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- Shane has been complaining of abdominal pain for months. He's been in pain now for 3 weeks and hasn't been to school.
- His trips to A+E resulted in a diagnosis of constipation



- 13% of normal children have abdo pain
- 4% of all GP paediatric visits
- 8% of all children consult the GP for pain
- Lots of children have unnecessary investigations
- IBD presents late in childhood – mainly through lack of awareness

Should I take a urine sample

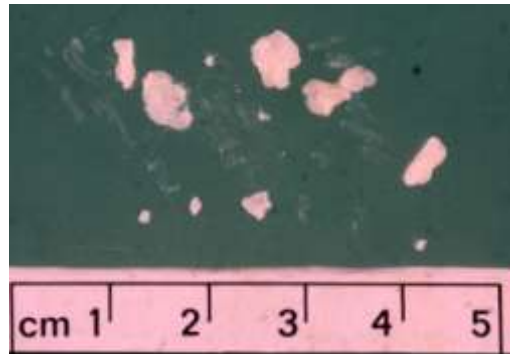
- Bottom line – NO!

JAMA[®]

Does This Child Have a Urinary Tract Infection?

Nader Shaikh; Natalia E. Morone; John Lopez; et al.

JAMA. 2007;298(24):2895-2904 (doi:10.1001/jama.298.24.2895)



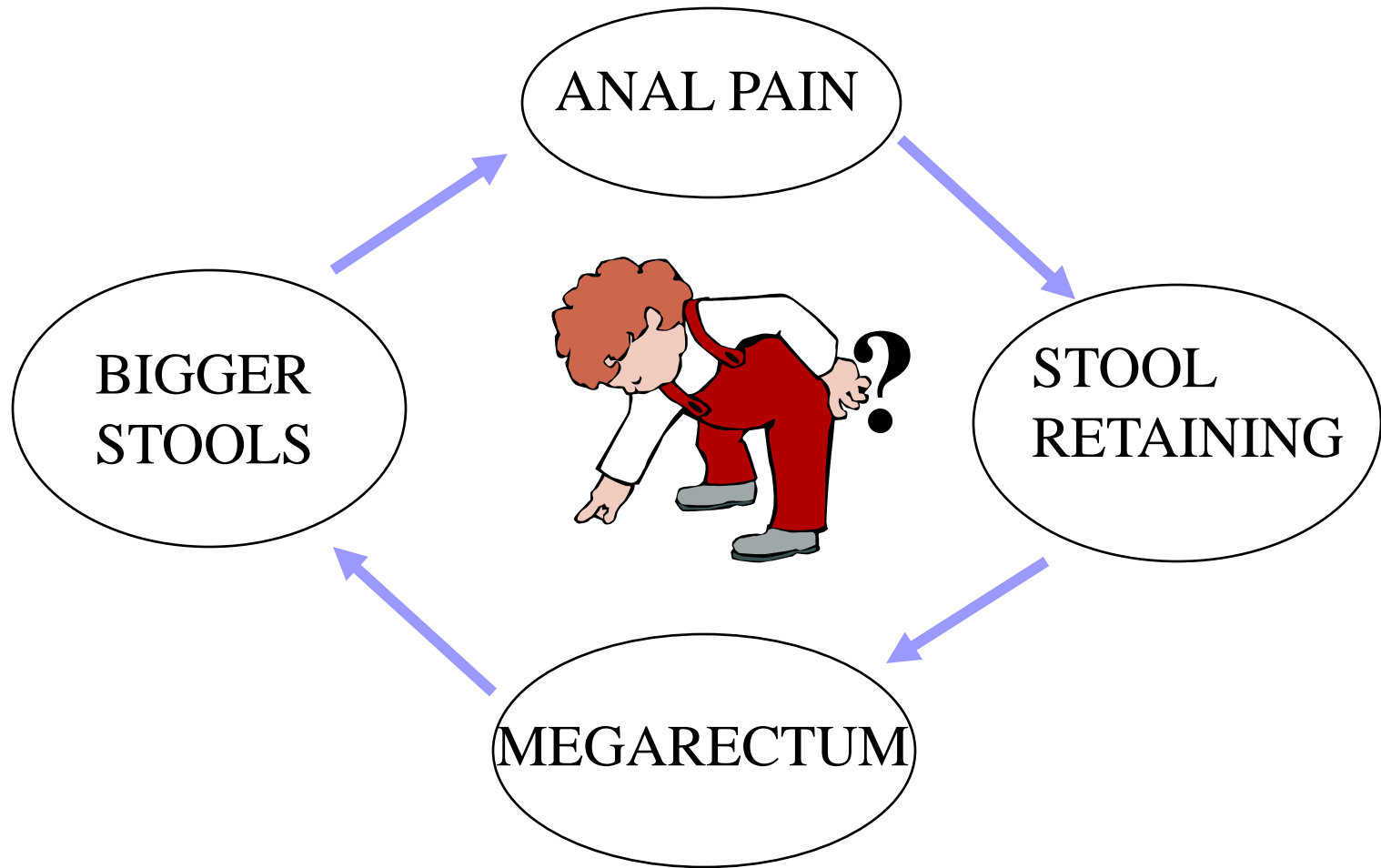
Should I consider constipation?



NO!

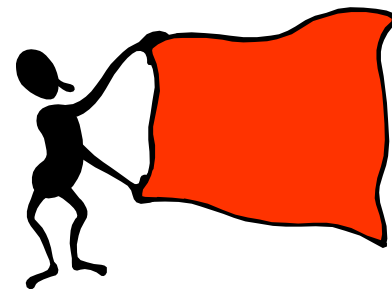
Constipation is painless
Children soil when they are impacted
Impaction is painless

We also know the constipation cycle

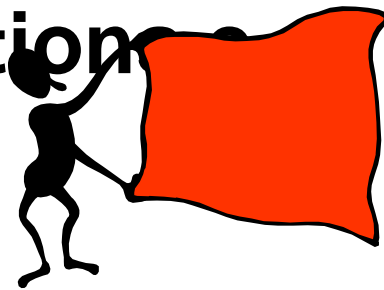


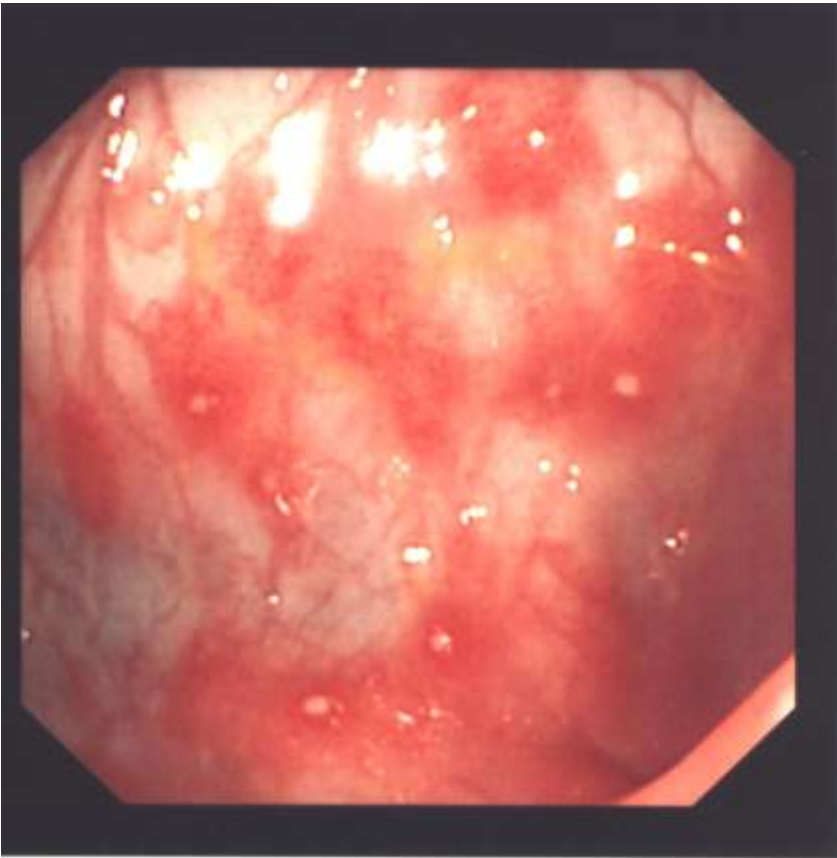
Red flags in history of RAP

- **Pain localised from umbilicus +/- radiation**
- **Changes in bowel habit**
- **Vomiting**
- **Awakens child at night????**
- **Dysuria**
- **Rectal bleeding**
- **Constitutional symptoms**
- **Age < 4, >15**
- **Relevant family history**

