ACG Membership Benefit: DISCOUNTED PPE PRICES

ACG Collaboration with Project N95
Special Order from Wednesday, August 19th 4 pm EDT through Wednesday, August 26th 4 pm EDT

2020 ACG’S HEPATOLOGY SCHOOL
AUGUST 22, 2020 | Now Virtual!

Register online: meetings.gi.org
SEVEN different award types; INCREASED Junior Faculty FUNDING;
NEW Mid-Career Bridge Funding; Med Resident and Student Awards

www.gi.org/research-awards

Grant System Opens: September 8, 2020
Deadline: December 4, 2020

Read the Grant Flyer, FAQs, or visit the webpage for the RFAs.

The Premier GI Clinical Meeting & Postgraduate Course

Now Featuring an ALL Access Pass!
Visit http://acgmeetings.gi.org/ to Register!
Participating in the Webinar

All attendees will be muted and will remain in Listen Only Mode.

Type your questions here so that the moderator can see them. Not all questions will be answered but we will get to as many as possible.

How to Receive CME and MOC Points

LIVE VIRTUAL GRAND ROUNDS WEBINAR
ACG will send a link to a CME & MOC evaluation to all attendees on the live webinar.

ABIM Board Certified physicians need to complete their MOC activities by December 31, 2020 in order for the MOC points to count toward any MOC requirements that are due by the end of the year. No MOC credit may be awarded after March 1, 2021 for this activity.

ACG will submit MOC points on the first of each month. Please allow 3-5 business days for your MOC credit to appear on your ABIM account.
MOC QUESTION

If you plan to claim MOC Points for this activity, you will be asked to: Please list specific changes you will make in your practice as a result of the information you received from this activity.

Include specific strategies or changes that you plan to implement. THESE ANSWERS WILL BE REVIEWED.

ACG Virtual Grand Rounds

Join us for upcoming Virtual Grand Rounds!

Week 23: The Role of Endoscopy in the Management of Pancreatic Disorders
Vanessa M. Shami, MD
August 27, 2020 at Noon EDT

Week 24: Combination Therapies in IBD: Assessing the Evidence for and Against
Stephen B. Hanauer, MD, FACG
September 3, 2020 at Noon EDT

Weeks 25-26 are also open for registration now!
Visit gi.org/ACGVGR to Register
Disclosures:
Satish S.C. Rao, MD, PhD, FACG
Advisory Board / Consultant: Progenity, Ironwood Pharmaceuticals, Takeda Pharmaceuticals, In Control Medical, Vibrant, Quin-Tron, Valeant Pharmaceuticals, Neurogut, Inc.
Research Grant: Progenity, Valeant Pharmaceuticals, Vibrant.

Sarah B. Umar, MD
Spouse is a stockholder in Hygieacare.

Fecal Incontinence: Innovations in Clinical Assessment, Diagnosis and Treatment
Satish SC Rao, MD, PhD, FACG
J. Harold Harrison, MD, Distinguished University Chair in Gastroenterology, Professor of Medicine
Director, Neurogastroenterology/Motility
Director, Digestive Health Clinical Research Center
Medical College of Georgia
Augusta University, Augusta, GA
OBJECTIVES

- Epidemiology
- Pathophysiology
- Novel Diagnostic approaches
- Treatment options
  - Conservative measures
  - Role of drugs
  - Biofeedback Therapy
  - Others

Case Study

- PW, 54 yrs, Secretary
- C/O:
  - Fecal Incontinence
  - Intermittent loose stools
  - Bloating and increased flatus
  - Unaware of stool coming out but feels wetness in her groin or stool dripping down the legs
  - Symptoms worse with loose stools
  - Changes 2 pads daily
  - Prescribed psyllium; little change but flatus incontinence has increased
Case Hx – Contd.

