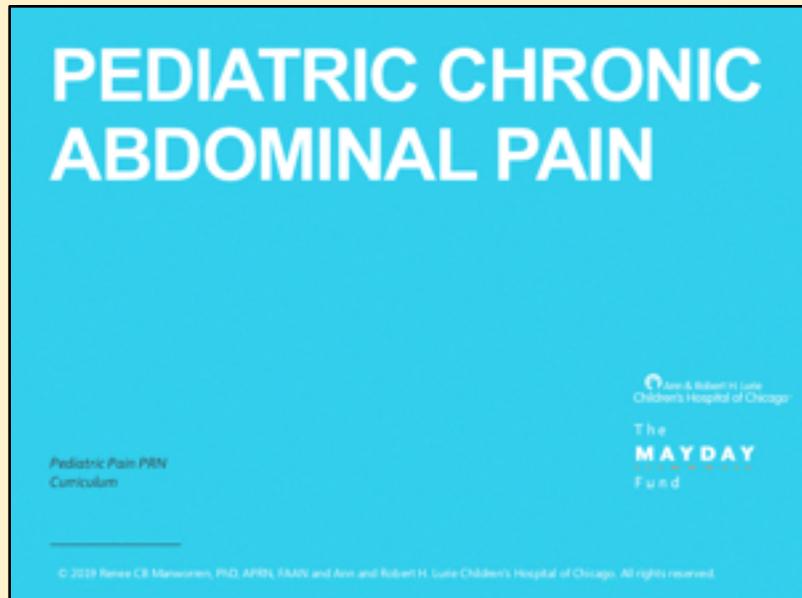


# PRN Program: GI Disorders



**Materials:** Flip chart or whiteboard and Markers

Provide participant guide at least one week in advance

**Room Setup:** In tables of 4 or 6-8 depending on number of participants

- Display slide as participants walk in
- This session is 45 minutes

**Welcome and Introductions:** *Introduce facilitator if necessary*

**READ:** The learning objectives for this content are to:

- Differentiate patterns of pain and other symptoms common to children with inflammatory bowel disease (IBD) as compared to children with functional gastrointestinal disorders.
- Develop a multimodal plan of care for pediatric abdominal pain prevention and treatment.
- Describe the unique aspects of pain assessment and management for children with functional gastrointestinal disorders.

**PRN  
Program: GI  
Disorders**

**Pediatric  
Abdominal  
Pain**

**READ:** Divide into two groups. Each group will have a flipchart sheet to write down your answers.

You have 5 minutes to differentiate patterns of pain and other symptoms common to children with inflammatory bowel disease (IBD) as compared to children with functional gastrointestinal disorders.

*[Have one group develop a list of pain patterns and symptoms for those with IBD, and have the other side develop a list for children with functional GI disorders.]*

**[Limit discussion to 5 minutes]**

*Select participants from each group who are willing to share their answers.*

**[Limit discussion to 5 minutes]**

***[10 MINUTES of 45 minute session is complete]***

# PRN Program: GI Disorders

**IBS and IBD**

**Irritable Bowel Syndrome (IBS)**

- Abdominal pain or discomfort associated with altered bowel function and improved with defecation

**Inflammatory Bowel Disease (IBD)**

- Approximately 1.6 million Americans have IBD; approximately 5% are pediatric
- Includes Ulcerative Colitis & Crohn's Disease
- May be more extensive and severe in childhood than adult diagnosis
- Treated with medical management
- Slightly more boys than girls develop IBD (especially Crohn's disease) in childhood



**READ:** Irritable Bowel Syndrome (IBS) is defined as abdominal pain or discomfort associated with altered bowel function and improved with defecation, whereas Inflammatory Bowel Disease (IBD) can affect any part of the GI tract from mouth to anus, and most commonly affects the end of the small intestine (ileum). Inflammation may extend through entire thickness of bowel wall and can appear in “patches”

# PRN Program: GI Disorders



**Violet**

*What is your response?*

Violet presents to the ED for severe 9 out of 10 periumbilical abdominal pain of an intermittent crampy quality. She is afebrile, has no sick household contacts. She is curled in a fetal position.

What can be done immediately in the ED to relieve Violet's abdominal pain?

**READ:** Violet presents to the ED for severe 9 out of 10 periumbilical abdominal pain of an intermittent crampy quality. She is afebrile, has no sick household contacts. She is curled in a fetal position.

