
Chronic Recurrent Abdominal Pain in Pediatrics

Katharyn Dispenza MSN, RN, CPNP-BC
Lynn Clark MS, RN, BC, CPNP-PC

Objectives

- Define chronic recurrent abdominal pain
- Identify diagnosis criteria
- Review assessment process & forms
- Discuss treatment options

Also Known as.....

- Functional Abdominal Pain (FAP)
- Functional Abdominal Pain Syndrome (FAPS)
- Chronic Abdominal Pain (CAP)
- Functional Gastrointestinal Disorders (FGID)
- Recurrent Abdominal Pain (RAP)
- Irritable Bowel Syndrome (IBS)

Defining FGDI's

- A combination of chronic or recurrent GI symptoms that cannot be otherwise attributed to specific biochemical and/or structural abnormalities.

Two Schools of Thought.....

- Apley & Nash (1958)
 - First to study this pain syndrome in children
 - Introduced the term "RAP"
- ROME III (2006)
 - More recently published
 - Use the term "CAP"
 - Classify nonorganic CAP into 5 FGID's

Criteria

According to Apley & Nash

- 3 or more episodes of abdominal pain
- Episodes occur repetitively for at least 3 months
- Pain is severe enough to interfere with daily activities

Criteria

According to ROME III

1. Childhood Functional Abdominal Pain
2. Childhood Functional Abdominal Pain Syndrome
3. Irritable Bowel Syndrome
4. Functional Dyspepsia
5. Abdominal Migraine

Criteria

Childhood Functional Abdominal Pain

Must include all of the following:

1. Episodic or continuous abdominal pain
2. Insufficient criteria for other FGID's
3. No evidence of an inflammatory, anatomic, metabolic, or neoplastic process that explains the symptoms

**Criteria fulfilled at least once per week for at least 2 months prior to diagnosis

Criteria

Childhood Functional Abdominal Pain Syndrome

Criteria must satisfy criteria for childhood functional abdominal pain & have at least 25% of the time 1 or more of the following:

- Some loss of daily functioning
- Additional somatic symptoms such as headache, limb pain, or difficulty sleeping

**Criteria fulfilled at least once per week for at least 2 months prior to diagnosis

Criteria

Irritable Bowel Syndrome

Recurrent abdominal pain/discomfort at least 3 days/month in last 3 months associated with 2 or more of the following at least 25% of the time:

1. Improvement with defecation
2. Onset associated with a change in frequency of stool
3. Onset associated with a change in form (appearance) of stool

**Criteria fulfilled at least once per week for at least 2 months prior to diagnosis

Criteria

Functional Dyspepsia

Must include

1. One or more of the following:
 1. Botherome postprandial fullness
 2. Early satiation
 3. Epigastric pain
 4. Epigastric burning

AND

2. No evidence of structural disease likely to explain symptoms

**Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis

Criteria

Abdominal Migraine

1. Paroxysmal episodes of intense, acute periumbilical pain that lasts for 1 or more hours.
2. Intervening periods of usual health lasting weeks to months
3. The pain interferes with normal activities
4. The pain is associated with 2 of the following:
 1. Anorexia
 2. Nausea
 3. Vomiting
 4. Headache
 5. Photophobia
 6. Pallor
5. No evidence of an inflammatory, anatomic, metabolic, or neoplastic process considered that explains the subject's symptoms

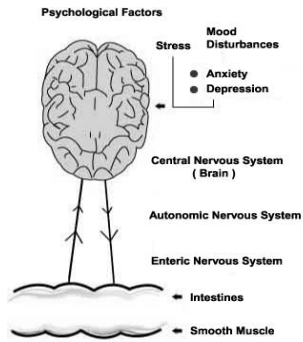
**Criteria fulfilled 2 or more times in the preceding 12 months.

FGID's

• "An FGID is the clinical product of the interaction of psychosocial factors and altered gut physiology via the brain-gut axis"

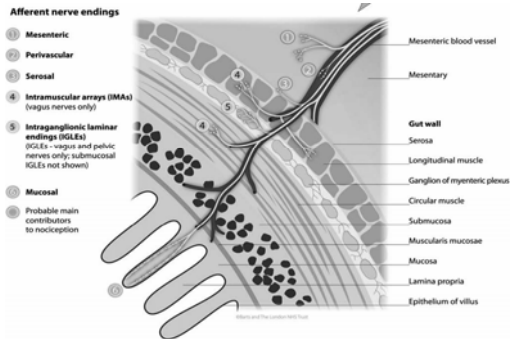
Drossman et al. 2006. ROME III The Functional Gastrointestinal Disorders 3rd ed.