- **Past Hx:** Hemorrhoidectomy, Hysterectomy, Mastectomy, Osteoarthritis
- **Obstetric Hx:** Gravida 3, Para 3, Vaginal deliveries, Forceps delivery x 1
- **Psychological issues and QOL:** Threat of job loss, Stopped socializing and does not go out to eat
- **Medications:** Aspirin, Metamucil, Imodium

- **O/E:** Clinical & neurological evaluation was unremarkable.
- **Digital rectal exam:**
  - Impaired anocutaneous reflex (Rt)
  - Weak resting & squeeze tone

Prevalence of Fecal Incontinence: Fast Facts

- **Prevalence in men:** 7.4%
- **Prevalence in women:** 9.1%
- **Prevalence in individuals aged ≥70 years:** 17.5%

**National GI Survey**

71,812 Americans

14.4%

Fecal incontinence in their lifetime

More prevalent and severe fecal incontinence

IBD

Celiac disease

Diabetes

IBS

Menezes S, Chey W et al. Gastroenterol. 2018;154:1672-81

Fecal incontinence - A Multifactorial Problem

Diarrhea/Urgency
Bharucha et al. Gastro 2010
Aging
Pudendal Neuropathy
S.C. Injury
Fecal Impaction

80% > one abnormality -

FECAL INCONTINENCE - HISTORY

- Establish rapport & Overcome social stigma
- Onset & Precipitating events
- Duration, Severity & Timing
- Coexisting problems/Surgery/Urinary Incontinence
- Obstetric Hx-Forceps, Tears, Presentation, Repair
- Drugs, Caffeine, Diet
- Clinical Subtypes & Grading

Components of FI Stool Diary APP

Patient/Clinician Use

Investigator Use

Virtual Grand Rounds

Validation of Paper vs Electronic Diary APP-FI

<table>
<thead>
<tr>
<th></th>
<th>Electronic (n=10)</th>
<th>Paper (n=10)</th>
<th>ICC</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of FI episodes</td>
<td>12.6 ± 2.7</td>
<td>15.0 ± 3.8</td>
<td>0.812</td>
<td>0.001</td>
</tr>
<tr>
<td>Use of Pads</td>
<td>24.2 ± 9.9</td>
<td>16.3 ± 9.6</td>
<td>0.849</td>
<td>0.004</td>
</tr>
<tr>
<td>Stool frequency</td>
<td>31.7 ± 8.9</td>
<td>36.5 ± 11.0</td>
<td>0.981</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Number of BMs with Urgency (%)</td>
<td>69 ± 6</td>
<td>75 ± 8</td>
<td>0.714</td>
<td>0.04</td>
</tr>
<tr>
<td>Mean Stool Consistency -BSFS</td>
<td>5.3 ± 0.4</td>
<td>5.3 ± 0.4</td>
<td>0.783</td>
<td>0.028</td>
</tr>
<tr>
<td>Type 1-2</td>
<td>1.2 ± 0.6</td>
<td>2.1 ± 0.8</td>
<td>0.457</td>
<td>0.186</td>
</tr>
<tr>
<td>Type 3-5</td>
<td>8.9 ± 3.7</td>
<td>10.6 ± 4.9</td>
<td>0.924</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Type 6-7</td>
<td>21.6 ± 8.0</td>
<td>23.9 ± 9.4</td>
<td>0.987</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

What are you doing when leakage occurred?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Electronic (n=10)</th>
<th>Paper (n=10)</th>
<th>ICC</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting or Resting (%)</td>
<td>37 ± 9</td>
<td>28 ± 9</td>
<td>0.355</td>
<td>0.287</td>
</tr>
<tr>
<td>Household Chores (%)</td>
<td>17 ± 5</td>
<td>18 ± 6</td>
<td>0.504</td>
<td>0.173</td>
</tr>
<tr>
<td>Working (%)</td>
<td>24 ± 11</td>
<td>29 ± 13</td>
<td>0.735</td>
<td>0.036</td>
</tr>
<tr>
<td>Traveling (%)</td>
<td>3 ± 1</td>
<td>4 ± 2</td>
<td>0.836</td>
<td>0.006</td>
</tr>
<tr>
<td>Eating / Drinking (%)</td>
<td>3 ± 2</td>
<td>7 ± 3</td>
<td>0.259</td>
<td>0.321</td>
</tr>
<tr>
<td>Exercise (%)</td>
<td>0 ± 0</td>
<td>9 ± 7</td>
<td>0</td>
<td>0.5</td>
</tr>
<tr>
<td>Other (%)</td>
<td>16.5 ± 10</td>
<td>5 ± 2</td>
<td>0.013</td>
<td>0.508</td>
</tr>
</tbody>
</table>