**ASK:** What can be done immediately in the ED to relieve Violet's abdominal pain?

*Select participants willing to share their answers to this question.  
Write on flipchart or board 1-5 word summary for each answer*

***[Limit to 3 minute]***

**ADD: these Key points(if not included by participants):**

Possible responses:

IV opioid,

ice pack,

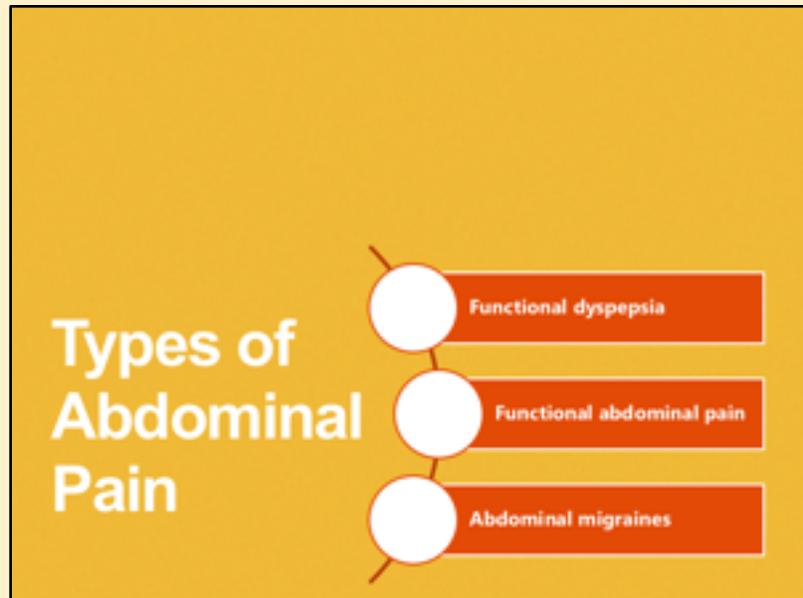
distraction,

Monitor exam and vital signs,

X-ray,

CT scan laboratory tests, including hemocult if indicated to rule out acute abdominal pain pathology

# PRN Program: GI Disorders



**ASK:** How do treatment options vary based on the types of pain & Why?

*Select participants willing to share their answers to this question for:*

- Treatment of functional dyspepsia
- Treatment of functional abdominal pain
- Treatment of abdominal migraines

***[Limit to 3 minute]***

***ADD: these Key points (if not included by participants):***

Treatment of functional dyspepsia

- Dietary modification: Avoid large meals or irritating foods (spicy, & coffee), Obese children might find relief from weight loss.
- Elevate HOB, Stop smoking
- Medications (Carafate, PPI, H2 Blocker)

Treatment of functional abdominal pain

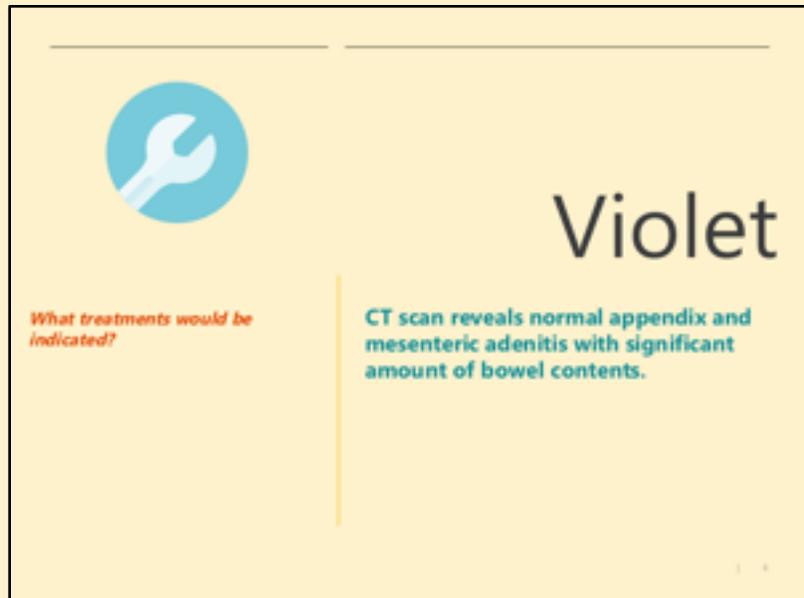
- Biopsychosocial approach (Cognitive Behavioral Therapy (CBT), Psychology)
- Yoga, TENs (Transcutaneous Electrical Nerve Stimulation)
- Dietary treatment, Sleep hygiene
- Lidoderm, Antidepressant (Amitriptyline, SSRI – citalopram)

