervous system
 - Centralized pain processing (use phantom limb to help explain to patients)
 - Dysbiosis
- Leads to **Visceral Hypersensitivity**
 - IBS patients *feel* **normal** gut activity
 - Sensory neurons transmit more “loudly”
 - IBS patients focus attention on gut sensations (vigilance).
 - Pain receptors may also be too responsive

Why Does Stress Matter?

- Perceived stress triggers cascade of neuroendocrine responses that have direct physical effects on the GI tract.
- There are corticotropin releasing hormone (CRH) and serotonin receptors in the gut.
- Sympathetic activation can lead to:
 - Reflux
 - Nausea
 - Cramping, urgency and diarrhea
 - Spasms in the sphincter and pelvic floor leading to difficulty with evacuation

CBT for IBS

- Psychoeducation and review of diagnosis
- Relaxation Training (turns stress off)
- Exercise (burns stress off)
- De-catastrophizing (stops stress from starting)
- Exposure - Stop avoiding feared situations, foods and sensations.
- Reduce avoidance, including subtle avoidance.
 - Stop scoping out bathrooms
 - Reduce use of anti-diarrheal or laxative medication
- Encourage acceptance and reinterpretation of visceral sensations.

Relaxation and Exercise

- Relaxation *turns off* the stress response.
 - Deep Diaphragmatic (Belly) Breathing is especially helpful because it optimizes intestinal motility, maximizes HRV, and can be done anywhere, anytime.
 - Progressive Muscle Relaxation
 - Relaxing Imagery
- Exercise *burns off* that neuroendocrine soup. After all, that's what the system evolved for – running away from saber tooth tigers!

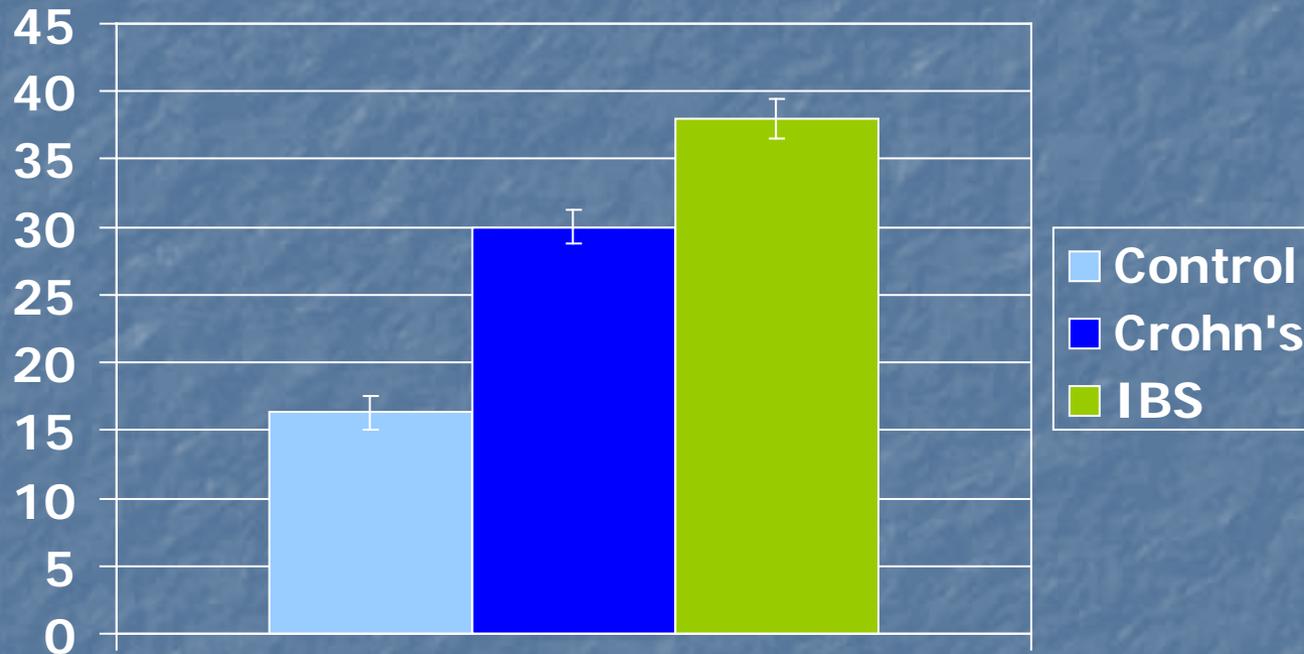
Catastrophizing

- GI patients (especially IBS pts) *catastrophize*
- Abdominal pain
- Social and occupational *consequences* of GI symptoms.
- Pain catastrophizing
 - What if there's something *really* wrong with me and the doctors missed it?
 - What if I can't eat at all and lose too much weight?
 - What if my gut backs up completely and I need surgery?
 - What if I *die*?