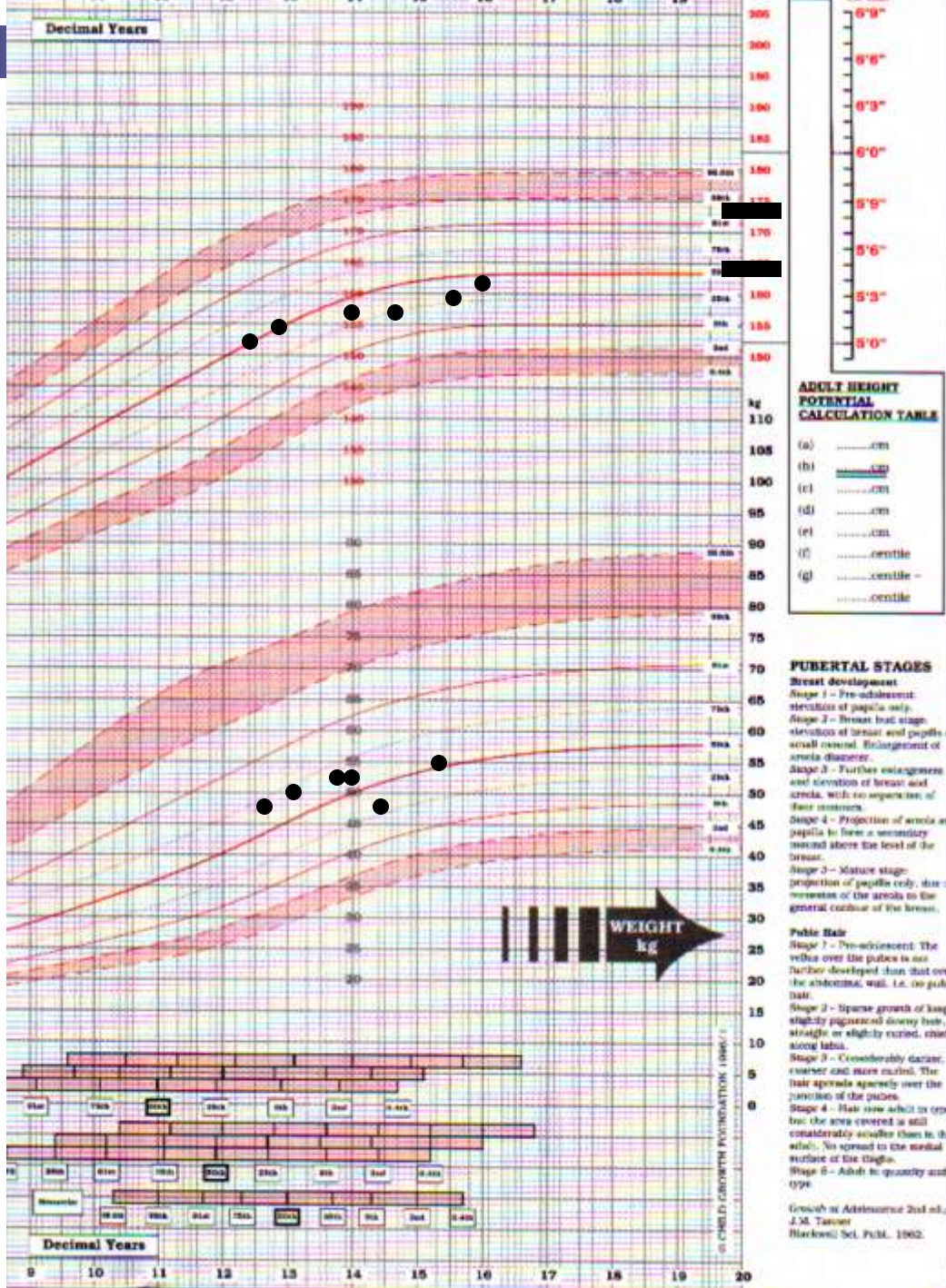


- **Documented weight loss**
- **Faltering height**
- **Pubertal delay**
- **Anal fissure & perianal fissure**
- **Organomegaly**
- **Extra intestinal manifestation**
joints, eyes.





Decimal Years



ADULT HEIGHT POTENTIAL CALCULATION TABLE

- (a)cm
- (b)cm
- (c)cm
- (d)cm
- (e)cm
- (f)centile
- (g)centile -
-centile

PUBERTAL STAGES

Breast development
 Stage 1 - Pre-adolescent: elevation of papilla only.
 Stage 2 - Breast bud stage: elevation of breast and papilla; small areola. Enlargement of areola diameter.
 Stage 3 - Further enlargement and elevation of breast and areola, with no separation of their contours.
 Stage 4 - Projection of areola and papilla to form a secondary mound above the level of the breast.
 Stage 5 - Mature stage: projection of papilla only; areola recesses to the general contour of the breast.

Pubic Hair
 Stage 1 - Pre-adolescent: The vellus over the pubes is no further developed than that over the abdominal wall, i.e. no pubic hair.
 Stage 2 - Sparse growth of long slightly pigmented downy hair, straight or slightly curved, chest along labia.
 Stage 3 - Considerably darker, coarser and more curled. The hair spreads sparsely over the junction of the pubes.
 Stage 4 - Hair now adult in type but the area covered is still considerably smaller than in the adult. No spread to the medial surface of the thigh.
 Stage 5 - Adult in quantity and type.

Growth in Adolescence 2nd ed., J.S. Tanner Blackwell Sci. Publ. 1962.





Helicobacter tests in paediatrics

- No role for them esp. for assessing abdominal pain.
- Only in combination with endoscopy
- Only the UBT has adequate accuracy
- Stool antigen – not predictive enough

Epidemiology series

Uses and abuses of screening tests



David A Grimes, Kenneth F Schulz

If no red flags, you probably have

Functional abdominal pain

TABLE 1. *Currently Used Definitions to Describe Childhood Abdominal Pain*

Recurrent abdominal pain as defined by Apley RAP	3 or more episodes of abdominal pain, over a period of 3 or more mo, severe enough to affect activities. A common abbreviation for recurrent abdominal pain that has been used in the literature to depict recurrent abdominal pain as defined by Apley. Many physicians incorrectly use this term to imply functional abdominal pain.
Chronic abdominal pain	Abdominal pain with a minimum duration of 3 mo. Some clinicians believe that pain that lasts more than 1–2 mo is chronic.
Rome II criteria for abdominal pain	Abdominal pain for at least 12 wk, which need not be consecutive, in the preceding 12 mo. These criteria apply to IBS, functional dyspepsia, and functional abdominal pain.
Functional abdominal pain	Abdominal pain that occurs in the absence of anatomic abnormality, inflammation, or tissue damage.
Nonorganic abdominal pain	A term that is often used interchangeably with functional abdominal pain.
Psychogenic abdominal pain	A term that is often used interchangeably with functional abdominal pain.

Journal of Pediatric Gastroenterology and Nutrition
40:249-261 © March 2005 Lippincott Williams & Wilkins, Philadelphia

Technical Report

Chronic Abdominal Pain In Children: A Technical Report of the American Academy of Pediatrics and the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition

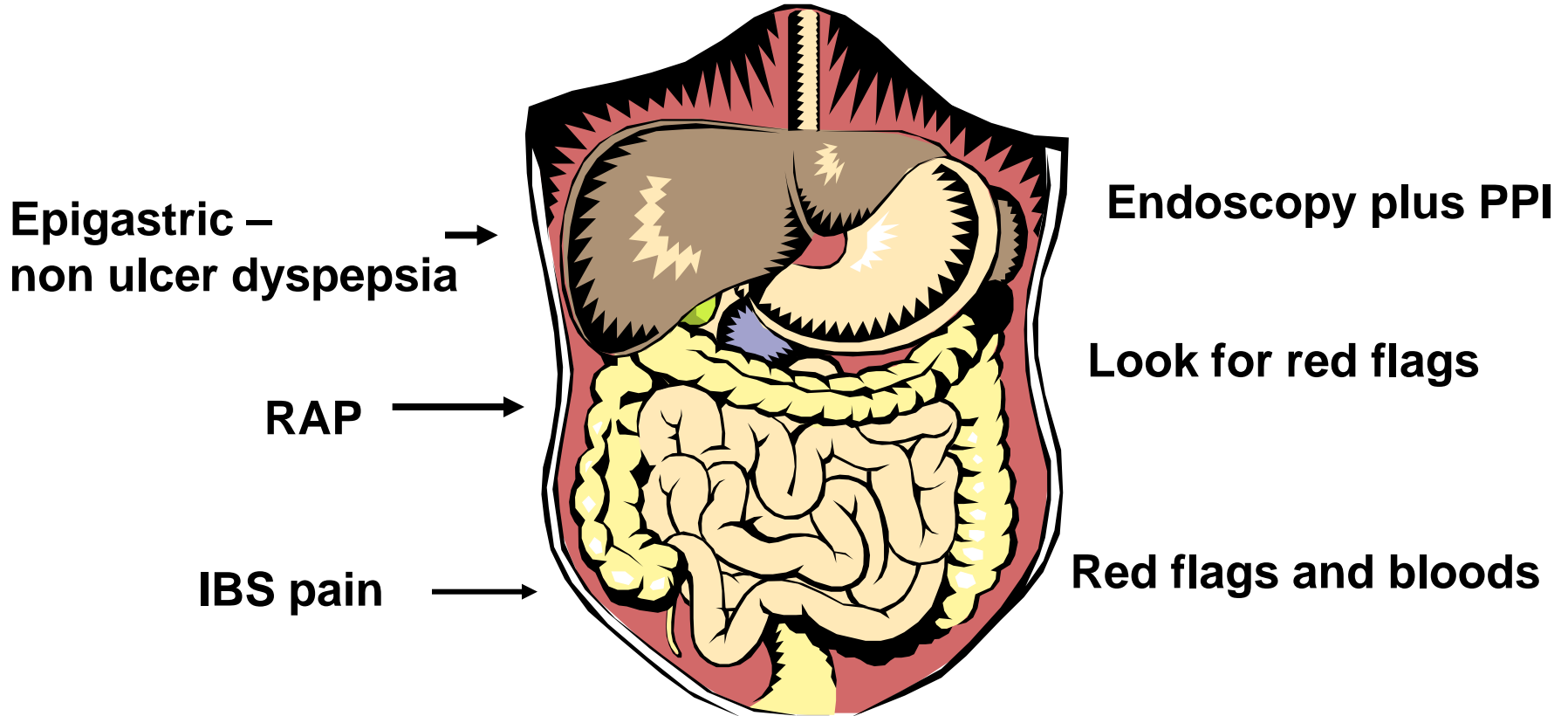
AAP Subcommittee and NASPGHAN Committee on Chronic Abdominal Pain



