

## Exploring Gut-Brain Therapies

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## Disclosures

- Speaker, Abbvie (Physician Education)
- 100% Ownership, Oak Park Behavioral Medicine LLC

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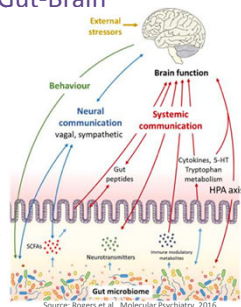
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## The Fellowship of the Gut-Brain

“The past decade has seen a paradigm shift in our understanding of the brain-gut axis. The exponential growth of evidence detailing the bidirectional interactions between the gut microbiome and the brain supports a comprehensive model that integrates the central nervous, gastrointestinal, and immune systems with this newly discovered organ. Data from preclinical and clinical studies have shown remarkable potential for novel treatment targets”

Martin, Osadchij, Kalani & Mayer, 2018. Cell Mol Gastro Hepatol.



## Integration of Psychogastroenterology



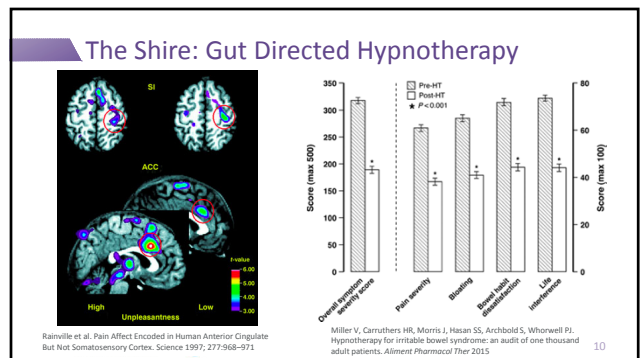


## The Shire: Gut Directed Hypnotherapy

- First applied to IBS in 1984 by Dr. Peter Whorwell and colleagues
- ~30 RCTs across the DGBI spectrum of disease in both pediatric and adult patient groups
- 80% of females and 62% of males achieve at least a 50 point improvement in IBS symptom severity
- 73% of patients with functional dyspepsia respond and maintain response at 12 month follow up
- NNT = 3-4

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## The Shire: GDH Myths & Misconceptions

- Nearly half of patients referred to GDH have negative perceptions about the treatment
- This is not maintained after treatment ☺
- Negative perceptions do not impact GDH outcome
- Is this a messaging problem?

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## The Shire: GDH Demystified

- 30-60 minute visits over 6 to 12 weeks + home practice
- Induce a deep state of relaxation making the mind and body open to "suggestions" and empower the patient to control gut symptoms
- Guided muscle relaxation + deep breathing
- Use of imagery (beaches, gardens, lakes, streams)
- Use of metaphor (bloating: your gut is like a balloon that you can choose to deflate)
- Use of repetition (You have control over your gut)
- Therapist voice + pacing of speech

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## The Shire: GDH Patients



- Moderate to severe symptoms
- Most DGBI conditions
- Any age
- Patients over 50 may have less, but still a good, response
- Absence of significant psychopathologies (e.g. active PTSD, history of psychosis)
- May be best to try after diet modification for dual approach to symptom severity

## The Shire: GDH Mechanisms

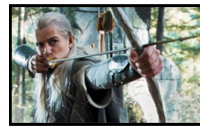


UPPER GI TRACT	LOWER GI TRACT
Modulate acid secretion	Modulate post-prandial gastrocolic reflex
Accelerate gastric emptying	Modulate colonic motility
Alter oro-cecal transit time	Reduce visceral hypersensitivity
BRAIN	EFFECT
Posterior insula	Normalization of invoked response to painful stimuli
Anterior cingulate cortex	Altered response to painful stimuli
Prefrontal & somatosensory	Altered emotional response to pain

## Rohan: Cognitive-Behavioral Therapy



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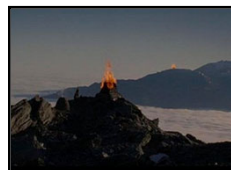


- First applied to IBS in 1992 by Dr. Ed Blanchard and colleagues
- ~20 RCTs across DGBI spectrum of disease in both pediatric and adult patient groups
- 40% to 65% of IBS patients achieve significant symptom reduction
- NNT = 4-5

## Rohan: CBT Delivery

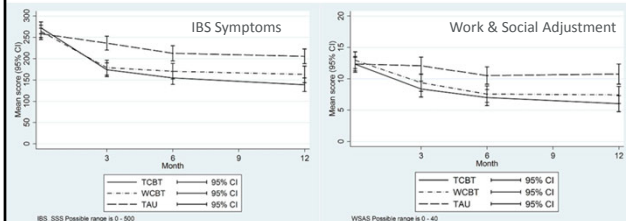


In Person



Remote (Phone or Online)