GI nociception



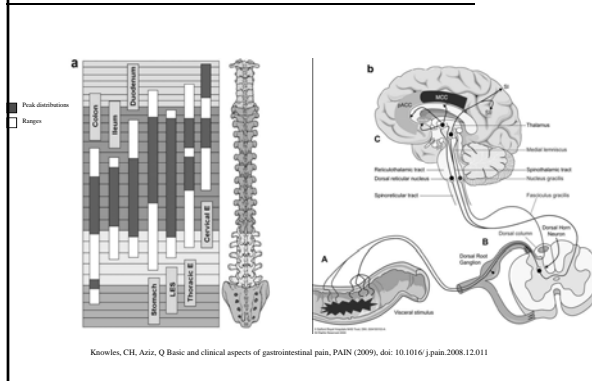
Knowles, CH, Aziz, Q Basic and clinical aspects of gastrointestinal pain, PAIN (2009), doi: 10.1016/j.pain.2008.12.011

GI nociception... Nerve endings in the gut wall



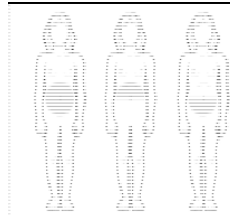
Knowles, CH, Aziz, Q Basic and clinical aspects of gastrointestinal pain, PAIN (2009), doi: 10.1016/j.pain.2008.12.011

GI nociception



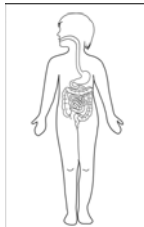
PARENT-REPORT FORM CHILDREN 4 YEARS OF AGE AND OLDER

- <http://www.romecriteria.org/pdfs/pediatricq.pdf>
- Section A: Pain & Uncomfortable Feelings In the Upper Abdomen Above the Belly Button
- 16 Questions
- Section B: Belly aches and Abdominal Pain Around & Below the Belly Button
- 16 questions
- Section C: Bowel Movements
- 11 Questions
- Section D: Other Symptoms
- 6 Questions



SELF-REPORT FORM FOR CHILDREN AND ADOLESCENTS (10 YEARS OF AGE AND OLDER)

- Section A: Pain and uncomfortable feelings in the upper abdomen above the belly button
- 16 questions
- Section B: Belly aches and abdominal pain around and below the belly button
- 16 questions
- Section C: Bowel movements
- 11 questions
- Section D: Other symptoms
- 6 questions



SCORING INSTRUCTIONS FOR PARENT-REPORT FORM AND CHILD/ADOLESCENT SELF-REPORT FORM

- The questionnaire uses a 5-point scales to measure frequency, severity, and duration of symptoms.
- The scoring is followed by a scoring system identifying provisional diagnoses based on the responses to each question.
- For each disorder, the patient must meet the criteria for all items indicated.
- Cut-points for symptom frequencies to meet diagnostic criteria are based on provisional recommendations by the Rome III Child and Adolescent Committee
- The questionnaire cannot substitute medical evaluation &/or clinical judgment.

The Road to Rome

- "The movement to define these disorders of unknown pathology represents a substantial change in thinking for doctors whose training concentrates on basic science and palpable evidence".
- "we must face the reality that no current scientific evidence explains these disorders, and develop alternate methods to identify them".

Thompson, WG. (2006). The Road to Rome. *Gastroenterology* 130:1552-1556. The American Gastroenterological Association Institute.

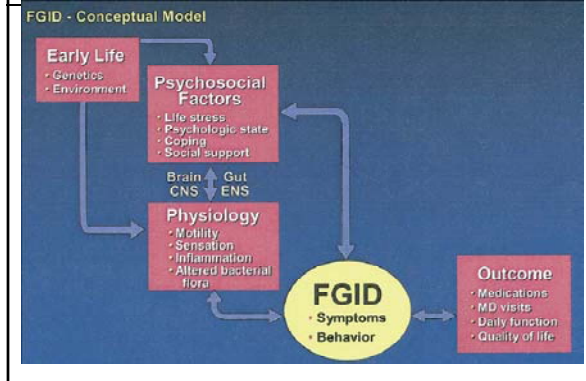
Differential Diagnoses

Acute	Chronic
<ul style="list-style-type: none"> • Infectious (gastroenteritis, appendicitis) • Obstruction • Inflammatory (rheumatologic, hereditary) • Other, non-specific (acute abdomen, hemolytic uremic syndrome) 	<ul style="list-style-type: none"> • Common (FAP, IBS, constipation) • Less common, but worth considering (reflux, gastritis, tumor) • Uncommon (heavy metal poisoning, abdominal migraine)

Change.....

- According to ROME III there have been 3 major changes in the last few decades that have impacted FGID's.
 - The first began 3 decades ago: moving away from conceptualizing illness and disease and toward a biopsychosocial model.