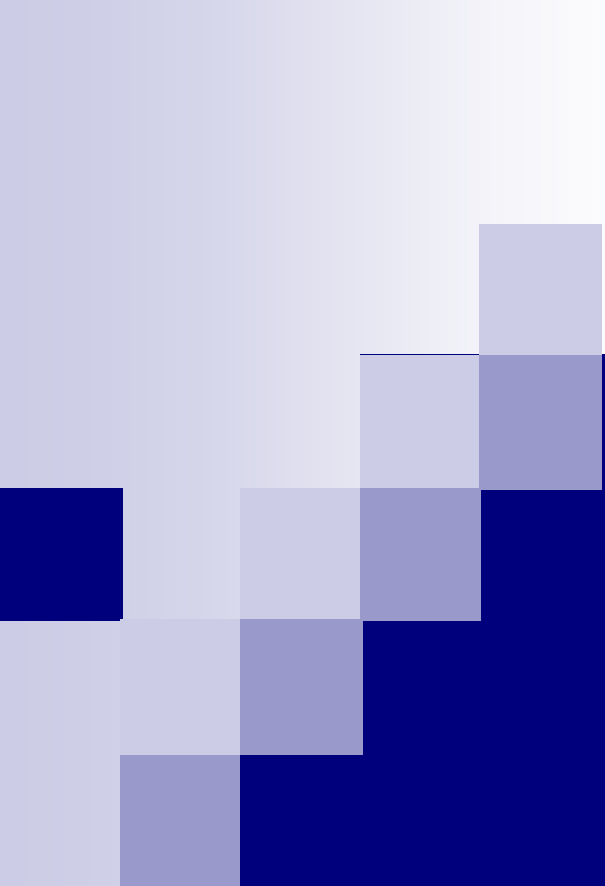
If you have functional abdo

- What do we know:
 - pain...
 - No evidence to predict value of blood tests
 - No evidence to support use of ultrasound
 - Little evidence to support use of endoscopy
 - Insufficient evidence to support pH monitoring
- Contribution of daily stressors
- These patients have more symptoms of anxiety and depression

Bottom line



- Taking the history from the mother
- Failing to look at the anus
- Not plotting or assessing growth and puberty
- Performing an ultrasound or taking a urine sample
- Blindly treating with anything you can lay your hands on!
- Treating constipation when the patient has pain!



Learning points - Persistent abdominal pain

No red flags – consider functional pain

Reassess – it will become apparent

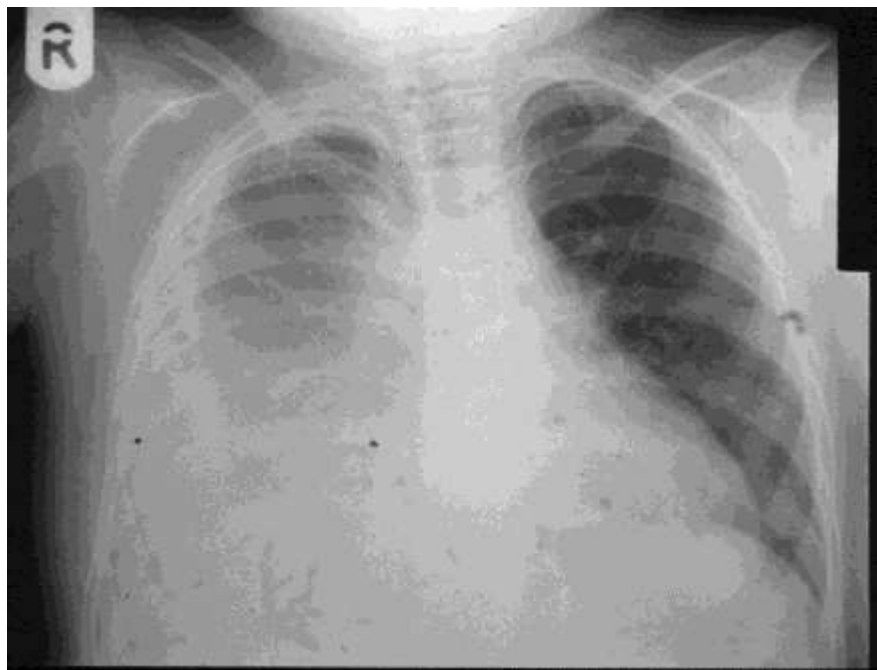
No medicines without a diagnosis

So who has appendicitis

- What are the most discriminating physical signs

So who has appendicitis

- What are the most discriminating physical signs
 - Fever
 - Rebound pain
 - Inability to walk
 - Nausea
 - Migration of pain







Learning points - appendicitis

No fever no appendicitis

Rebound and focal signs

Don't offer antibiotics – beware adolescent boys with “UTIs”

Rectal bleeding

- Not as serious as adults
- 4 main options:
 - Breast fed infant
 - Local cause
 - Juvenile polyp
 - Colitis



- IS this a normal variant?
- Is a little inflammation good for you?



Local causes

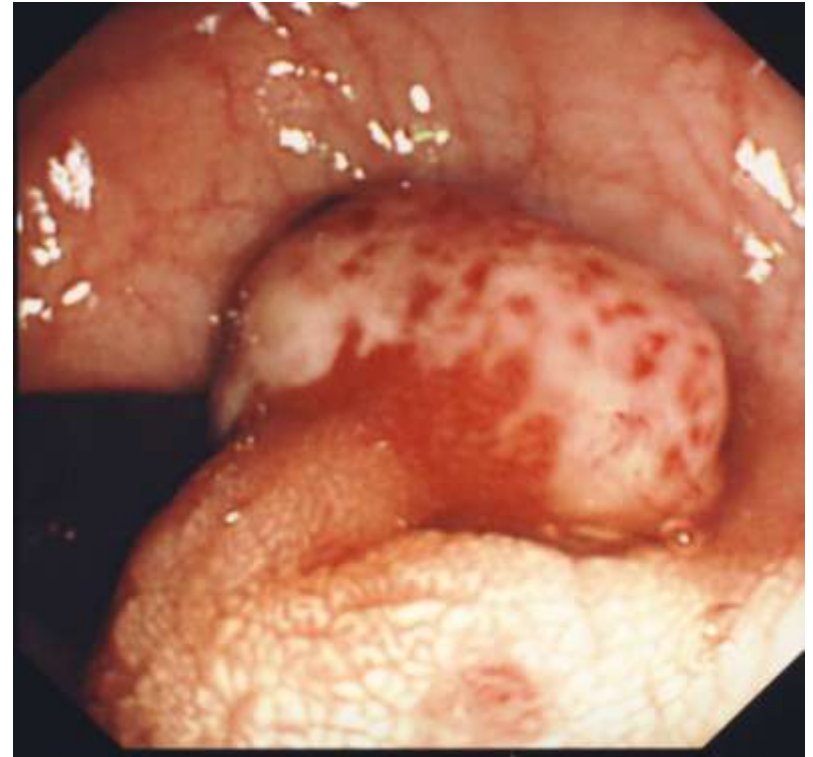


- Don't look – can't see
- Think of strep.....