GI symptoms as a stressor

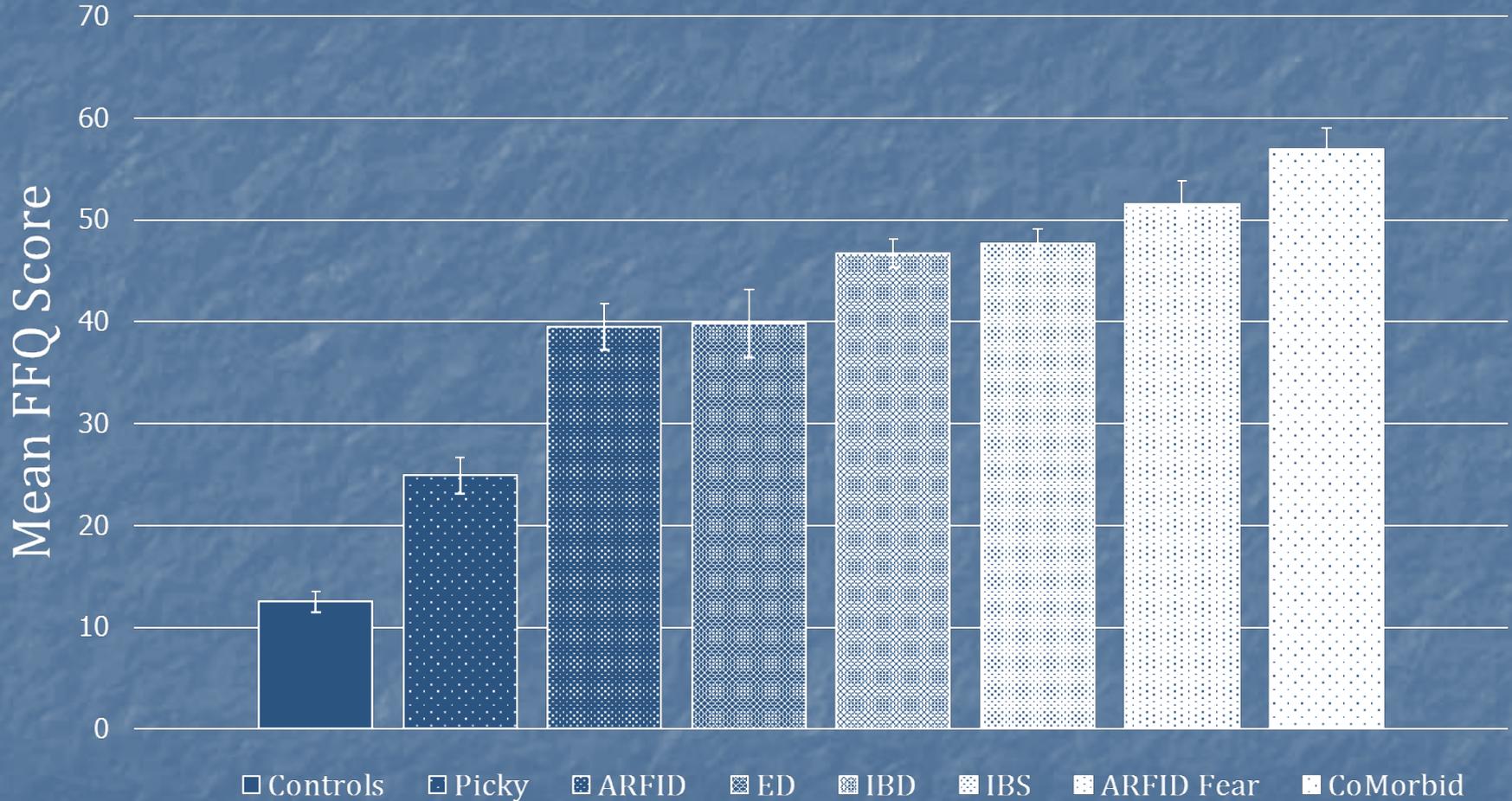
- Having GI problems becomes a stressor in and of itself.
- Common stressors (e.g. giving a talk) can become *hugely* stressful if you're entertaining catastrophic cognitions like:
 - If my gut acts up I won't be able to function.
 - Either the pain will be unbearable or I will risk incontinence in front of all my colleagues.
 - If I have to run to the bathroom it will be a disaster.
 - People will think I'm incompetent.
 - My talk will be a failure.
 - I'll be humiliated.

Catastrophizing on GI-COG by Diagnosis



Hunt et al. (2014). Development and Validation of The GI Cognitions Questionnaire. *Cognitive Therapy and Research*, 38(4), 472-482.