Treatment of abdominal migraines

- NSAIDs, Anti-nausea medication, Triptans, Pizotifen, Gabapentin

***[20 MINUTES of 45 minute session is complete]***

# PRN Program: GI Disorders



**ASK:** What would you include in a multimodal treatment plan for Violet's pain?

*Select participants willing to share their answers to this question.*

***[Limit discussion to 5 minutes]***

**ADD: these Key points (if not included by participants):**

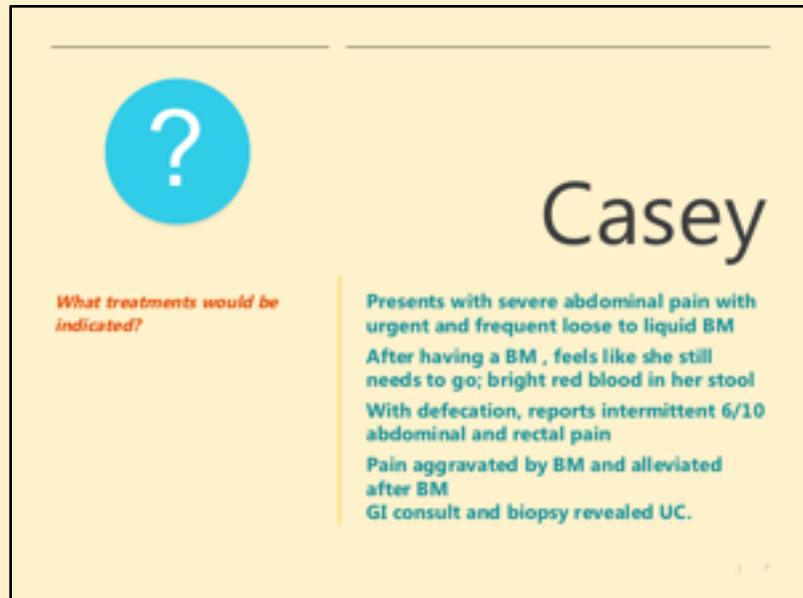
Further assessment of stress, lifestyle, including dietary and bowel habits.

Education regarding biopsychosocial pain model and sensitivity of some children to mesenteric adenitis while other children and adults are unaware of these transient mesenteric findings.

Bowel management, TENs, perhaps Lidoderm at night; avoid opioids.

***[25 MINUTES of 45 minute session is complete]***

# PRN Program: GI Disorders



**Casey**

What treatments would be indicated?

Presents with severe abdominal pain with urgent and frequent loose to liquid BM  
After having a BM, feels like she still needs to go; bright red blood in her stool  
With defecation, reports intermittent 6/10 abdominal and rectal pain  
Pain aggravated by BM and alleviated after BM  
GI consult and biopsy revealed UC.

**READ:** Casey is a 16-year-old who presents with her mother for severe abdominal pain with urgent and frequent multiple loose to liquid bowel movements (BM).

- Casey states that even after having a BM, she feels like she still needs to go. Casey has bright red blood in her stool.
- With defecation, Casey reports intermittent 6/10 abdominal and rectal pain.
- Pain is aggravated by BM and alleviated after BM.
- GI consult and biopsy revealed Ulcerative colitis (UC).

**ASK:** How would Casey's multimodal treatment plan differ from Violet's (previous case) pain management plan?

*Select participants willing to share their answers to this question.*

***[Limit discussion to 5 minutes]***

***ADD: these Key points (if not included by participants):***

- Mediations to treat UC would include: antibiotics, aminosalicylates, corticosteroids, immunomodulators, and biological therapies,.
- NSAIDs are contraindicated due to risk of bowel perforation
- For pain: antispasmodics are used and opioids are for severe pain
- Biobehavioral: She can try yoga, heating pads, and TENs unit too

***[30 MINUTES of 45 minute session is complete]***

# PRN Program: GI Disorders

<p><b>Pediatric IBD: Significance</b></p> 	<p><b>Ulcerative Colitis</b></p> <ul style="list-style-type: none"><li>• Limited to large intestine (colon) and the rectum</li><li>• Inflammation in innermost layer of intestinal lining</li><li>• Usually begins in rectum/lower colon</li></ul>	<p><b>Crohn's Disease:</b></p> <ul style="list-style-type: none"><li>• Can affect any part of the GI tract from mouth to anus.</li><li>• Most commonly affects the end of the small intestine (ileum)</li><li>• Can appear in "patches"</li><li>• Inflammation may extend through entire thickness of bowel wall</li></ul>
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**READ:** Not all complications of IBD are confined to the GI tract. For reasons that are not entirely understood, IBD related symptoms may affect other parts of the body. The most common of these complications affect the skin and bones. For example, extra intestinal complications may be evident in the:

- eyes (redness, pain, and itchiness)
- mouth (sores)
- joints (swelling and pain) due to Arthritis, Arthralgias, Sacroiliitis, ankylosing spondylitis
- skin (tender bumps, painful ulcerations, and other sores/rashes)
- bones (osteoporosis)
- kidney (stones)
- liver (primary sclerosing cholangitis, hepatitis, and cirrhosis)—occurs rarely.