Yan Y, Rao et al APDW 2019
DRE video: Available on Amazon

Rao S. Am J Gastroenterol 2018;112:635-38

DRE: Expert vs Junior or Senior Trainee
n=137 patients

<table>
<thead>
<tr>
<th>DRE Diagnosis</th>
<th>Junior trainee vs expert (n=110)</th>
<th>Senior trainee vs expert (n=27)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyssynergia</td>
<td>0.35 (0.17-0.52)</td>
<td>0.68 (0.40-0.97)</td>
</tr>
<tr>
<td>Fecal incontinence</td>
<td>0.59 (0.43-0.75)</td>
<td>0.92 (0.77-1.0)</td>
</tr>
<tr>
<td>Normal</td>
<td>0.30 (0.09-0.51)</td>
<td>1.0 (1.0-1.0)</td>
</tr>
</tbody>
</table>

Kappa statistics (95% CI)

Yan Y, Rao SSC et al. DDW 2019
Fecal Incontinence - Clinical Subtypes

- **Passive Incontinence**
  - Involuntary discharge of feces or flatus without awareness

- **Urge Incontinence**
  - Discharge of rectal contents in spite of active attempts to retain

- **Fecal Seepage**
  - Involuntary seepage with otherwise normal evacuation

Rao, ACG Guidelines, Am J Gastro 2004
Tests of Anorectal Function

- Anorectal High Resolution Manometry
- Anorectal 3D-High Definition Manometry
- Anal Endosonography
- Rectal Compliance Test
- Translumbosacral Anorectal magnetic Stimulation (TAMS) test
- Balloon expulsion test
- Defecography/MR Defecography

Modified from Rao, ACG Guidelines, Am J Gastro 2004

Anal Sphincter Function & Morphology in FI

Normal

Incontinent

Nguyen M, Rao S et al, DDW 2011
Clinical Utility of ARM in Fecal Incontinence

Incontinence Pts

- Diagnosis Confirmed: 95%
- New Information: 98%
- Influenced Treatment: 84%
- Normal Study: 2%
- Not Helpful: 14%


Translumbosacral Anorectal Magnetic Stimulation (TAMS) Test

Rao SS, Tantiphlachiva K et al Dis Colon Rectum 2014;57:645-52
TAMS test Video Demonstration

Case vignette: Incontinent vs Healthy

![Graphs showing sacro-anal MEPs for Patient and Healthy individuals.](image-url)

Sacro-anal MEPs

Tantiphachiva K, Rao SS et al DDW 2008
Clinical Utility of TAMS
Fl=152, Mixed=68, LAS=31

Yan Y, Rao S, et al DDW 2019

Pharmacological Treatment of Incontinence

- Fiber Supplementation
- Loperamide
- Diphenoxylate/atropine (Lomotil®)
- Cholestyramine/colestipol
- Amitriptyline
- Valproic acid
- Clonidine
**Effects of loperamide in F. Incontinence**  
**RCT, n=26**

<table>
<thead>
<tr>
<th></th>
<th>Placebo</th>
<th>Loperamide</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-hr stool weight (g)</td>
<td>144 (0-466)</td>
<td>72 (0-467)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Bowel movements per week</td>
<td>13 (0-54)</td>
<td>7 (1-44)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>% unformed stools per week</td>
<td>62 (0-100)</td>
<td>29 (0-100)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Episodes of urgency per week</td>
<td>3 (0-27)</td>
<td>0 (0-7)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>


**Effects of Cholestyramine (2-6 g) in F. Incontinence, n=42**

![Graph showing the effects of Cholestyramine (2-6 g) on incontinence episodes per week](image)

- **Cholestyramine**
  - Baseline: 7 episodes per week
  - 3 months: 3 episodes per week
- **Controls**
  - Baseline: 5 episodes per week
  - 3 months: 2 episodes per week