Fear of Food Scores by Diagnosis

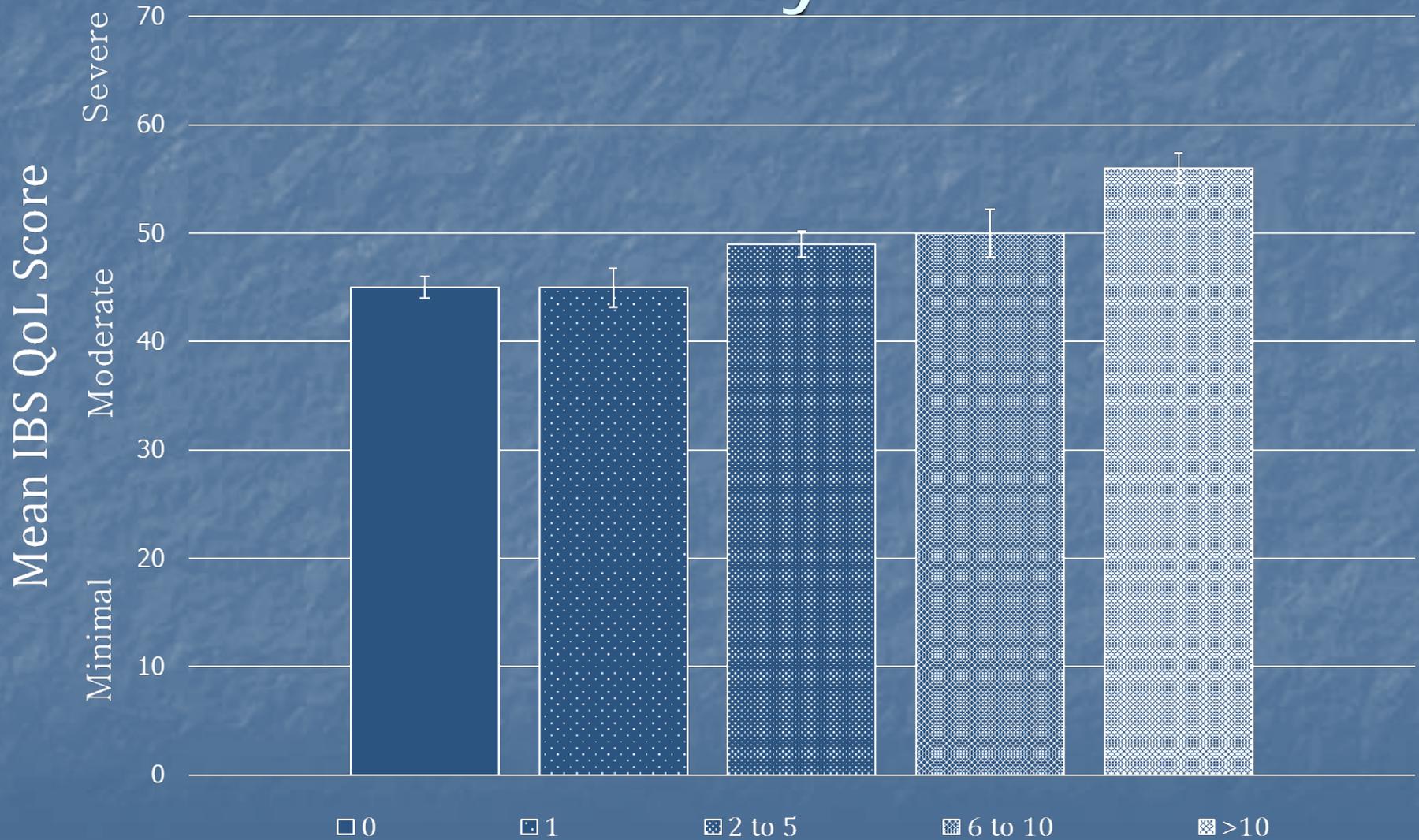


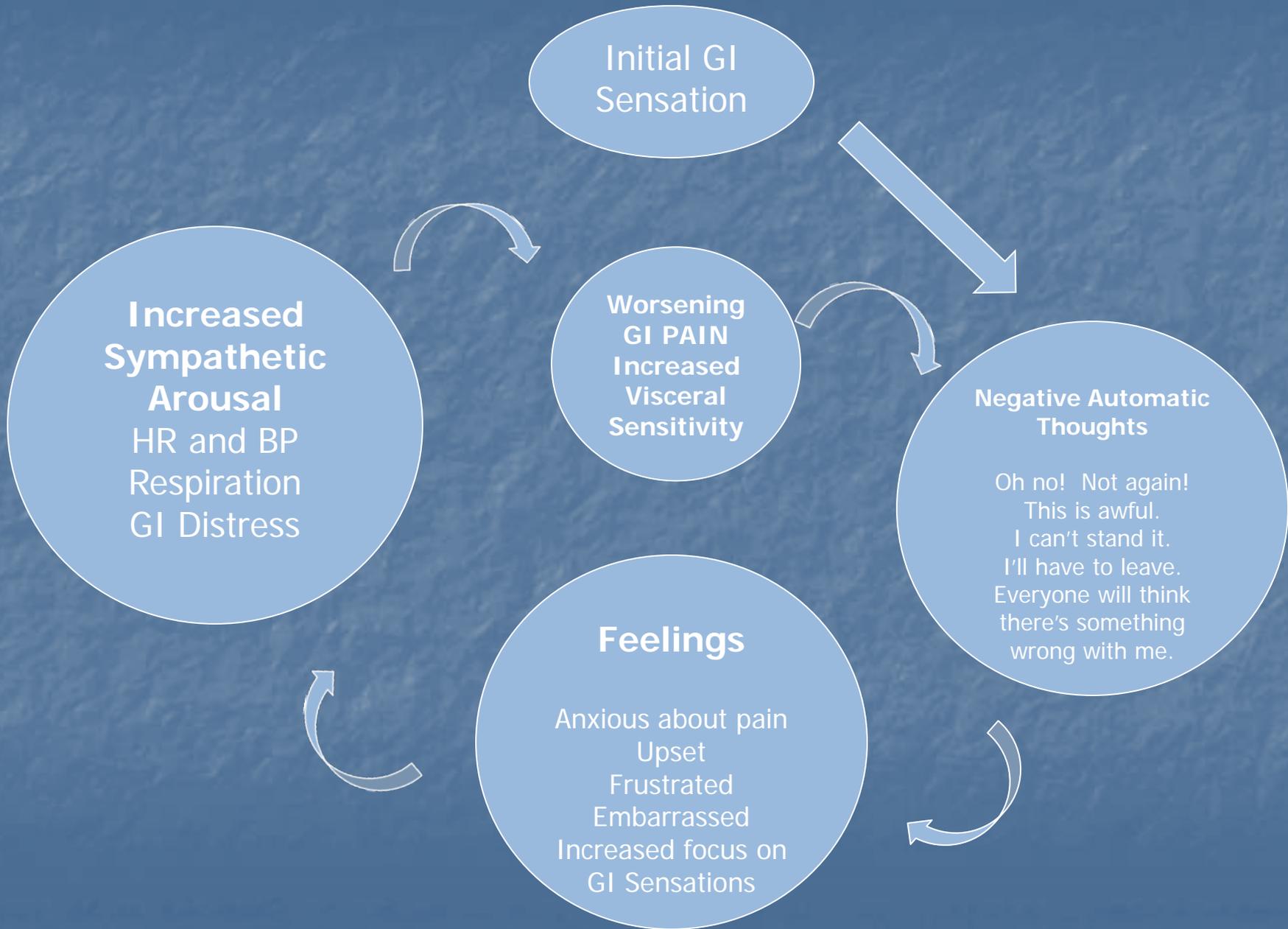
Hunt, Zickgraf, Gibbons, Loftus & Cohen. (*Under review*) Development and Validation of the Fear of Food Questionnaire.

Fear of Incontinence

- Fear of fecal incontinence is a huge issue for many GI patients, especially those with diarrhea and urgency.
- 62% of IBS patients *have* experienced at least one episode.
- In some cases, bio-feedback and pelvic floor exercises can help.
- But we must reduce catastrophizing.

FI *does* impair HRQL, but not by much





Initial GI Sensation

Increased Sympathetic Arousal
HR and BP
Respiration
GI Distress

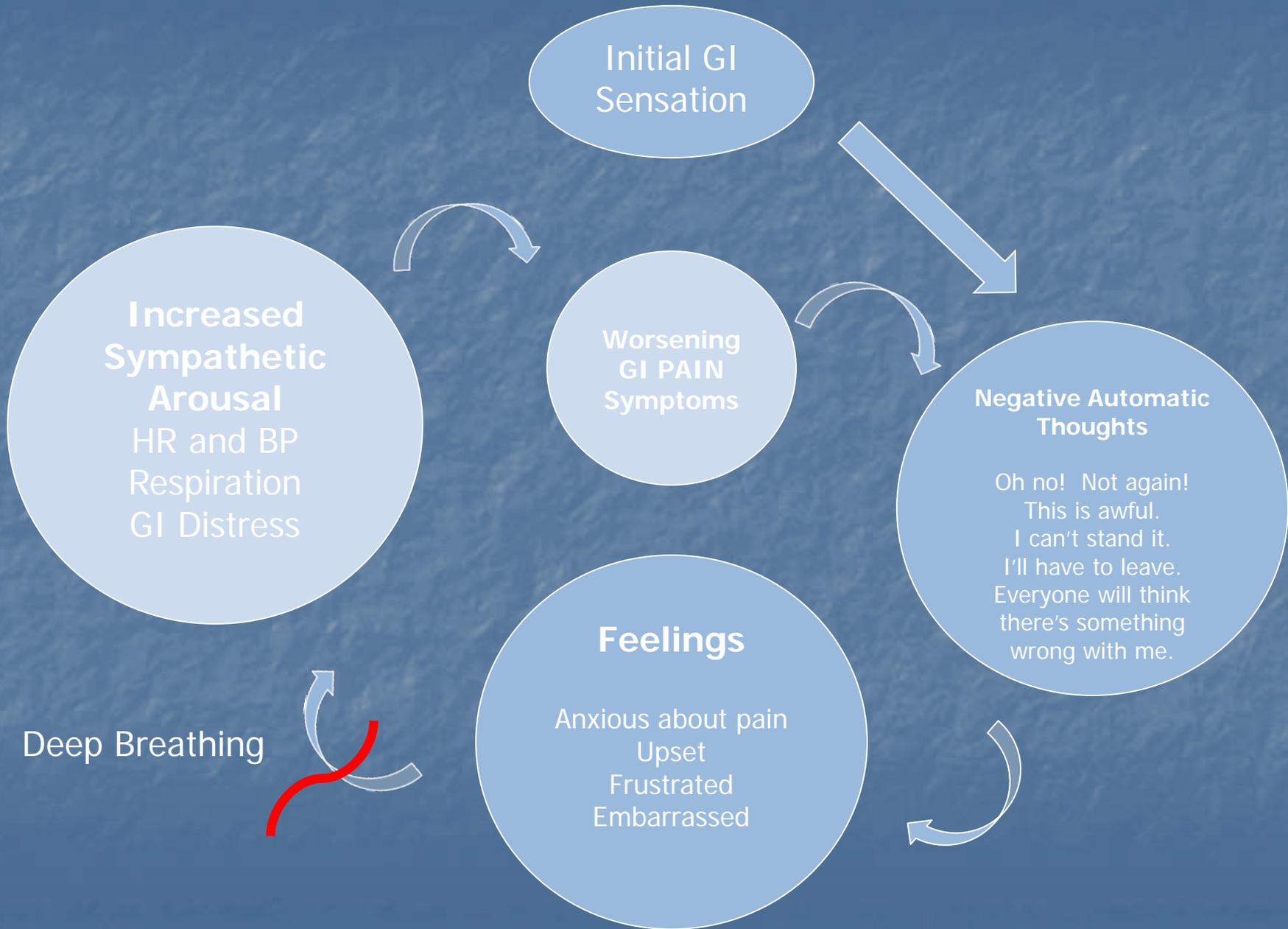
Worsening GI PAIN
Increased Visceral Sensitivity