## Rohan: CBT Delivery

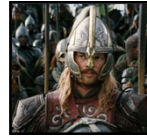


## Rohan: CBT Patients



- Moderate to severe symptoms
- Some insight into the role of stress in DGBI symptoms
- Adolescents and adults, modifications needed for < 12
- Absence of significant psychopathologies (e.g. cognitive impairment, history of psychosis)
- Some cognitive flexibility

## Rohan: CBT Mechanisms



COMPONENT	OUTCOME
Psychoeducation	Increases likelihood patient will buy into CBT by increasing insight into role of stress/lifestyle
Relaxation Training	Engage PNS to downregulate pain thresholds, normalize gut function
Cognitive Restructuring	Reduce Sx related anxiety, hypervigilance, catastrophizing, probability over-estimation
Problem Solving	Engage in emotion-focused coping vs. problem-focused coping
Exposure	Reduce avoidance and "safety" behaviors

## Mordor: Acceptance & Commitment Therapy



## Mordor: Acceptance & Commitment Therapy



- First applied to IBS in 2017 by Dr. Nuno Ferreira and colleagues
- No RCTs to date
- Preliminary data are promising
- Medium effect sizes for reduction in IBS symptom severity, improvement of quality of life, and reduction in avoidance behaviors and symptom anxiety

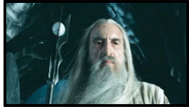
## Mordor: Acceptance & Commitment Therapy

	Time point mean (SD)				Cohen's d	
	T1 Assessment	T2 Pre-treatment	T3 Post-treatment	T4 Six-month follow-up	T2-T1	T3-T4
Symptom severity	264.13 (101.14)	264.55 (94.38) <sup>†</sup>	223.07 (107.51) <sup>†</sup>	214.77 (115.45) <sup>†</sup>	.41	.41
Irritable bowel syndrome (IBS) impact on quality of life	97.05 (28.56)	99.07 (37.06) <sup>†</sup>	81.66 (45.92) <sup>†</sup>	76.07 (45.64) <sup>†</sup>	.41	.55
IBS avoidant behaviours	102.10 (24.29)	102.46 (23.33) <sup>†</sup>	93.89 (29.27) <sup>†</sup>	92.29 (28.55) <sup>†</sup>	.32	.39
Gastrointestinal-specific anxiety	61.19 (2.02)	60.24 (2.16) <sup>†</sup>	53.94 (2.48) <sup>†</sup>	51.51 (2.45) <sup>†</sup>	.36	1.10
IBS Acceptance	54.86 (17.46)	56.82 (18.62) <sup>†</sup>	66.08 (23.17) <sup>†</sup>	65.61 (20.43) <sup>†</sup>	.32	.50

## Mordor: ACT Mechanisms

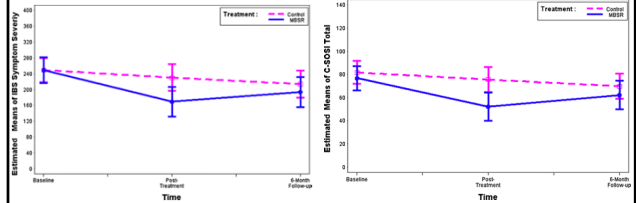


## Mordor: Mindfulness-Based Stress Reduction



- First applied to IBS in 2009 by Dr. Bill Whitehead and colleagues
- 1 RCT to date
- Preliminary data are promising
- 26% to 31% reduction in symptom severity compared to wait-list controls (5% to 6%)
- Benefits seem to last for at least 6 months

## Mordor: Mindfulness-Based Stress Reduction



## Rohan: ACT or MBSR Patients



- Moderate to severe symptoms
- Some insight into the role of stress in DGBI symptoms
- Adolescents and adults, modifications needed for < 12
- Absence of significant psychopathologies (e.g. cognitive impairment, history of psychosis)
- Some cognitive flexibility

## In Real Middle Earth Practice

Most of the time, GI psychologists and social workers use a combination of DGBI therapies.

Most private insurance and Medicare covers DGBI therapy

Most patients want integrated care for DGBIs

The leaders in Psychogastroenterology are acutely aware of the dearth of therapists

Visit the Rome Psychogastroenterology website to find therapists info on DGBI therapy:  
[romegipsych.org](http://romegipsych.org)

## End of the Journey

- GDH, CBT, ACT, & MBSR are primary Gut-Brain therapies within Psychogastroenterology
- While each uses somewhat different methods, all target ANS pathways
- Most patients can engage in these treatments and roughly 65% will see improvement
- Head to head trials of each treatment could gauge which is superior
- Having a trusted team to deliver Gut-Brain interventions is key



## Thanks!