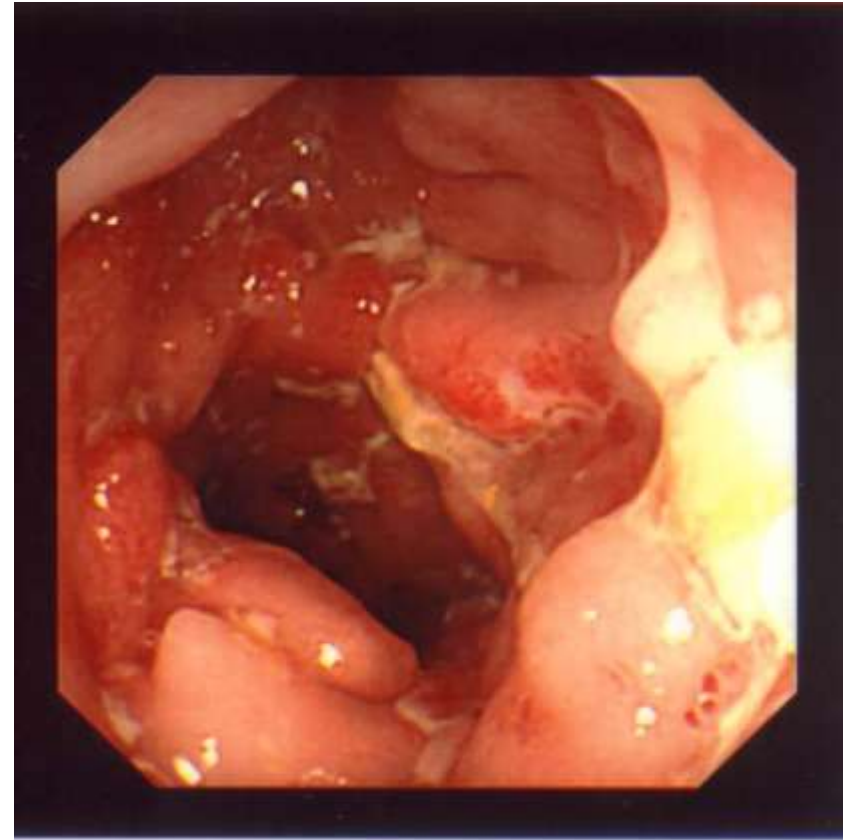
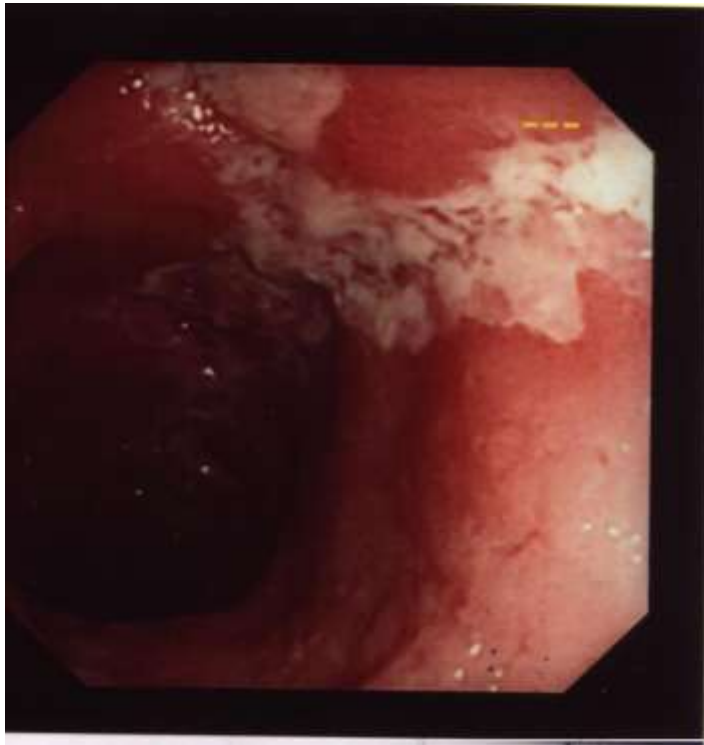


Juvenile hamartomatous polyps

- Persistent bleeding
- It's persistent

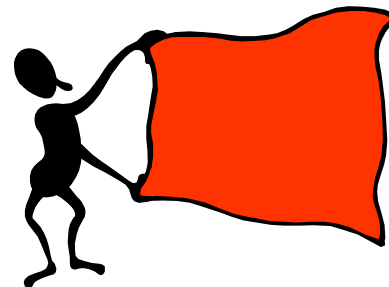


So what are the red flags for this?



Open questions

- Symptoms of proctitis
- Urgency
- Incomplete emptying
- Pain
- Pain at defecation is reassuring
- Nocturnal defecation is the top red flag
- Systemic symptoms
- Family history
- Mouth ulcers
- Don't rely on blood tests





Learning points – Rectal bleeding

No hurry

Think of the 4 causes

Proctitis or systemic symptoms refer urgent

Beware nocturnal defecation

There is no substitute for waiting then scoping

- As mother turns to the door she says, can you help my new 2month baby stop screaming – it's really hard to get rest.....

What is colic?



- Should she carry the child more?
 - One RCT (66 infants) – no difference
- Should she reduce stimulation
 - One RCT (42 infants)- beneficial effect
- Cranial osteopathy
 - No data
- Crib vibrator/ car ride stimulation/infant massage
 - One RCT – no difference


■ Simethicone (infacol) vs placebo

- 3 RCT's – no good evidence, and not likely to be new evidence forthcoming

■ Caesin hydrolysate

- Anecdotally, very effective for select cases

- But who will benefit? – those from atopic families
- RCT 122 infants, active diet (low allergic) had a beneficial effect on crying





IgE mediated immediate reaction

- Food allergy like urticaria or anaphylaxis
- Oral allergy syndrome

Non IgE mediated – delayed manifestation

- eczema
- Allergic colitis
- Infantile colic
- GORD
- Allergic dysmotility
- Enteropathy



Cows milk formulae

- Allergic
- Cheap
- tastes nice

Partially hydrolysed

- Soy not an option
- Questionable effectiveness

Whey hydrolysate

- Palatable but allergic
- e.g. Pepti

Caesin hydrolysate

- First line for food allergy
- e.g. nutramigen

Elemental

- Unpalatable
- Expensive
- First line if breast feeding
 - e.g. neocate
 - Nutramigen AA

Pediatric Gastroesophageal Reflux Clinical Practice Guidelines: Joint Recommendations of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN)

4.1. History and Physical Examination In infants and toddlers, there is no symptom or symptom complex that is diagnostic of GERD or predicts response to therapy. In older children and adolescents, as in adult patients, history and physical examination may be sufficient to diagnose GERD if the symptoms are typical.

No discriminating aspect to history

6.1.3. *Infants With Unexplained Crying and/or Distressed Behavior* Reflux is not a common cause of unexplained crying, irritability, or distressed behavior in otherwise healthy infants. Other causes include cow's milk protein allergy, neurologic disorders, constipation, and infection (especially of the urinary tract). Following exclusion of other causes, an empiric trial of extensively hydrolyzed protein formula or amino acid–based formula is reasonable in selected cases, although evidence from the literature in support of such a trial is limited. There is no evidence to support the empiric use of acid suppression for the treatment of irritable infants.

Screaming \neq reflux

(206,207). Studies support the use of extensively hydrolyzed or amino acid formula in formula-fed infants with bothersome regurgitation and vomiting for trials lasting up to 4 weeks (206–208). Cow's milk protein and other proteins pass into human breast milk in small quantities. Breast-fed infants with regurgitation and vomiting may therefore benefit from a trial of withdrawal of cow's milk and eggs from the maternal diet (209,210). The symptoms of infant reflux are almost never so severe that breast-feeding should be discontinued. There are no

There is a role for change in formula
Trial of withdrawal of cows milk from mothers diet

(336). A meta-analysis of 7 RCTs of metoclopramide in developmentally healthy children 1 month to 2 years of age with symptoms of GER found that metoclopramide reduced daily symptoms and the RI but was associated with significant side effects (215). Metoclopramide com-

recent systematic review of studies on domperidone (341) identified only 4 RCTs in children, none providing “robust evidence” for efficacy of domperidone in pediatric GERD. Domperidone occasionally causes extrapyramidal central nervous system side effects (342).

Evidence does not support use of domperidone

group (46). A large double-blind study of 162 infants randomized to 4 weeks of placebo or lansoprazole showed an identical 54% response rate in each group, using an endpoint of >50% reduction of measures of feeding-related symptoms (crying, irritability, arching) and other parameters of the I-GERQ questionnaire (9). Furthermore, this study showed a small but significant increase in the numbers of infants that experienced lower respiratory symptoms during the treatment trial.