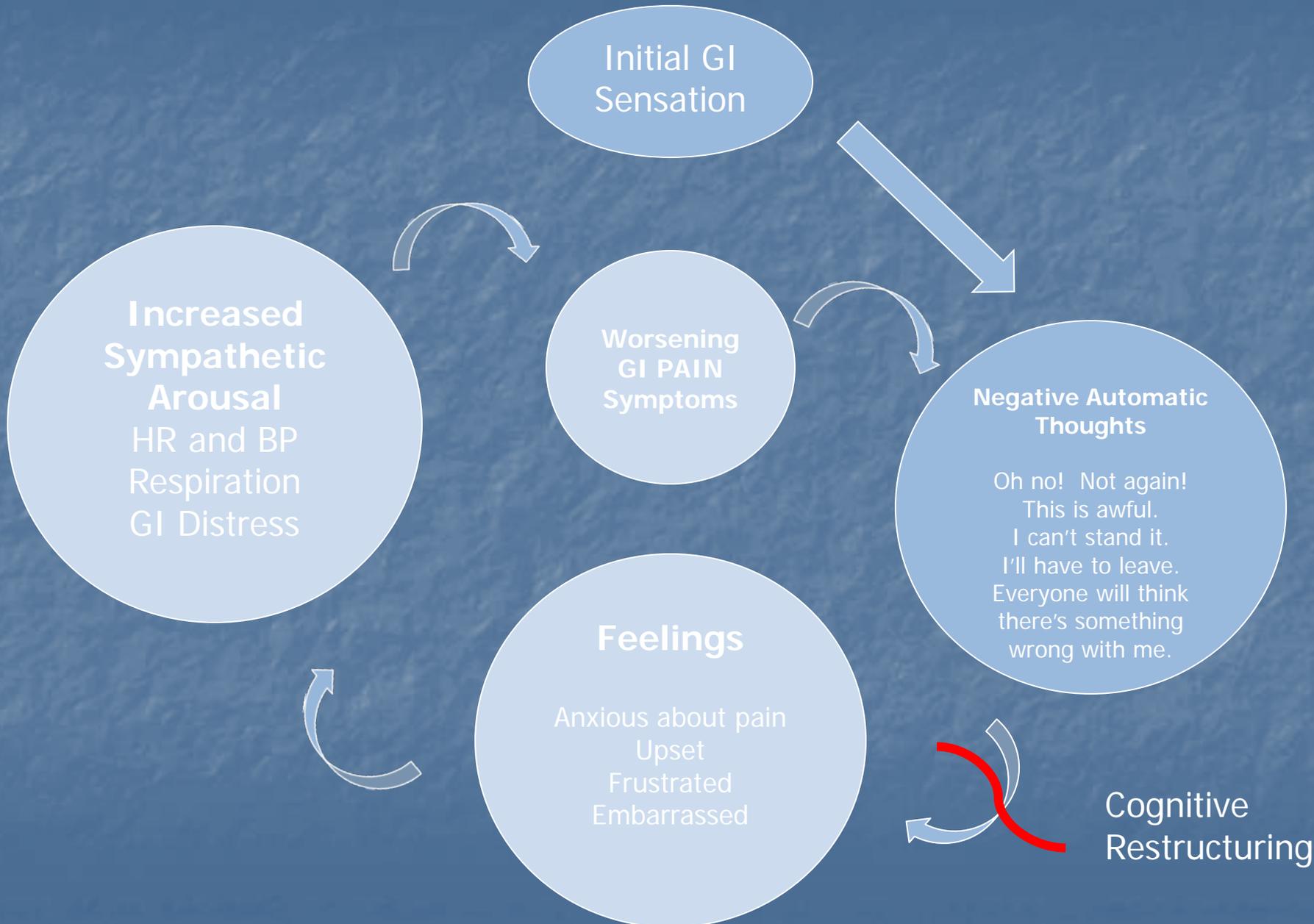
Negative Automatic Thoughts

Oh no! Not again!
This is awful.
I can't stand it.
I'll have to leave.
Everyone will think there's something wrong with me.

Feelings

Anxious about pain
Upset
Frustrated
Embarrassed
Increased focus on GI Sensations





Initial GI
Sensation



So What!?

Increased Sympathetic Arousal
HR and BP
Respiration
GI Distress

Worsening GI PAIN Symptoms

Negative Automatic Thoughts

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Feelings

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All that worry can cause a lot of avoidance

- Foods
- Any place that might trigger an "attack"
 - A restaurant or bar
 - Dinner with friends
- Any place from which "escape" to get to a bathroom might be difficult, embarrassing or too time consuming, potentially leading to incontinence
 - Transportation
 - Crowded public places, concerts, ball parks, etc.
 - Beaches, parks, etc.