* * p < 0.05 vs baseline

**Cochrane Review of Medical Therapy - 2013**

- 16 trials (11 cross over), n=558
- 11 Trials of F. Incontinence + Diarrhea
- 7 tested antidiarrheals, 6 enhance anal sphincter function (Phenylephrine, valproic acid), 2 tested Lactulose, 1 zinc aluminum
- Small studies, short F. up, meta-analysis not possible
- Risk of bias unclear

**Conclusions:**
- Focus of most therapy was diarrhea not incontinence
- Little evidence to guide clinicians, Larger well designed trials are required

---

**Goals of Biofeedback Training for Fecal Incontinence**

**Biofeedback Therapy (Neuromuscular Training)**

- Strengthen anal sphincter muscle
  - Endurance + Strength
- Improve rectal sensation/sensory delay
- Rectoanal coordination training
  - Isolation of anal muscles
  - Control of Accessory Muscles
- Training for improving Dyssynergia & evacuation
**Biofeedback vs Non-digital assisted squeezes-Incontinence: Primary Outcome**

<table>
<thead>
<tr>
<th>Percent Reporting Adequate Relief</th>
<th>Intention-to-Treat, n=108</th>
<th>Per Protocol, n=93</th>
</tr>
</thead>
<tbody>
<tr>
<td>BF</td>
<td>*</td>
<td>BF</td>
</tr>
<tr>
<td>PFE</td>
<td></td>
<td>PFE</td>
</tr>
</tbody>
</table>

* * P < 0.001


---

**Dextranomer Injection - Step by step**

[Step-by-step images and videos related to the procedure]
Efficacy of Dextranomer in F. Incontinence: RCT

Significantly higher responder rates in Dextranomer group at 6 months (Responder_{60})

- **Proportion responders 50 (%)**
  - Solesta: 53.2%
  - Sham: 30.7%

- **p-value = 0.004**

All 3 pre-specified success criteria at 6 and 12 months were met.


Long Term Efficacy of NASHA

Mellgren A et al, NGM 2014
Post- Dextranomer Injection: Anal ultrasound & Colonoscopy views

Surgical Treatment of Incontinence

- Sphincteroplasty
- Anterior repair
- Rectal Augmentation
- SECCA procedure
- Sacral nerve stimulation
- Maloney-ACE procedure
- Colostomy

Long term=50%

Rao, ACG Guidelines, Am J Gastro 2004
SPHINCTEROPLASTY
long term results

![Graph showing long term results of SPHINCTEROPLASTY outcomes.]

Sacral Nerve Stimulation for Incontinence

4-6 needles, bilaterally, S2-S4,
Temporary –14 days, later Permanent

### SNS with Sphincter Defects

<table>
<thead>
<tr>
<th>Authors (ref)</th>
<th>Year</th>
<th>No. of patients</th>
<th>Follow-up (months)</th>
<th>Incontinence episodes per week</th>
<th>Incontinence Score (CCIS*)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Before SNS (base-line)</td>
<td>SNS (last FU)</td>
</tr>
<tr>
<td>Melenhorst et al [204]</td>
<td>2008</td>
<td>20</td>
<td>22.6</td>
<td>8.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Jarrett et al [257]</td>
<td>2008</td>
<td>8</td>
<td>26.5‡</td>
<td>5.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Vinson et al [258]</td>
<td>2008</td>
<td>5</td>
<td>14‡</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Chan et al [259]</td>
<td>2008</td>
<td>21</td>
<td>12</td>
<td>13.8</td>
<td>5</td>
</tr>
<tr>
<td>Boyle et al [260]</td>
<td>2009</td>
<td>15</td>
<td>nr</td>
<td>7.5‡</td>
<td>1.5‡</td>
</tr>
<tr>
<td>Ratto et al [261]</td>
<td>2010</td>
<td>10</td>
<td>33</td>
<td>25.6</td>
<td>0.8</td>
</tr>
<tr>
<td>Dudding et al [262]</td>
<td>2010</td>
<td>8</td>
<td>46</td>
<td>9.9</td>
<td>1</td>
</tr>
<tr>
<td>Brouwer et al [100]</td>
<td>2010</td>
<td>20</td>
<td>20</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

**SPHINCTER LESIONS**

**Defect size (degree):**

- EAS: 17–33
- EAS: 30–150
- EAS: 45–180
- EAS: 90–120
- IAS: 60–180 EAS: 30–170
- IAS defect
- EAS, extent nr
New devices for Fecal Incontinence

- Role of anal/vaginal plugs & Devices: Fenix®, Renew®, Vaginal insert (Pelvalon®)

Home vs Office Biofeedback Therapy: RCT

- A prescriptive biofeedback device for male and female urinary and fecal incontinence that combines muscle & electrical stimulation with voice-guided exercises for patient use at home
Primary Outcome

Responder: ≥50% decrease in the weekly FI episode in the final week compared with baseline period.