Lack of evidence for PPI in infantile agitation

Red flags

TABLE 2. *Warning signals requiring investigation in infants with regurgitation or vomiting*

Bilious vomiting

Gastrointestinal bleeding

 Hematemesis

 Hematochezia

Consistently forceful vomiting

Onset of vomiting after 6 months of life

Failure to thrive

Diarrhea

Constipation

Fever

Lethargy

Hepatosplenomegaly

Bulging fontanelle


Macro/microcephaly

Seizures

Abdominal tenderness or distension

Documented or suspected genetic/metabolic syndrome

- Don't fall into the trap of treating reflux
- Ask for how many hours a day the child cries
- Realise that whatever you do, the infant will get better
- Ask for advice from colleagues that won't undermine you
- Consider change in formula first (SIAS)



Cows milk formulae

- Allergic
- Cheap
- tastes nice

Partially hydrolysed

- Soy not an option
- Questionable effectiveness

Whey hydrolysate

- Palatable but allergic
- e.g. Pepti

Caesin hydrolysate

- First line for food allergy
- e.g. nutramigen

Elemental

- Unpalatable
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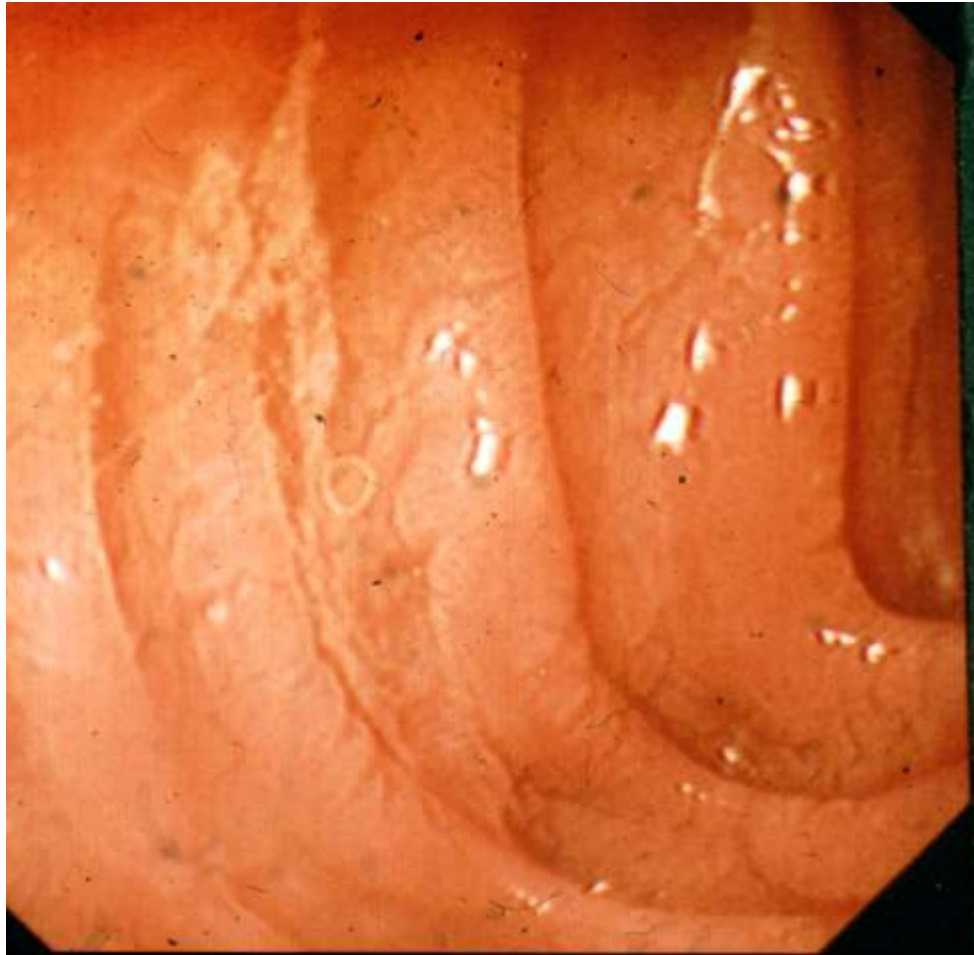
- Too hot to handle
- Reassurance won't work
 - Realise that most will be better by the time they are seen anyway
- Strong family history of atopy

Learning points in GOR and infantile colic

Treating reflux when there is little evidence to support the use of anti reflux therapy in infantile colic

Realise that infantile colic is not the same as feed phobia





Prevalence

- 0.5-1% in European ancestry
- Most undiagnosed

ORIGINAL ARTICLE

The changing clinical presentation of coeliac disease

M Ravikumara, D P Tuthill, H R Jenkins



Arch Dis Child 2006;**91**:969–971. doi: 10.1136/adc.2006.094045

- Median age has risen
- Gastro intestinal manifestations as presenting symptoms decreased
- 1:4 children identified at targeted screening

TABLE 4. *Mode of presentation in 1010 children with CD at the Hospital Infantil Universitario La Paz, Madrid (Spain)*

Retarded growth	90	Bleeding	23
Anemia	79	Edema	20
Constipation	72	Aphthous stomatitis	8
Abdominal pain	57	Epilepsy	6
Abdominal distension	46	Ataxia	4
Muscular hypotony	25		

Classic presentation (eg, chronic diarrhea, abdominal distension, failure to thrive, anorexia): 580 cases (57.4%).

Atypical presentation: 430 cases (42.6 %).

Issue date: May 2009

Coeliac disease

Recognition and assessment of coeliac disease

NICE clinical guideline 86
Developed by the Centre for Clinical Practice at NICE

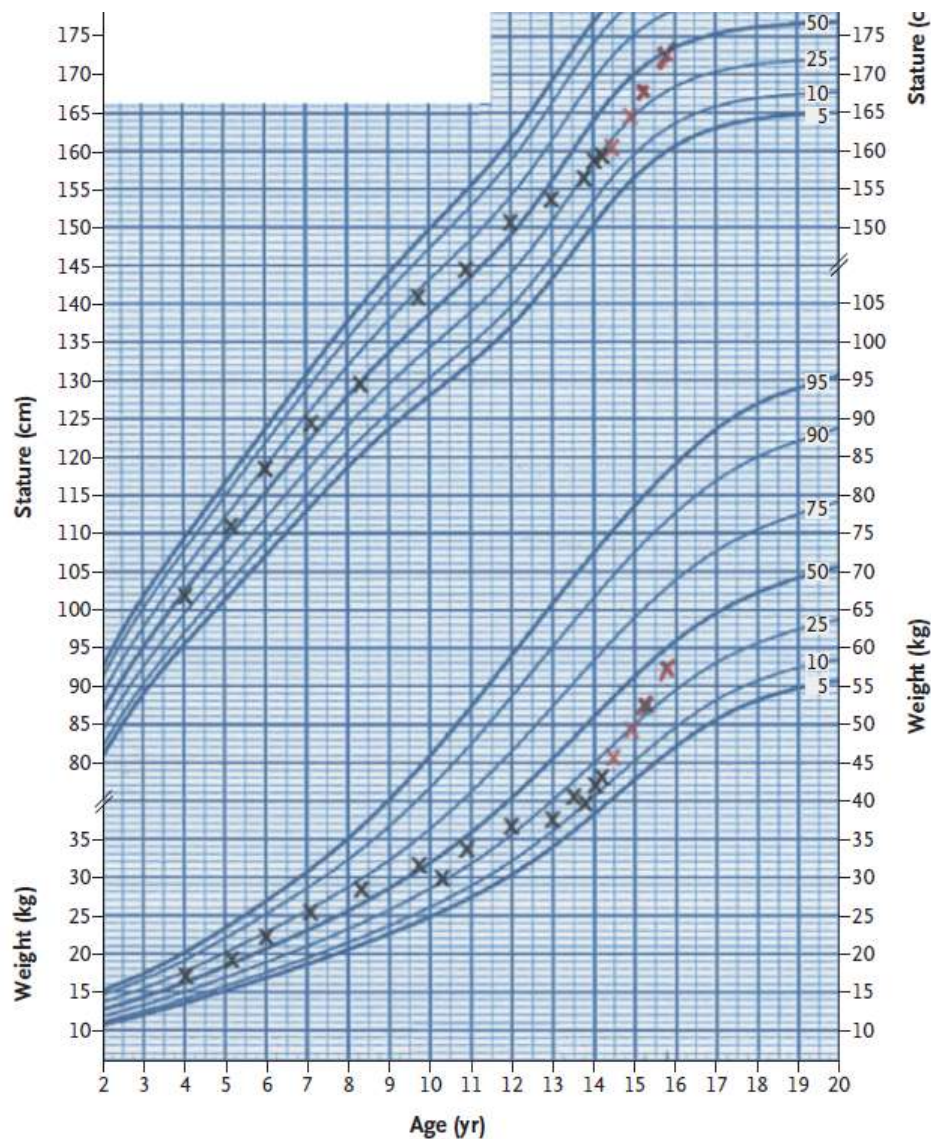
Box A. Offer serological testing to children and adults with any of the following signs, symptoms and conditions

Signs and symptoms

- Chronic or intermittent diarrhoea
- Failure to thrive or faltering growth (in children)
- Persistent or unexplained gastrointestinal symptoms including nausea and vomiting
- Prolonged fatigue ('tired all the time')
- Recurrent abdominal pain, cramping or distension
- Sudden or unexpected weight loss
- Unexplained iron-deficiency anaemia, or other unspecified anaemia

Conditions

- Autoimmune thyroid disease
- Dermatitis herpetiformis
- Irritable bowel syndrome
- Type 1 diabetes
- First-degree relatives (parents, siblings or children) with coeliac disease