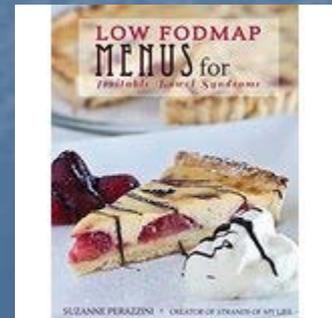
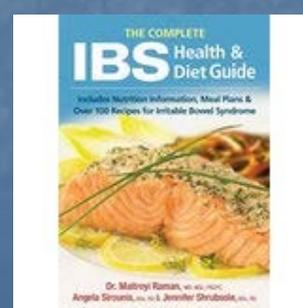
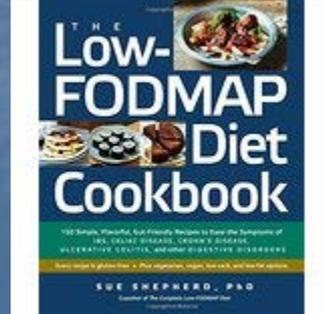
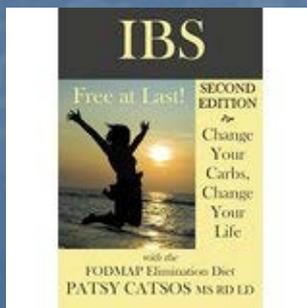
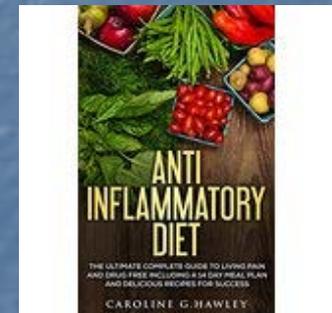
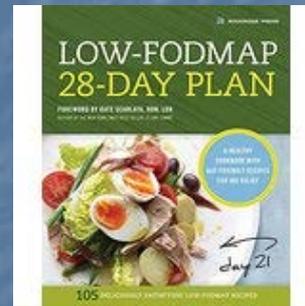
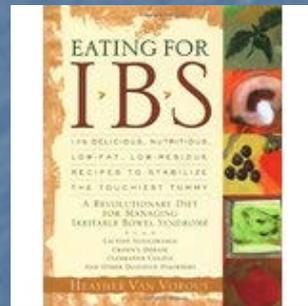
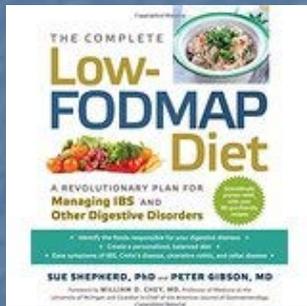
Subtle Avoidance

- Often the hardest part to tackle. Similar to safety utilization behaviors in panic disorder.
 - Scoping out bathrooms in advance either on-site or using a "bathroom finder" website.
 - Always sitting in back, on aisle, planning routes to bathroom.
 - Wearing loose, comfortable clothes that won't press on the abdomen.
 - Carrying anti-diarrheal, antacid or anti-gas medications at all times.
 - e.g. using Lomotil tabs the same way panic patients use benzos.
- It's all still aimed at avoiding GI sensations and the possibility of embarrassment, discomfort or distress.

Exposure Therapy

- Reducing behavioral avoidance is crucial part of every successful treatment for IBS.
- Works just like exposure therapy for panic disorder or specific phobias.
 - Start by creating anxiety hierarchy.
 - Work your way up the list slowly, carving things into small, manageable chunks.
 - For example, drive around your neighborhood for 30 minutes so that you're never more than 2 minutes from home.
- Actually reduces visceral sensitivity

Restrictive Diets...the most popular approach and the biggest avoidance strategy of all

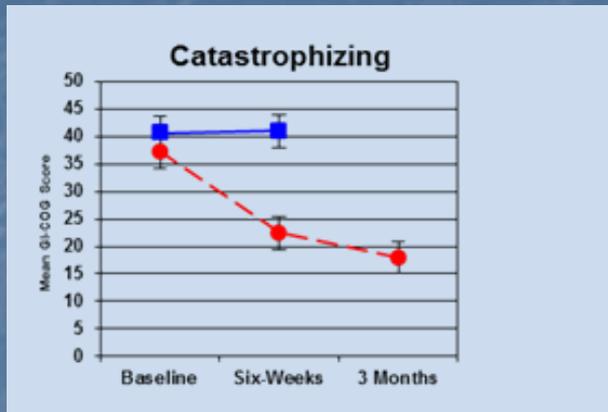


Problems with Restrictive Diets

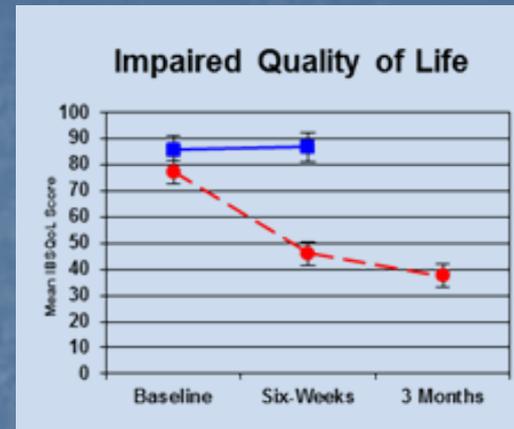
- Increase depression and social isolation
- Work via OPPOSING mechanism of CBT.
 - Restrictive diets try to avoid or eliminate sensations that IBS patients are hypersensitive to.
 - CBT uses exposure to eliminate hypersensitivity!

RCTs

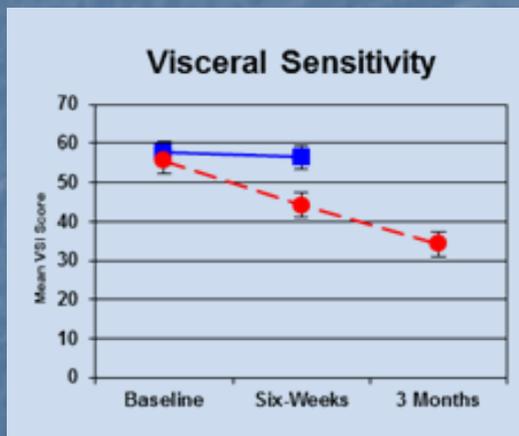
- There are a number of RCTs showing efficacy of CBT for IBS delivered:
 - Via the internet
 - Hunt, Moshier & Milonova (2009)
 - Ljótsson, et al. (2010)
 - Or with minimal therapist contact
 - Lacker et al. (2018)
 - Or as a stand alone self-help book
 - Hunt et al (2014)



