Strategies for Cost Effective GI Referrals: Can We Create a Paradigm Shift?

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Objectives

Create a paradigm shift that:

A. Supports and enhances optimal care

B. Also reduces the cost of evaluations

Incorporates new insurance incentives

Reduce use of high cost specialists

Reduce costly tests
Develop tools for more efficient evals

What can/should be done in the office?

Guidelines for when to refer

Guidelines for helpful – and not so helpful - tests
New patient diagnoses in 2015

- Constipation: 25%
- Abd pain + constipation: 15%
- Abd pain: 10%
- GERD: 10%
- Poor growth/feeding problems: 10%
- Celiac disease: 10%

Where Should the Initial Focus Be? Is There Low Hanging Fruit?
GI Perspective:
Many referrals come with limited or no evaluation
As partners, can we develop an effective system to deal with these problems?
What format/content works best?
Consult/Referral Guidelines

1st attempt 7 years ago

9 general categories

Chronic abd pain  Chr non-bloody diarrhea
Bloody diarrhea  Rectal bleeding
GERD  Poor growth
Constipation  Encopresis
Vomiting
## CHILDREN’S GASTROENTEROLOGY, HEPATOLOGY, AND NUTRITION CONSULT AND REFERRAL GUIDELINES FOR COMMON GI PROBLEMS

<table>
<thead>
<tr>
<th>DIAGNOSIS/SYMPOTM</th>
<th>SUGGESTIONS FOR INITIAL WORK-UP</th>
<th>POSSIBLE PRE-REFERRAL THERAPY</th>
<th>CONSIDER REFERRAL WHEN</th>
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<tbody>
<tr>
<td><strong>CHRONIC ABDOMINAL PAIN</strong></td>
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<tr>
<td>ICD-9 code – 789.0</td>
<td>• Weight and height percentiles&lt;br&gt;• Urinanalysis&lt;br&gt;• CBC with dif ESR or CRP&lt;br&gt;• Stool Studies:&lt;br&gt;  – guaiac&lt;br&gt;  – consider EIA antigen for giardia&lt;br&gt;• Careful evaluation of stooling pattern&lt;br&gt;• Diary to look for possible triggers such as foods, activities or stressors</td>
<td>• Treatment of constipation, if present&lt;br&gt;• Acid suppression - H2 receptor&lt;br&gt;• Antagonist or proton pump&lt;br&gt;• Inhibitor&lt;br&gt;• Trial off lactose</td>
<td>If symptoms persist after improvement of stooling pattern, trial of a lactose-free diet and lack of response to acid suppression, referral should be made. The child may require endoscopy (EGD) and/or colonoscopy.</td>
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<td><strong>CHRONIC, NON-BLOODY DIARRHEA</strong></td>
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<td>ICD-9 code – 787.91</td>
<td>• Weight and height percentiles&lt;br&gt;• Stool studies:&lt;br&gt;  – guaiac&lt;br&gt;  – consider leukocytes&lt;br&gt;  – culture&lt;br&gt;  – EIA antigen for giardia&lt;br&gt;  – C. difficile toxin titer&lt;br&gt;  – Reducing substances, pH,&lt;br&gt;  – Sudan stain (spot test for fecal fat)&lt;br&gt;• CBC with differential, ESR or CRP&lt;br&gt;• Albumin&lt;br&gt;• Quantitative IgA and anti-tTG Antibody (screen for celiac)&lt;br&gt;• Consider sweat test&lt;br&gt;• Consider upper GI with small bowel follow through&lt;br&gt;• Consider laxative abuse, especially in adolescent females</td>
<td>• Treat any dietary abnormality (e.g. high fructose and/or low fat)&lt;br&gt;• Try increased fiber in diet&lt;br&gt;• Diary of dairy and other food intake in relation to symptoms</td>
<td>If Symptoms persist, referral should be made. The child may require EGD and/or colonoscopy.</td>
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<td><strong>BLOODY DIARRHEA (COLITIS)</strong></td>
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<tr>
<td>ICD-9 code – 556</td>
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<tr>
<td>Age: infancy</td>
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<td>• Stool studies:</td>
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<td></td>
<td>• guaiac</td>
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<tr>
<td></td>
<td>• culture</td>
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<td></td>
<td>• consider stool O and P</td>
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<td></td>
<td>• C. difficile toxin titer for child &gt; 3 months old</td>
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<td>• CBC with differential</td>
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<td>• PT and PTT</td>
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<td>• Albumin</td>
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<td>If evaluation is negative, food protein allergy is likely.</td>
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| **BLOODY DIARRHEA (COLITIS)** |                                 |                               |                                |
| ICD-9 code – 556          |                                 |                               |                                |
| Age: preschool to adolescence |                               |                               |                                |
|                           | • Stool studies:                 |                               |                                |
|                           |     • guaiac                     |                               | If symptoms persist, referral should be made. The child will require EGD and colonoscopy. |
|                           |     • culture                    |                               |                                |
|                           |     • and C. difficile toxin titer |                               |                                |
|                           | • CBC with differential          |                               |                                |
|                           | • PT and PTT                     |                               |                                |
|                           | • Albumin                        |                               |                                |
|                           | • Urinanalysis                   |                               |                                |