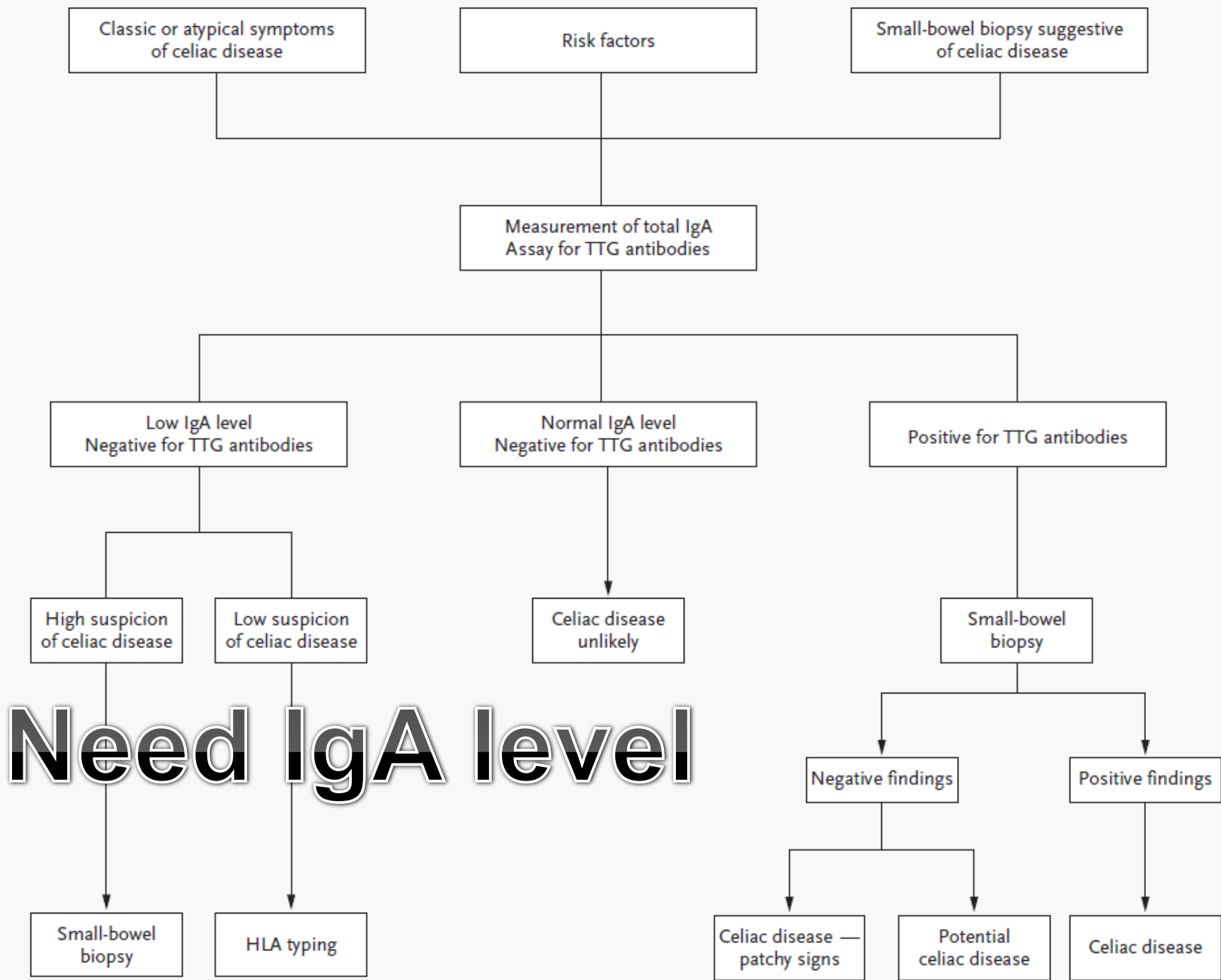


Testing

- Tissue transglutaminase – test of choice
- IgA deficiency and celiac co exist in 2-10% therefore mandatory to test for IgA deficiency.
 - If IgA deficient, test with tTG-IgG.
 - Anti gliadin assays no longer recommended – except the use of deaminated antigliadin assay

Test	Sensitivity	Specificity	PPV	NPD
AGA IgG	57–100	42–98	20–95	41–88
AGA IgA	53–100	65–100	28–100	65–100
AEA IgA	75–98	96–100	98–100	80–95
Guinea pig tTG	90.2	95		
Human tTG	98.5	98		

NPD = negative predictive value; PPV = positive predictive value.



Box B. Consider offering serological testing to children and adults with any of the following

- Addison's disease
- amenorrhoea
- aphthous stomatitis (mouth ulcers)
- autoimmune liver conditions
- autoimmune myocarditis
- chronic thrombocytopenia purpura
- dental enamel defects
- depression or bipolar disorder
- Down's syndrome
- epilepsy
- low-trauma fracture
- lymphoma
- metabolic bone disease (such as rickets or osteomalacia)
- microscopic colitis
- persistent or unexplained constipation
- persistently raised liver enzymes with unknown cause
- polyneuropathy
- recurrent miscarriage
- reduced bone mineral density
- sarcoidosis
- Sjögren's syndrome
- Turner syndrome
- unexplained alopecia
- unexplained subfertility

Dietary considerations before serological testing

Inform people (and their parents or carers as appropriate) that:

- testing (serology and biopsy if required) is accurate only if they follow a gluten-containing diet
- when following a gluten-containing diet they should eat some gluten in more than one meal every day for at least 6 weeks before testing
- they should not start a gluten-free diet until diagnosis is confirmed by intestinal biopsy (even if a self-test or other serological test is positive)

Prevalence of Celiac Disease in Children With Type 1 Diabetes Mellitus Increased in the Mid-1990s: An 18-year Longitudinal Study Based on Anti-endomysial Antibodies

*Silvana Salardi, †Umberto Volta, *Stefano Zucchini, †Erica Fiorini, *Giulio Maltoni,
‡Bernardino Vaira, and *Alessandro Cicognani

In conclusion, our results suggest that the risk of CD in genetically predisposed diabetic children suddenly increased in the mid-1990s, perhaps because of changes in environmental factors such as food and virus infections.

Population screening

- Prevalence is greater than other diseases to which we screen.
- Failure to diagnose:
 - Anaemia, pubertal delay, poor growth, abnormal LFT's, neuro psychiatry, depression, epilepsy with calcification, perhaps other auto immune diseases.
 - ? Malignant risk and osteoporosis

Despite this – not in place

Compliance With Gluten-free Diet in Children With Coeliac Disease

*Oleg Jadrešin, *Zrinjka Mišak, *Sanja Kolaček, †Zdenko Sonicki, and *Vesna Žižić

TABLE 4. Symptoms and clinical signs according to compliance with gluten-free diet (GFD)

	Strict GFD (n = 42)	Semistrict GFD (n = 19)	Not on GFD (n = 10)
Occasional abdominal pain (%)	10 (23.8)	5 (26.3)	3 (30.0)
Diarrhoea (%)	6 (14.3)	2 (10.5)	1
Constipation (%)	4 (9.5)	0	0
Anorexia (%)	4 (9.5)	3 (15.8)	1
Arthralgia (%)	1	2 (10.5)	0
Fatigue (%)	2 (4.8)	5 (26.3)	1
Anaemia (%)	0	0	3 (30.0)
Recurrent aphtae (%)	5 (11.9)	3 (15.8)	1
Delayed puberty	0 (0/18)*	3 (3/7)*	1 (1/4)*