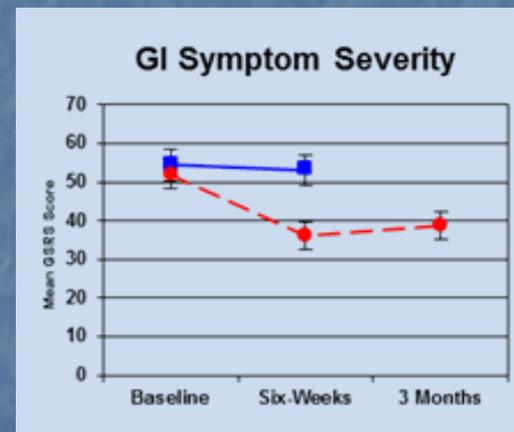
$F(1, 33) = 36.30, p < .001, d = 1.44$



$F(1, 33) = 30.59, p < .001, d = 1.51$

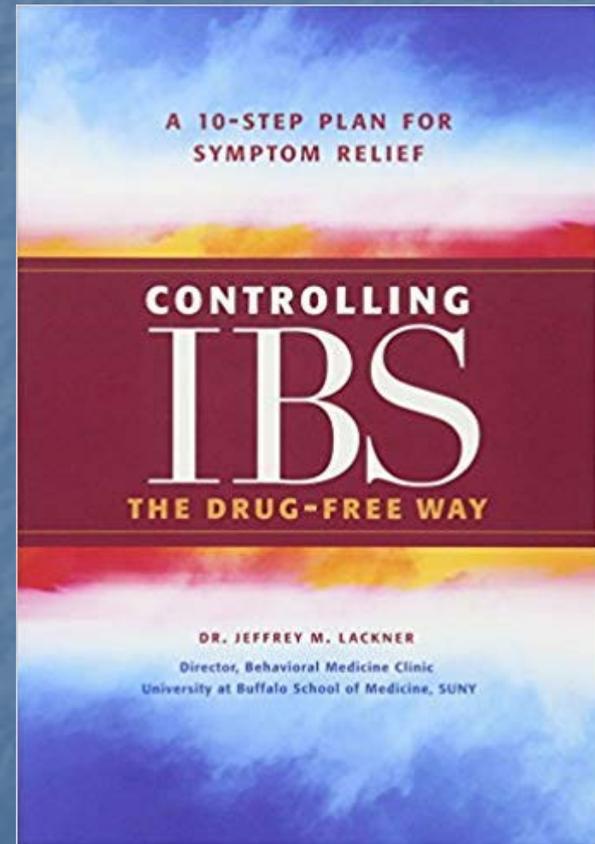
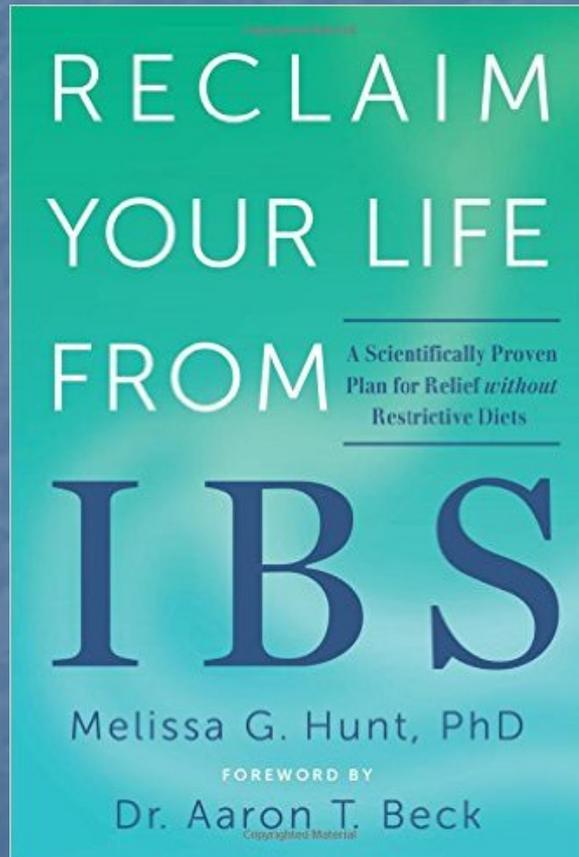


$F(1, 33) = 13.25, p = .001, d = 0.97$



$F(1, 33) = 13.25, p = .001, d = 0.97$

Still Available Electronically



Adapting treatment to IBDs

- IBDs also cause abdominal pain.
- Psychiatric co-morbidity is lower than IBS but higher than general population (~25%)
- Having an IBD is stressful!
 - Patient going in for ostomy surgery was quite anxious.
 - Nurse asked "Well, what do you usually take for anxiety?"
- Also vulnerable to secondary IBS even when IBD is medically in remission.

Distress ↔ Disease

- Relationship between psychological distress and disease activity is bidirectional
 - Depression predicts failure to achieve remission on infliximab
 - Depressive symptoms correlate with # of relapses
 - Perceived stress and avoidant coping predict relapse over and above biological markers.
- Distress also affects *perceived* health and HRQL.

Response to psychotherapy?

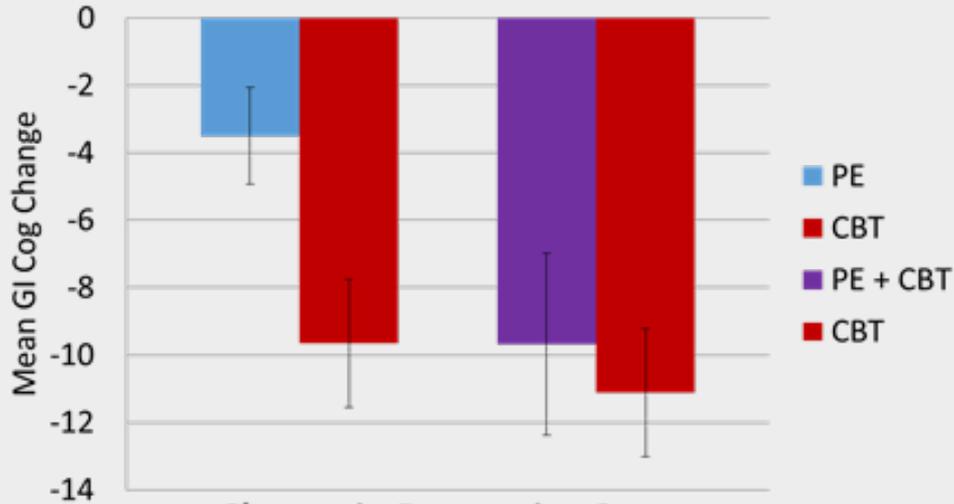
- There is (minimal) evidence from one trial that disease severity (objective inflammatory markers) can be impacted positively by psychosocial interventions.
- One very well done study (Mikocka-Wallis et al.) found no impact on disease markers, but *did* improve depression, anxiety and quality of life.