Sharma A, Xiang X, Rao SS. ACG 2018

What is Neuromodulation?

- **Definition:** The modulation or alteration of nerve function through targeted delivery of magnetic, electrical or chemical stimulus
- **Goal:** Normalize or restore neuronal function
- **Principle:** Neuroplasticity - Body’s natural biological response
What is Neuroplasticity?

Neuro=Nervous system, Plasticity=Plastos (Gk)=Moldable/Adaptable
Introduced by Ernest Lugaro in 1906

- “The ability of neuronal systems to
  - LEARN, ADAPT & RECOVER”
  - Alter function in response to changes in input, both physiological and pathophysiological”

- Neuroplasticity can be driven by neurostimulation
- Repetitive stimulation drives NEW neuronal connectivity
- Improved Connectivity is Improved Functionality

Translumbosacral Neuromodulation Therapy for Fecal Incontinence: Randomized Frequency Response Trial

Satish Rao 1 Xuelian Xiang1, Amol Sharma 1, Tanisa Patcharatrakul 1, Rachael Parr 1, Deepak Ayyala2, Shaheen Hamdy 3

1. Division of Neurogastroenterology, Augusta University, Augusta, GA, USA
2. Division of Biostatistics and Data Science, Augusta University, Augusta, USA
3. Manchester Academic Health Sciences Centre, University of Manchester, UK.

This study was supported by NIH R21 (5R21 DK104127-02)
Translumbosacral Neuromodulation Therapy (TNT)

Six weekly sessions, 600 stimulations/site, Total=2400 stimulations/visit Duration: 20 (15 Hz) to 60 minutes (1 Hz)

Effect of TNT on FI episodes

![Bar chart showing the effect of TNT on FI episodes](image)

Rao SSC et al. Am J Gastroenterol 2020
TNT Efficacy: Primary Outcome Measure

50% reduction in FI episodes compared to baseline

% FI Episode Responders

P<0.04 VS. 5 Hz & 15 Hz

Rao SSC et al. Am J Gastroenterol 2020

Effects of TNT on Spino-anorectal axis
Rectal and Anal Motor Evoked Potential (MEP) latency (ms)

<table>
<thead>
<tr>
<th>MEP site</th>
<th>1 Hz</th>
<th>5 Hz</th>
<th>15 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Post-treatment</td>
<td>Baseline</td>
</tr>
<tr>
<td>Left Lumbo-anal</td>
<td>5.1±0.5</td>
<td>3.8±0.3*</td>
<td>6.1±0.6</td>
</tr>
<tr>
<td>Left Lumbo-rectal</td>
<td>3.1±0.3</td>
<td>2.7±0.2</td>
<td>4.5±0.5</td>
</tr>
<tr>
<td>Right Lumbo-anal</td>
<td>5.3±0.4</td>
<td>3.9±0.3*</td>
<td>6.1±0.5</td>
</tr>
<tr>
<td>Right Lumbo-rectal</td>
<td>3.9±0.4</td>
<td>3.0±0.2*</td>
<td>4.6±0.7</td>
</tr>
<tr>
<td>Left Sacro-anal</td>
<td>4.8±0.4</td>
<td>3.8±0.3*</td>
<td>6.0±0.5</td>
</tr>
<tr>
<td>Left Sacro-rectal</td>
<td>3.3±0.3</td>
<td>3.0±0.2</td>
<td>5.3±0.5</td>
</tr>
<tr>
<td>Right Sacro-anal</td>
<td>5.3±0.5</td>
<td>3.7±0.4*</td>
<td>5.7±0.6</td>
</tr>
<tr>
<td>Right Sacro-rectal</td>
<td>3.8±0.3</td>
<td>3.3±0.2</td>
<td>5.0±0.8</td>
</tr>
</tbody>
</table>