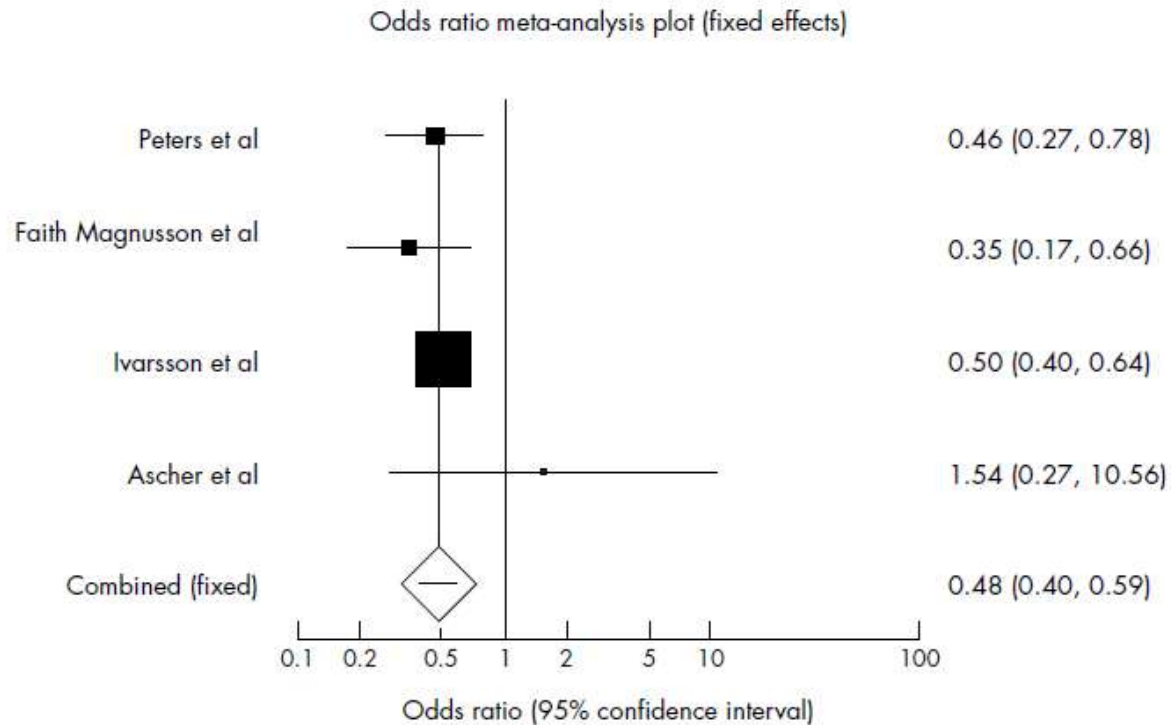
ORIGINAL ARTICLE

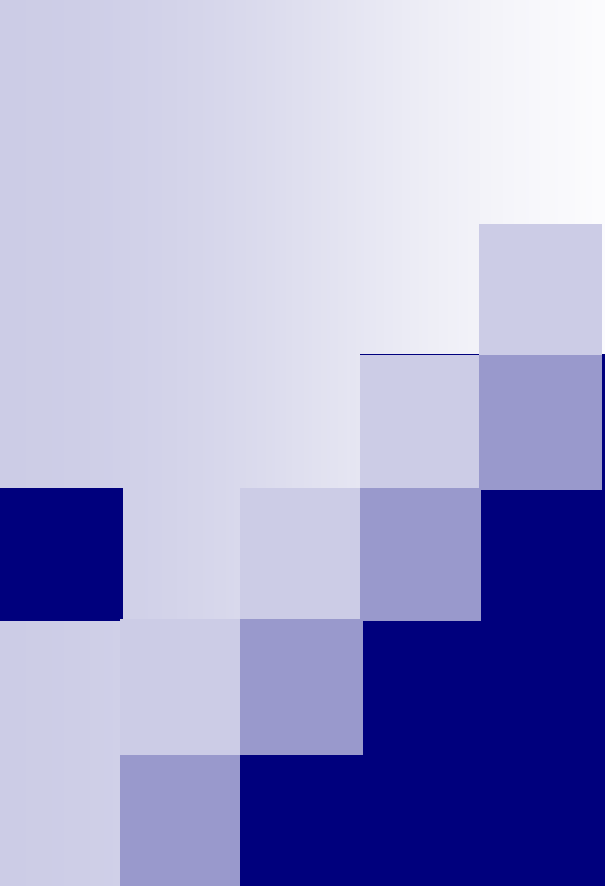
Effect of breast feeding on risk of coeliac disease: a systematic review and meta-analysis of observational studies

A K Akobeng, A V Ramanan, I Buchan, R F Heller



Arch Dis Child 2006;91:39-43. doi: 10.1136/adc.2005.082016





Learning points – coeliac disease

Most likely to present with insidious symptoms

Always measure the IgA level as well as TTG, AEM is out

Look for other autoimmune phenomena

Breast feed to decrease risk

Man's obsession with his bowels

“.... I am persuaded to believe...., that hardly anyone has a firm state of health, or can keep himself in good order unless his body be moderately open everyday by natural purging.....Nor does the method of living more require than the thicker and worse part of the food, which being too long retained sends up noxious, and in a manner of venomous steams, should be expelled from the body....

Harris W. 1742. *A treatise of the acute diseases of infant*. Royal College of Physicians, London

Patterns of constipation

- Stool retaining behaviour in younger children
- Soiling in older
- Everything else is pretty minor.....

infant

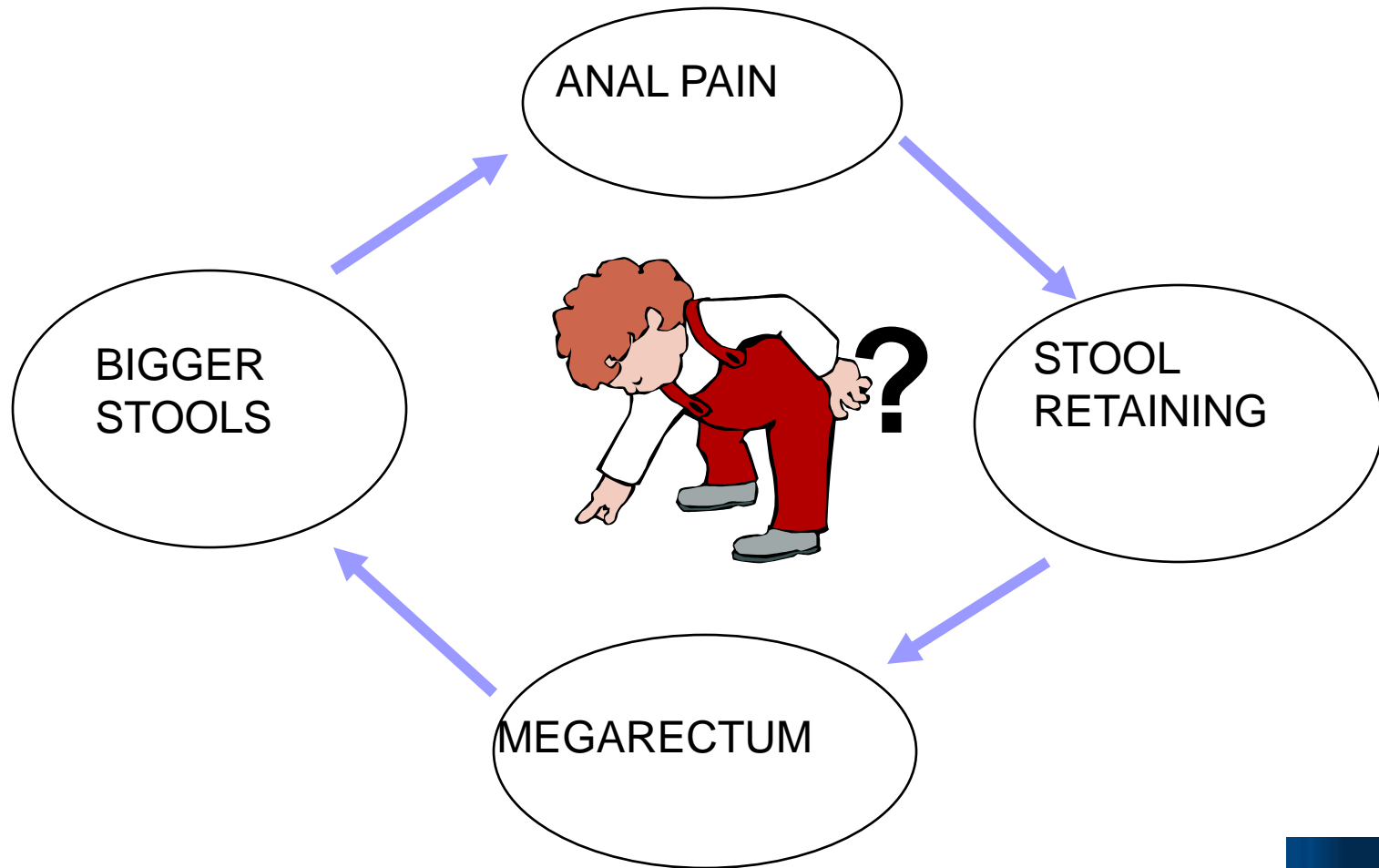
- Infrequent passing of stool
- Effect of milk

Toddler

- Delay in potty training
- **Stool retaining behaviour**

- Megarectum
- **Oblivious soiling**

The stool retaining cycle



Quick reference guide

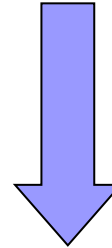
Issue date: May 2010

Constipation in children and young people

Diagnosis and management of idiopathic childhood constipation
in primary and secondary care

NICE clinical guideline 59
Developed by the National Collaborating Group for Women and Children's Health

Assess for impaction



Don't treat constipation
with maintenance therapy
until you have disimpacted

assessment

- Are they impacted
- Any red flags?

soften

- Lactulose
- Add senna if stool retaining behaviour

Next step

- Movicol paediatric
- Add in picosulphate

Impacted

- Then disimpact first

Red flags according to NICE

- Symptoms since birth
- Delay in meconium
- Locomotor delay
- Abdominal distension with vomiting
- Abnormal anus – position, fissures
- Distension
- Abnormal spine findings
- Talipes
- Absent reflexes

Myths in constipation

■ Value of Xrays

- Total and segmental colonic transit time with radio-opaque markers in adolescents with functional constipation. *Journal of Pediatric Gastroenterology & Nutrition*. 27(2):138-42, 1998

■ Plain abdominal Xray

■ Biofeedback

Hirschsprung's disease

- A retrospective review of 186 rectal biopsies from 141 children
- All of the 17 children with Hirschsprung's disease had the onset of symptoms before the age of 4 weeks.
- If the age at onset of constipation is after the neonatal period, a rectal biopsy is unnecessary.