# PRN Program: GI Disorders

Treatments	
	<b>Acute abdominal pain</b>
	<ul style="list-style-type: none"><li>• Analgesia</li><li>• Consider PCA for post surgical pain</li><li>• "Treat by the clock"</li></ul>
	<b>GERD</b>
	<b>Constipation</b>
	<ul style="list-style-type: none"><li>• Laxatives (bulk producing, osmotic, lubricant)</li><li>• Stool softener</li><li>• Stimulants</li></ul>

**ASK:** What treatments would you add for these 3 diagnoses?

*Select participants willing to share their answers to this question.*

*Write on flipchart or board 1 5-word summary for each participant*

**[Limit discussion to 3 minutes]**

# PRN Program: GI Disorders

Commonly used medications for abdominal pain	<ul style="list-style-type: none"> <li>• Antispasmodics</li> <li>• Sucralfate</li> <li>• PPI/H2 Blocker</li> <li>• TCA's/SSRI's/SNRI's</li> <li>• Gabapentin</li> <li>• NSAIDs</li> </ul>	
Commonly used intervention techniques for abdominal pain	<ul style="list-style-type: none"> <li>• Epidural</li> <li>• TAP Block</li> <li>• Intercostal block</li> <li>• Paravertebral Block</li> <li>• Acupuncture</li> </ul>	

**ASK:** Who can recall the mechanism of action for each of these medications or techniques?

Select participants willing to share their answers as you go down the list of treatments:

Antispasmodics, Sucralfate, PPI, etc. . **[Limit discussion to 6 minutes]**

**ADD:** these Key points (**if not included by participants**):

**Antispasmodics:** Slows peristalsis by relaxing stomach and intestinal muscles to reduce cramping (Levsin, Bentyl, Donnatel)

**Sucralfate-** forms a coating over ulcers to protect area from further injury. Antacids should be taken 30 minutes before or after sucralfate (Carafate)

**Proton-pump inhibitor (PPI)-** Irreversibly blocks acid production at the terminal stage of gastric acid secretion (Omeprazole/Prilosec)

**H2 Blocker-** Blocks histamine in the parietal cells of the stomach to decrease stomach acid production (cimetidine/Tagamet, ranitidine/Zantac)

**Antidepressants:**

- **SNRIs** inhibit the reuptake of Serotonin (5-HT<sub>3</sub>) and norepinephrine (NE) and 5-HT<sub>3</sub> and NE modulate descending inhibition of ascending pain pathways in brain and spinal cord (duloxetine/Cymbalta) SSRI's (sertraline/Zoloft, citalopram/Celexa)

- **Tricyclic antidepressants** also inhibit 5-HT<sub>3</sub> and NE, interacts with GABA, block sodium channels and are alpha-1 adrenergic blockers (amitriptyline)

**Anticonvulsants:** like **gabapentin** (Neurontin) & **pregablin** (Lyrica) are Alpha-2-delta ligand calcium channel antagonists,

Other anticonvulsants used to treat pain block voltage-gated sodium and calcium channels and/or inhibit glutamate release

**Epidural-** Abdominal coverage is extensive and catheter placement is technically unchallenging.

**TAP blocks** provide limited analgesic coverage, but can effectively cover entire abdomen.

**Intercostal & paravertebral blocks** alleviate pain when the catheters are placed with guidance **[40 MINUTES of 45 minute session is complete]**

# PRN Program: GI Disorders

## Key Points



*Pediatric abdominal pain affects 4-53% of children and accounts for 25% of pediatric gastroenterology office visits*

### Abdominal Pain

Differentiate patterns of pain and other symptoms common to children with functional gastrointestinal disorders as compared to children with inflammatory bowel disease (IBD)

Prevention and treatment of pediatric abdominal pain is based on a multimodal plan of care .

1. Perform a comprehensive initial pain assessment
2. Clarify acute from chronic pain symptoms and experiences
3. Establish individualized pain treatment goals with patient and family
4. Provide individualized, multimodal, interdisciplinary treatment plan
5. Educate patient and family about risks, benefits, limitations and responsibilities

**READ:** *The key points on the slide*

**ASK:** Are there any questions?

***[45 MINUTE SESSION COMPLETE]***