Self-Help works for IBD patients

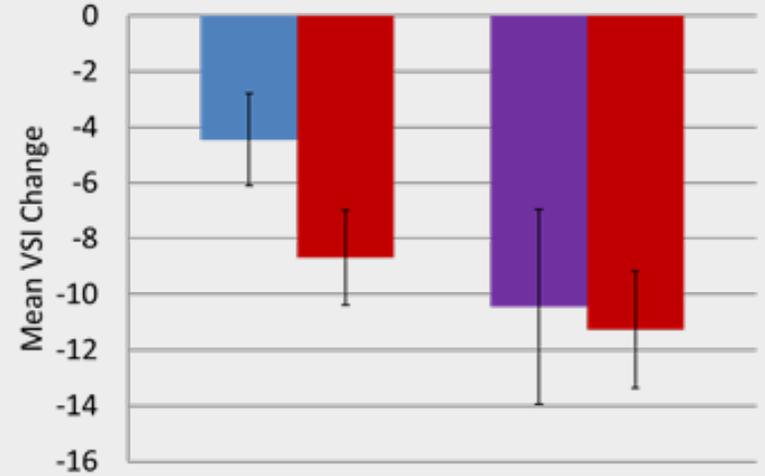
- RCT of second self-help book (*Coping with Crohn's and Colitis*) compared to active psychoeducational control condition.
- Treatment completers experienced clinically and statistically significant gains in catastrophizing, visceral sensitivity, depression, anxiety, and quality of life.

Hunt, Loftus, Accardo, Keenan, Cohen & Osterman (2019). Self-help Cognitive Behavioral Therapy Improves Health-Related Quality of Life for Inflammatory Bowel Disease Patients: A Randomized Controlled Effectiveness Trial. *Journal of Clinical Psychology in Medical Settings*

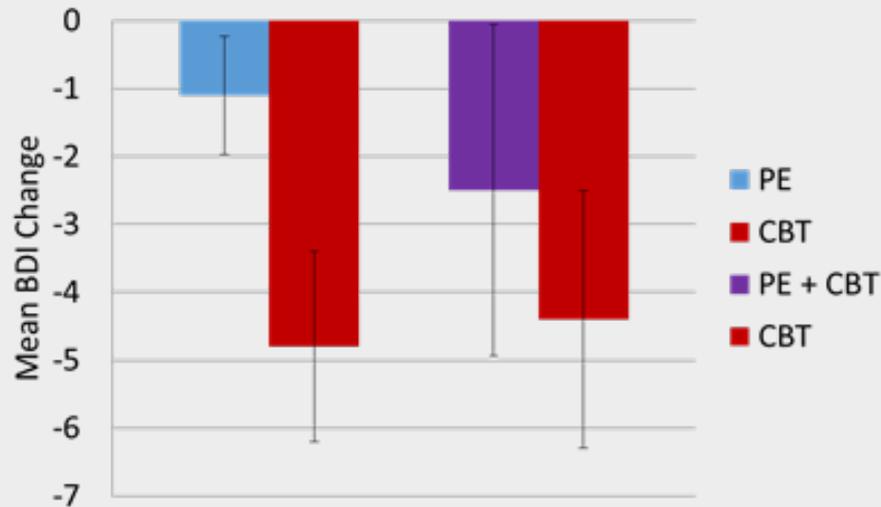
Change in Catastrophizing



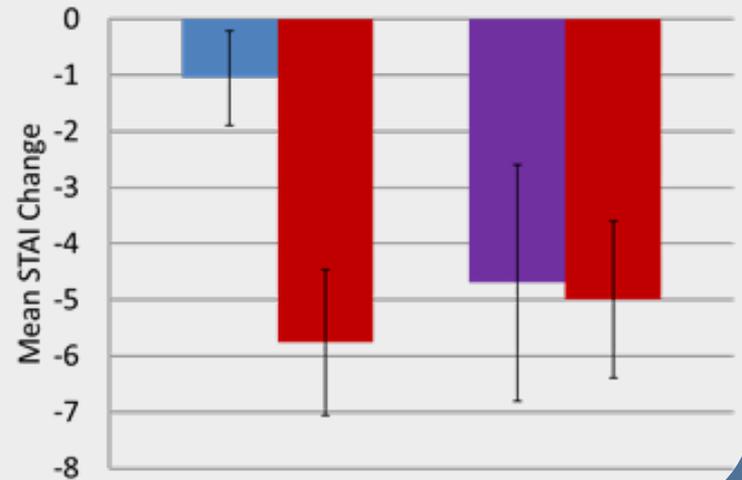
Change in Visceral Sensitivity



Change in Depressive Symptoms



Change in State Anxiety Symptoms



Summary

- Both IBS and IBD patients can benefit a great deal from CBT.
- For many IBS patients, CBT is curative.
- For IBD patients, CBT can lead to improvement in depression, anxiety, coping and quality of life, and reduces risk of secondary IBS.
- For many patients, evidence based, empirically supported self-help may be sufficient.
- For more distressed patients, having a GI knowledgeable clinician who is expert in CBT may be crucial.

Questions?

Thoughts on Medication

- Neuromodulators!
 - SSRIs
 - SNRIs
 - Tri-cyclics
 - Atypicals

Googling “Inflammatory Bowel Disease”

The image shows a Google search interface. At the top, the Google logo is on the left, and the search bar contains the text "inflammatory bowel disease". To the right of the search bar are icons for a search magnifying glass, a user profile named "Julia", a grid icon, a notification bell, and a circular icon with the letter "J". Below the search bar, there are tabs for "All", "News", "Images", "Books", "Videos", "More", and "Search tools". A settings gear icon is located on the right side of the search bar area.

Below the search bar, it says "About 11,800,000 results (0.27 seconds)".

The search results are listed below:

- Scholarly articles for inflammatory bowel disease**
 - Inflammatory bowel disease** - Podolsky - Cited by 1111
 - Inflammatory bowel disease: epidemiology, ...** - Hanauer - Cited by 702
 - Inflammatory bowel disease** - Shorter - Cited by 33
- Inflammatory bowel disease (IBD) - Mayo Clinic**
www.mayoclinic.org/diseases.../inflammatory-bowel-disease/... - Mayo Clinic
Inflammatory bowel disease (IBD) involves chronic inflammation of all or part of your digestive tract. IBD primarily includes ulcerative colitis and Crohn's disease.
Symptoms - Treatments and drugs - Causes - Digestive system
- Inflammatory bowel disease - Wikipedia, the free encyclopedia**
https://en.wikipedia.org/wiki/Inflammatory_bowel_disease - Wikipedia
Inflammatory bowel disease (IBD) is a group of inflammatory conditions of the colon and small intestine. Crohn's disease and ulcerative colitis are the principal ...
Biological therapy - Collagenous colitis - Lymphocytic colitis - Diversion colitis
- Inflammatory Bowel Disease: Practice Essentials, Background**
emedicine.medscape.com/article/179037-overview - Medscape
Inflammatory bowel disease (IBD) is an idiopathic disease caused by a dysregulated immune response to host intestinal microflora. The 2 major types of IBD are ...
- IBD / Inflammatory Bowel Disease Health Center - Find ...**
www.webmd.com/ibd-crohns-disease/ - WebMD
IBD affects an estimated 600000 Americans a year. Find Crohn's disease and ulcerative colitis information, including symptoms, prevention, and promising ...