Arch Dis Child 1998;**79**:266-268)

Illnesses associated with constipation

- Coeliac disease
- Intercurrent illnesses, poor fluid intake and immobility
- Cystic fibrosis
- Carcinoma of the colon
- Metabolic
 - thyroid
 - calcium, potassium

Milk intolerance

Indications for referral

- Where organic causes are suspected
- .Infants < 4 months as they have a higher probability of organic causes.
- Severe faecal loading which may be accompanied with anal dilatation. These children need paediatric referral for assessment.
- Where there are features of intestinal obstruction e.g. distension and vomiting.
- Those that require psychological support.



Learning points in constipation

- Stool retaining behaviour \neq constipation
- Disimpact before you try to achieve continence
- Don't have to poo everyday
- No one died of constipation



INTERVENTIONS

PREVENTION

☺☺ **Beneficial**

Rotavirus vaccines (reduce episodes of gastroenteritis caused by rotavirus) **New** 2

TREATMENTS

☺☺ **Beneficial**

Enteral (oral or gastric) rehydration solutions (as effective as intravenous fluids) 4

☺? **Likely to be beneficial**

Lactose-free feeds (may reduce duration of diarrhoea) 5

Ondansetron (reduces vomiting in children with acute gastroenteritis, but possible increased risk of diarrhoea)

New 6

☺↕ **Trade-off between benefits and harms**

Loperamide (reduces duration of diarrhoea, but possible increased risk of adverse effects) 6

To be covered in future updates

Food-based oral rehydration solutions

Probiotics (*Lactobacillus*) as an adjuvant to rehydration treatment

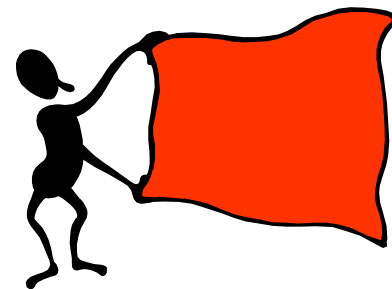
Issue date: April 2009

Diarrhoea and vomiting in children

Diarrhoea and vomiting caused by gastroenteritis: diagnosis, assessment and management in children younger than 5 years

NICE clinical guideline 84
Developed by the National Collaborating Centre for Women's and Children's Health

- children younger than 1 year, especially those younger than 6 months
- infants who were of low birth weight
- children who have passed six or more diarrhoeal stools in the past 24 hours
- children who have vomited three times or more in the past 24 hours
- children who have not been offered or have not been able to tolerate supplementary fluids before presentation
- infants who have stopped breastfeeding during the illness
- children with signs of malnutrition.



Assess dehydration (see table 1, page 8)

No clinical dehydration

Preventing dehydration

- Continue breastfeeding and other milk feeds.
- Encourage fluid intake.
- Discourage fruit juices and carbonated drinks (especially in children at increased risk of dehydration, see box 2, page 7).
- Offer low osmolarity ORS solution⁵ as supplemental fluid if at increased risk of dehydration.

Clinical dehydration (including hypernatraemic)

Oral rehydration therapy (ORT)

- Give 50 ml/kg low osmolarity ORS solution⁵ over 4 hours (ORS solution for maintenance, given in small amounts).
- Continue breastfeeding.
- Consider supplementing with usual fluids (including milk feeds or water, but not fruit juices or carbonated drinks) if a child without red flag symptoms or signs (see table 1, page 8) refuses to take sufficient quantities of ORS solution.
- Consider giving ORS solution via a nasogastric tube if a child is unable to drink it or vomits persistently.
- Monitor the response to ORT regularly.

Clinical shock suspected or confirmed


IVT for shock

- Give rapid intravenous infusion of 20 ml/kg 0.9% sodium chloride solution.
- If child remains shocked repeat infusion and consider other causes of shock.
- If child remains shocked after a second infusion, consider consulting a paediatric

Too complicated for primary care



Get the diagnosis right



Fast rehydrate for 4 hours only.
ORS only in those that are dry



Then feed again. Do not dilute
feeds



If fails repeat the process



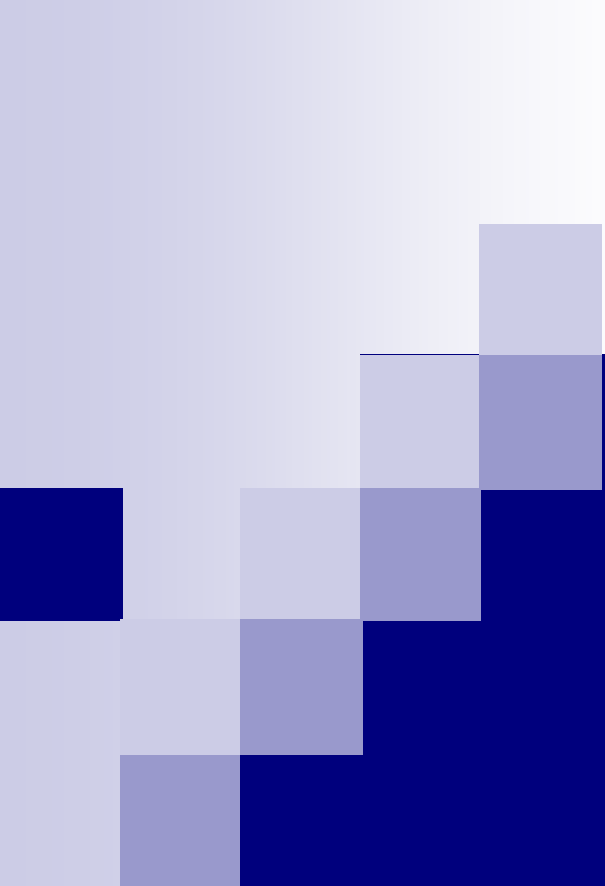
Learning points – acute diarrhoea

Determine deficit and replace in 4 hrs

Refeed at 4 hours

Continue to breast feed

Rotavirus vaccine works



Learning points - Persistent abdominal pain

No red flags – consider functional pain

Reassess – it will become apparent

No medicines without a diagnosis



Learning points - appendicitis

No fever no appendicitis

Rebound and focal signs

Don't offer antibiotics – beware adolescent boys with “UTIs”



Learning points – Rectal bleeding

No hurry

Think of the 4 causes

Proctitis or systemic symptoms refer urgent

Beware nocturnal defecation

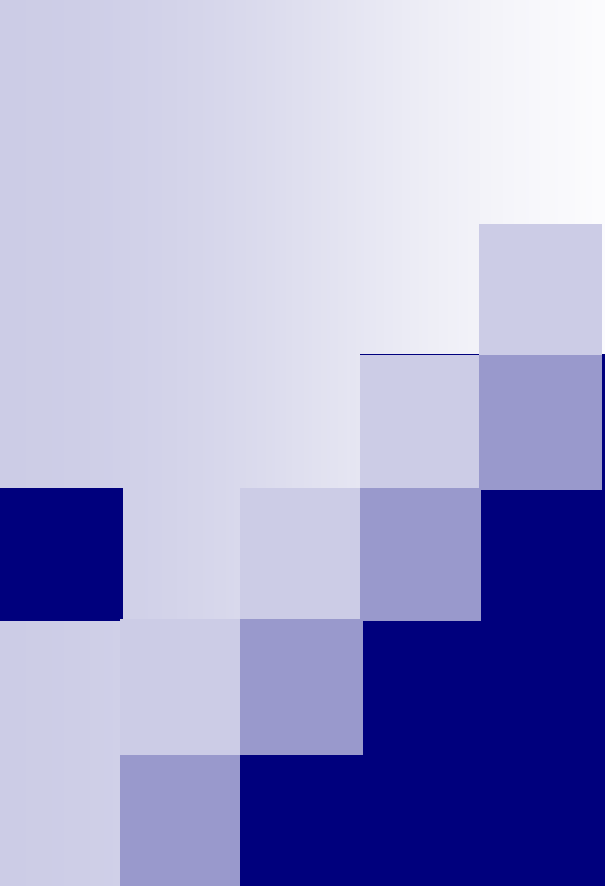
There is no substitute for waiting then scoping

Learning points in GOR and infantile colic

Treating reflux when there is little evidence to support the use of anti reflux therapy in infantile colic

Realise that infantile colic is not the same as feed phobia





Learning points – coeliac disease

Most likely to present with insidious symptoms

Always measure the IgA level as well as TTG, AEM is out

Look for other autoimmune phenomena

Breast feed to decrease risk



Learning points in constipation

- Stool retaining behaviour \neq constipation
- Disimpact before you try to achieve continence
- Don't have to poo everyday
- No one died of constipation



Learning points – acute diarrhoea

Determine deficit and replace in 4 hrs

Refeed at 4 hours

Continue to breast feed

Rotavirus vaccine works