Evidence for Neuroplasticity
Rao SSC et al NGM 2019
Conclusions

- TNT at 1Hz was superior to 5 and 15Hz frequency in FI
  - Significant Improvement in FI symptoms & QOL
  - Significant, multidimensional, mechanistic improvement (neuropathy & anorectal sensori-motor function)
- Neuromodulation therapy with LOW frequency TNT appears to be safe and efficacious for FI
- Sham controlled and longer duration studies are needed to establish the efficacy, durability & safety of TNT


EBM – Incontinence – 2020

<table>
<thead>
<tr>
<th>Treatment Modality</th>
<th>Level</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pharmacological</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loperamide</td>
<td>II</td>
<td>C</td>
</tr>
<tr>
<td>Diphenoxylate/atropine</td>
<td>II</td>
<td>C</td>
</tr>
<tr>
<td>Lactulose</td>
<td>II</td>
<td>D</td>
</tr>
<tr>
<td>Fiber supplements</td>
<td>II</td>
<td>B</td>
</tr>
<tr>
<td>Clonidine</td>
<td>II</td>
<td>D</td>
</tr>
<tr>
<td><strong>Topical Therapy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc Aluminum</td>
<td>II</td>
<td>C</td>
</tr>
<tr>
<td>Estrogen</td>
<td>II</td>
<td>C</td>
</tr>
<tr>
<td>Phenylephrine</td>
<td>I</td>
<td>D</td>
</tr>
<tr>
<td><strong>Biofeedback Therapy</strong></td>
<td>I</td>
<td>A</td>
</tr>
<tr>
<td><strong>SNS</strong></td>
<td>I</td>
<td>B</td>
</tr>
<tr>
<td><strong>TENS/PTNS</strong></td>
<td>I</td>
<td>D</td>
</tr>
<tr>
<td>Dextranomer (NASHA Dx)</td>
<td>I</td>
<td>A</td>
</tr>
</tbody>
</table>

Rao SSC, Sleisenger & Fordtran, 9th edition, 2020; pp
F. incontinence/Biofeedback Program

I salute you all from the bottom of my heart

NIDDK
Patients
Shaheen Hamdy
Thoru Yamada
Amol Sharma
Jose Remes Troche
E.Coss Adame
A.Attaluri
A.Erdogan
T.Patcharatrakul
K.Rattanakovit
Xuelian Xiang
Yun Yan

Jessica Valestin
Anne Dewitt
Arie Mack
A.Schmelz
R.Parr
T.Karunaratne
A.Eubanks
H.Smith

NIH FIT Trial
U01-115572
A. Bharucha
W.Whitehead
A.Lowry
W.Chey
A.Markland
NIDDK, TNT Trial
R01DK121003
B.Kuo
K.Staller
S.Hamdy
(Manchester, UK)

Take Home Points

- Fecal incontinence is multifactorial
- Detailed History, Physical & DRE important
- FI Stool diary APP could help management
- ARM, A. Ultrasound, MRI, TAMS Tests are complementary and facilitate optimal therapy
- Lifestyle measures, antidiarrheals are helpful
- Biofeedback Therapy remains mainstay
  - Home Biofeedback appears to be effective
- Dextranomer injection-selected cases
- Selected cases - Surgery or SNS
- TNT (Neuromodulation) is efficacious & safe
Questions?

Satish S.C. Rao, MD, PhD, FACG

Sarah B. Umar, MD

ACG Membership Benefit: DISCOUNTED PPE PRICES

ACG Collaboration with Project N95
Special Order from Wednesday, August 19th 4 pm EDT through Wednesday, August 26th 4 pm EDT
CONNECT AND COLLABORATE IN GI

ACG GI Circle
Connect and collaborate within GI

ACG & CCF IBD Circle
ACG Hepatology Circle
ACG Women in GI Circle

ACG’s Online Professional Networking Communities
LOGIN OR SIGN-UP NOW AT: acg-gi-circle.within3.com