| **BLOOD IN STOOL/RECTAL BLEEDING** |                                 |                               |                                |
| ICD-9 code – 569.3          |                                 |                               |                                |
| Age: infancy              |                                 |                               |                                |
|                           | • Stool studies:                 | Anal/rectal tear is most likely cause. |                                |
|                           |     • guaiac                     |                               | If symptoms persist, referral should be made. |
|                           |     • culture                    |                               |                                |
|                           |     • C. difficile toxin titer for child > 3 months old |                               |                                |
|                           | • Assess stool frequency and consistency |                               |                                |
|                           | • CBC with differential          |                               |                                |
|                           | • PT and PTT                     |                               |                                |
### BLOOD IN STOOL/RECTAL BLEEDING

**ICD-9 code - 569.3**

**Age: preschool to adolescence**

- Stool studies:
  - guaiac
  - culture
  - C. difficile toxin titer
- Assess stool frequency and consistency
- CBC with differential
- PT and PTT

**Anal/rectal tear is most likely cause.**

If symptoms persist, referral should be made. Colonoscopy may be required.

### GASTROESOPHAGEAL REFLUX DISEASE (GERD)

**ICD-9 code - 530.11**

**Age: infancy to adolescence**

- Weight and height evaluation
- Stool guaiac
- CBC with differential
- Consider Upper GI series
- Refer to “Guidelines for Evaluation and Treatment of Gastroesophageal Reflux in Infants and Children” Journal of Pediatric Gastroenterology and Nutrition. (32)Suppl 2. 2001; S1-S31
- Also available at www.naspghan.org (under “Medical Professionals” - Position Papers)

**Acid suppression (H2 receptor antagonist or proton pump inhibitor).**

If symptoms persist, referral should be made. The child may require an EGD.

### POOR GROWTH (FAILURE TO THRIVE)

**ICD-9 code - 783.40**

**Age: infancy to adolescence**

- Caloric intake
- 3-day diet diary
- Trial of concentrated calories
- Stool Studies: Guaiac, pH, reducing substances, pH, Sudanstain
- Urinalysis
- CBC with differential
- Serum electrolytes
- BUN, creatinine
- Albumin
- Consider sweat test, quantiative IgA, anti-ITG antibody
- Can consider ESR or CRP in a child or adolescent

**Increase caloric content of diet.**

If breastfed infant, consider fortifying pumped breast milk or supplementation with formula.

If problems persist, referral should be made. The child may require an EGD and/or colonoscopy.
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| VOMITING WITH OR WITHOUT ABDOMINAL PAIN | - Use history and physical to evaluate for triggers, GERD, or neurologic causes  
- Weight and height percentiles  
- CBC with differential  
- Serum electrolytes  
- Amylase and lipase  
- Consider ESR or CRP  
- Urinalysis  
- Consider upper GI series to rule out anatomic abnormality | Consider trial of acid suppression (H2 receptor antagonist or proton pump Inhibitor) | If problems persist, referral should be made. The child may require an EGD. |
| CONSTIPATION | Refer to “Constipation in Infants and Children: Evaluation and Treatment” Journal of Pediatric Gastroenterology and Nutrition. 1999:29:612-26. Also available at www.naspghan.org (under “Medical Professionals” - Position Papers) | Treatment should include the AAP recommended 6 servings of fruits and vegetables each day, adequate fluid intake, daily vigorous physical activity and the use of a safe, (preferably non-absorbed) stool softener like lactulose or miralax. Successful treatment should continue to ensure that improvement persists. | If problems persist, referral should be made. |
| ENCOPRESIS | See above | Successful treatment usually involves 3 components: (1) treatment of constipation (see above), (2) a regular pattern of sitting on the toilet after each meal to invoke the gastro-colic reflex, and (3) psychological counseling. Successful treatment also usually takes months. | If problems persist, referral should be made. |
4 Categories

Problem: Diagnosis/Symptoms
Suggestions for Initial Evaluation
Possible Pre-Referral Therapy
When to Consider Referral
How Could This Be Used?