Rome III Conceptual Model



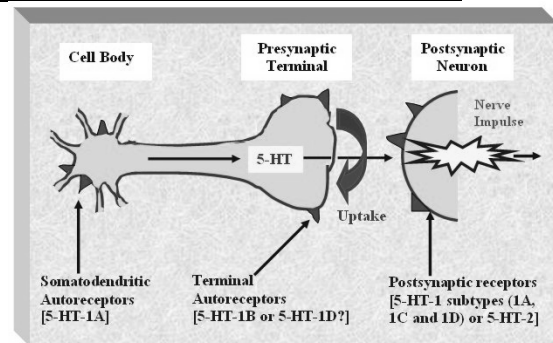
Change

- The second change has materialized over the last 2 decades:
 - Investigative methods to help the practitioner provide evidence for the FGIDs as brain-gut interactions.
 - motility assessment
 - barostat testing for visceral hypersensitivity
 - PET & fMRI
 - standardized psychological instruments
 - molecular investigation of the brain & gut

Change

- The third change in the last decade: new medications for the treatment of dysmotility, & visceral hypersensitivity.
 - 5-HT agonists & antagonists

5-HT agonist/antagonist



F. Batool : Serotonin And Anxiety Disorders: A Review With Pharmacological And Clinical Perspectives. *The Internet Journal of Pharmacology*, 2008 Volume 5 Number 2

Work up

- GI specialist
- Labs
 - CBC, ERC, CRP, urinalysis & urine culture
 - Liver & Kidney profiles, Stool culture
- Imaging
 - Maybe a KUB & Ultrasound

"The fruitless pursuit of an anatomical cause renders functional disorders 'diagnoses of exclusion' Thompson (2006).

Physical Evaluation

- No autonomic arousal
- Abdominal surgical scars
- "closed-eyes sign"
- "stethoscope sign"

ALARMING Signs

- Weight loss
- Pain awakening the child at night
- Fevers
- Pain far from umbilicus
- Dysuria
- Guaiac-positive stools
- Anemia
- Elevated ESR
- Biliious emesis
- Change in bowel habits
 - Constipation, diarrhea, nocturnal bowel movements
- Child is less than 4 years old

Only 10% of children seem to have recognizable organic disease

Schacter, Berde, Yaster (2003) Pain in Infants, Children & Adolescents

Psychosocial Assessment

- What is patient's life history of illness?
- Why is the patient presenting now for medical care?
- Is there a history of traumatic life event?
- What is the patient's understanding of the illness?

Psychosocial Assessment

- What is the impact of the pain on activities and quality of life?
- Is there an associated psychiatric dx?
- What are the patient's psychosocial impairments and resources?
- What is the role of the family?

Sick Role

- The initial insult (Worry)
- Development/ Exacerbation of Psychological Problems (Depression)
- Acceptance of "Sick Role" (↓ or ⊙ social obligations)

Gatchel (1991)

Patient-Provider Relationship

- Empathy
- Education
- Illness Validation
- Reassurance
- Treatment Negotiation
- Establishment of reasonable limits in time and effort

Rome III

Treatment Toolbox

- Psychological Support
- Physical activity
- Return to school (everyday!)
- Pharmacological therapy
- Sleep Hygiene
- Diet
- Other interventions

Treatment Toolbox: Psychology

- Cognitive-Behavioral Therapy
- Psychotherapy
 - Relaxation techniques
 - Hypnotherapy
 - Biofeedback

Treatment Toolbox: Psychology

- Family involvement
- Parental support

Treatment Toolbox: Physical activity

- Exercise
 - at least 60 minutes almost 5 days a week
- Release endorphins and enkephalins
- Weight loss
- Build muscles
- Allows the patient to see they can be active
- Posture

Treatment Toolbox: School

- Everyday, All day!

Treatment Toolbox: Pharmacology

- 5-HT (serotonin) agonist/antagonist
- Antidepressants
- Anxiolytics
- Analgesics
- Anticonvulsants
- Others

Treatment Toolbox: Sleep Hygiene

- Regular sleep- wake cycle
- No lights/TV/Texting at bedtime
- Melatonin

Treatment Toolbox: Diet

- Triggers

Other Interventions

- Complementary therapies
 - Massage
 - Acupuncture
 - TENS
- Diagnostic Blocks

Giving Feedback to the Patient

"Are you saying/ deciding the pain is in my head?"
Comfort the patient; however, do not collude with their pathology

"I want my pain to go away completely."
Discuss with complete honesty and trust
Be realistic with the treatment goals

"I just want to know my diagnosis"
Admit that sometimes we just don't have the answers
Focus on coping and return of function

Take home lessons:

- Functional Abdominal pain is real
- Stop looking for a different "cause" unless something dramatically changes
- Pain may not go away completely
- Goal is to increase function:
 - School, fun activities, social interaction
- Use all the tools in the tool box
 - Psychology, physical exercise, medication
- Pain should not be the focus of the family