On the right side of the search results, there is a knowledge panel for "Inflammatory bowel disease".

Inflammatory bowel disease
Also called: IBD

Ongoing inflammation of all or part of the digestive tract.

Most common types

- Crohn's disease**
A chronic inflammatory bowel disease that affects the lining of the digestive tract.
- Ulcerative colitis**
A chronic, inflammatory bowel disease that causes inflammation in the digestive tract.

Consult a doctor for medical advice

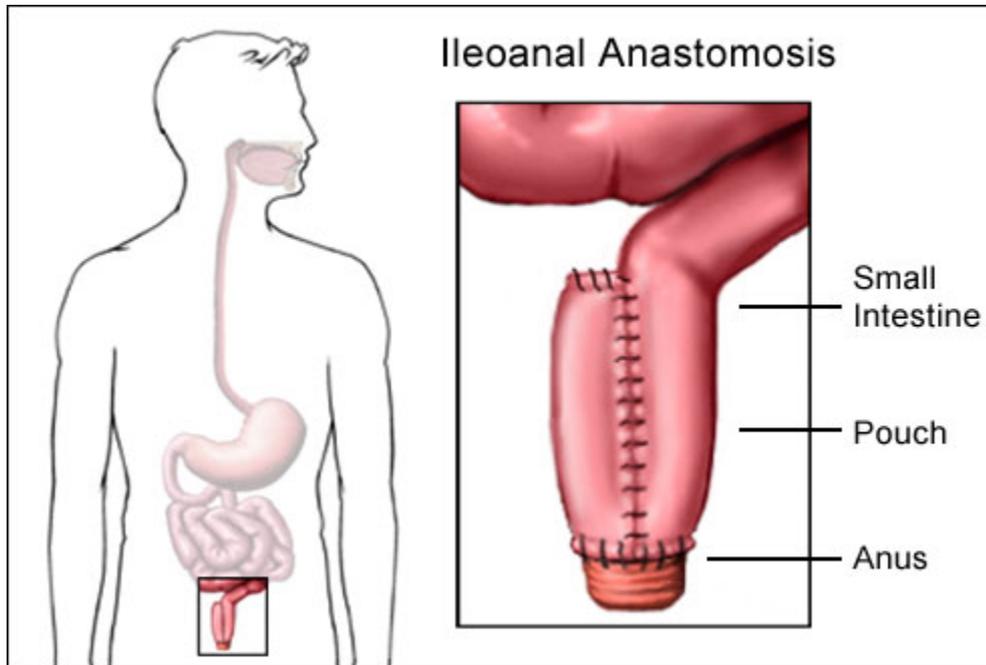
One Click...



Severe colitis noted during colonoscopy in a patient with inflammatory bowel disease. The mucosa is grossly denuded, with active bleeding noted. The patient had her colon resected very shortly after this view was obtained.

<http://emedicine.medscape.com/article/179037-overview>

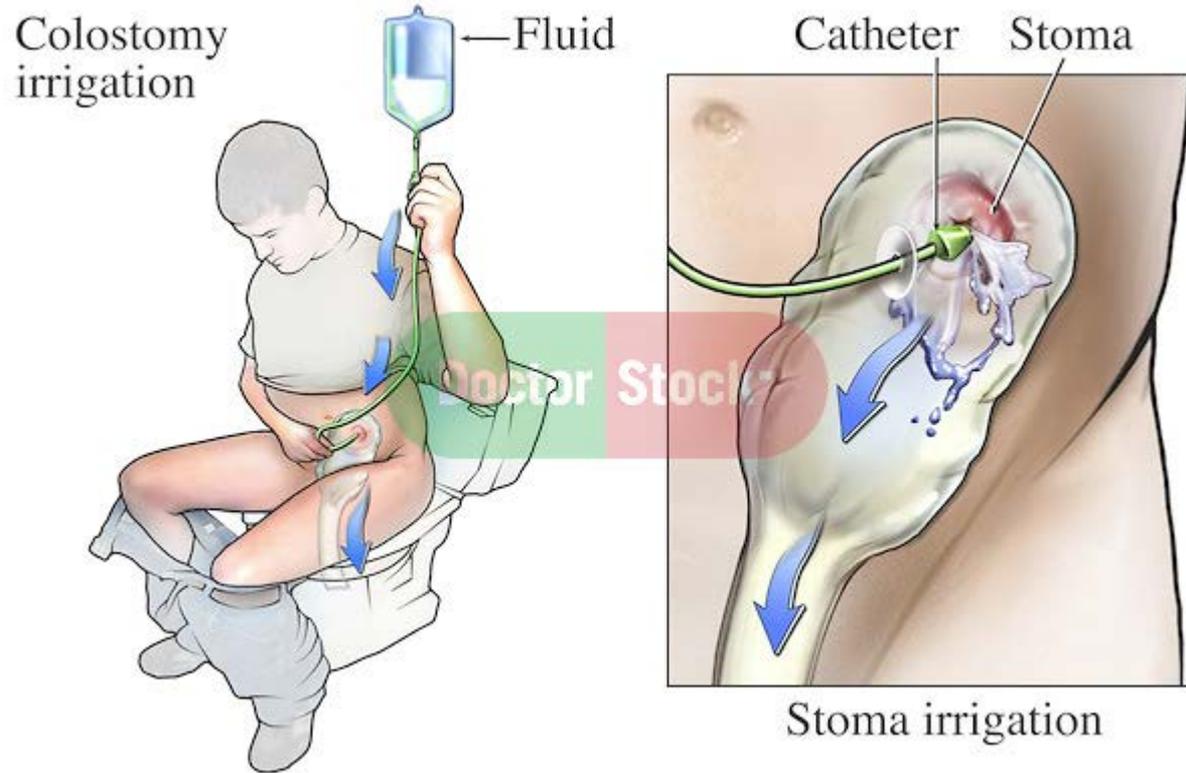
Two Clicks...



The most common procedure for ulcerative colitis is pelvic pouch or ileal pouch anal anastomosis (IPAA). Your colon and rectum will be removed. A new rectum, called a J-pouch, will be fashioned out of your small intestine. This type of surgery allows you to have bowel movements and use the bathroom. You won't need an ostomy bag. The procedure takes two separate surgeries about two months apart.

<http://www.webmd.com/ibd-crohns-disease/inflammatory-bowel-syndrome>

Three Clicks...



<http://doctorstock.photoshelter.com/image/I00004e4KkEnRjG4>