Re-look at my top 3 referral diagnoses

Constipation
Abdominal pain
GERD

Utilize initial evaluation/treatment based on NASPGHAN guidelines

www.NASPGHAN.org
## Constipation

**ICD-9 code** – 564.00  
**Age:** infancy to adolescence


Treatment should include the AAP recommended 6 servings of fruits and vegetables each day, adequate fluid intake, daily vigorous physical activity and the use of a safe, (preferably non-absorbed) stool softener like lactulose or miralax. Successful treatment should continue to ensure that improvement persists.

If problems persist, referral should be made.

## Encopresis

**ICD-9 code** – 787.6  
**Age:** preschool to adolescence

See above

Successful treatment usually involves 3 components: (1) treatment of constipation (see above), (2) a regular pattern of sitting on the toilet after each meal to invoke the gastro-colic reflex, and (3) psychological counseling. Successful treatment also usually takes months.

If problems persist, referral should be made.
Many referred patients have not had a trial of medication

Fewer have had trial of diet (fiber + water intake) and regular physical exercise

Utilize evidence-based recommendations from NASPGHAN JPGN. 2014
# Chronic Abdominal Pain

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| CHRONIC ABDOMINAL PAIN | • Weight and height percentiles  
• Urinalysis  
• CBC with dif ESR or CRP  
• Stool Studies:  
  • guaiac  
  • consider EIA antigen for giardia  
• Careful evaluation of stooling pattern  
• Diary to look for possible triggers such as foods, activities or stressors | • Treatment of constipation, if present  
• Acid suppression - H2 receptor  
• Antagonist or proton pump  
• Inhibitor  
• Trial off lactose | If symptoms persist after improvement of stooling pattern, trial of a lactose-free diet and lack of response to acid suppression, referral should be made. The child may require endoscopy (EGD) and/or colonoscopy. |
Abdominal Pain

Long differential
Only about 10-15% of patients have GI cause

Don’t forget constipation
Helpful questions include:
‘how long do you sit on the toilet to poop?’

JPGN: 2008;47:679–715
Abdominal Pain

Forget *H pylori*

Essentially no evidence to support causal relation between *H pylori* gastritis and abd symptoms in absence of ulcer disease

Cases of non-ulcer abd pain should not be investigated for *H pylori*

Evidence–based Guidelines for *H pylori*

*JPGN. 2011;53:230-43*
# Gastroesophageal Reflux Disease (GERD)

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- Weight and height evaluation
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- CBC with differential
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- Refer to “Guidelines for Evaluation and Treatment of Gastroesophageal Reflux in Infants and Children” Journal of Pediatric Gastroenterology and Nutrition. (32)Suppl 2. 2001; S1-S31
- Also available at www.naspghan.org (under “Medical Professionals” - Position Papers)

- Acid suppression (H2 receptor antagonist or proton pump inhibitor).

If symptoms persist, referral should be made. The child may require an EGD.
From a GI perspective, GERD in infants is 1 of most commonly over-treated problems.

For infants, 3 main presentations:
- Vomiting
- Irritability
- Feeding problems

*JPGN: 2009;49:498-547*
GERD – Vomiting

Always consider at least 5 causes:

anatomic
acidity reflux disease
immaturity of GI tract
CNS
food allergy

Would not treat with acid suppression if:

normal growth
absence of chronic lung disease
no hematochezia

JPGN: 2009;49:498-547
No evidence to support empiric use of acid suppression for Rx of irritable infants

Reflux disease is not a common cause of unexplained crying, irritability, or distress in otherwise healthy infants

**JPGN: 2009;49:498-547**
GERD - Irritability

Consider: milk protein allergy
neurologic disorders
constipation
infection

After excluding other causes, an empiric trial of hydrolyzed protein formula is reasonable in these selected cases

JPGN: 2009;49:498-547
GERD - Feeding Problems

Differential similar to that for irritable infant

In feeding refusal, diagnostic evaluation is 1st step

Trial of acid suppression comes later

Utilize an experienced feeding therapist

2 weeks of acid suppression often tried

JPGN: 2009;49:498-547
How to Reduce Costs for Lab Tests?
Frequently Ordered Labs Which Should Not Be Ordered

*H pylori* serology – never

*H pylori* stool antigen test – better test
  *but don’t screen in abd pain patients*

Routine Celiac screen:
  *quantitative IgA + IgA anti-tTG antibody*
  *Only add endomysial if autoimmune dis*

Do not need panel including any
  *IgG antibodies*
Frequently Ordered Labs Which Should Not Be Ordered

IBD: IBD serology panel

Non-fasting lipid panel

Food allergy testing in infants and toddlers
Frequently Ordered Labs Which Should Not Be Ordered

O and P for most cases of diarrhea

Use giardia EIA antigen

C. difficile in a child with no diarrhea

Viral studies in bloody diarrhea
Summary

Who would like to partner in paradigm shifting?

As partners, can we develop tools for more efficient/effective evaluations?

What format/content works best?