

I think it's the milk
doctor...Reflux, colic,
constipation and diarrhea
in infants and children

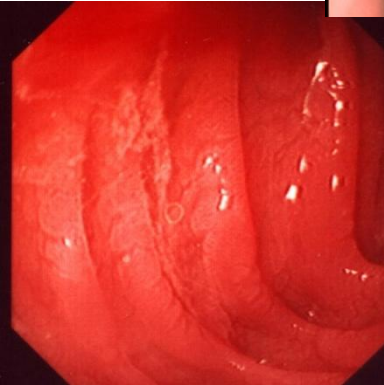
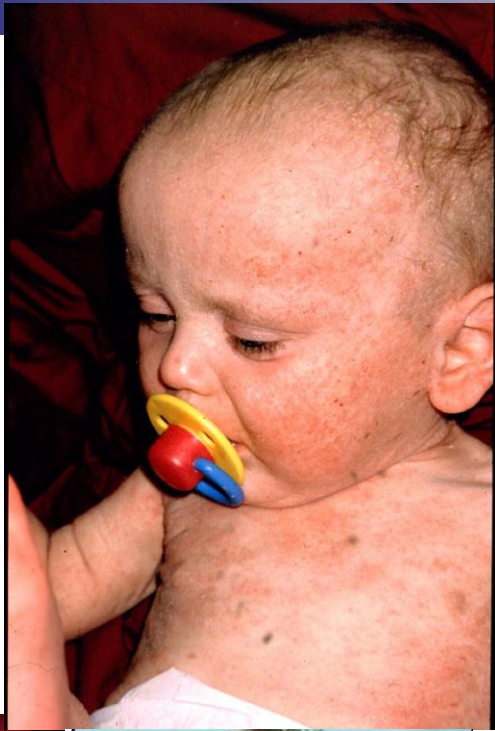
Dr Warren Hyer

Consultant Paediatrician

Consultant Paediatric Gastroenterologist

Educational objectives

- IgE versus non IgE GI disease
- Screamers
- “silent reflux” – is this an internet diagnosis
- PPI's
- Rectal bleeding
- Abdominal pain
- Eosinophilic disease



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Thank you for seeing this neonate who is screaming excessively.

She was born by planned LSCS because of delayed labour (Term + 12). In the immediate post natal period her mother tells me she needed mucous aspiration several times. Since discharge she has been very snuffly but has not responded to saline drops. She is on bottle milk and her parents have tried different milk, including lactose free milk, with no effect. On examination I can detect no abnormalities.

Her parents are clearly a little fraugh and I would appreciate your opinion on whether you feel there is anything which can be done to help.

She has an older sibling, a 19month old sister you have seen and diagnosed lactose intolerance.

Thank you for your help.

Page: 1 of 1 Words: 169 English (United States) 200%

■ What would you do for this child?


- Commence anti reflux therapy
- Start colief for lactose intolerance
- Change formula to a bitter hydrolysate feed and possibly make the feed difficulties worse
- Suggest start solids at the very earliest moment and keep going to then

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

Surely not all children who cry have reflux or colic?



The unsettled baby: how complexity science helps

Pamela Sylvia Douglas,¹ Peter Stewart Hill,²
Wendy Brodribb¹

diverse cultures. But unsettled behaviour may emerge if disruption of feedback loops exceeds the capacity of the mother–baby CAS to compensate, or adapt. For example, unidentified breastfeeding difficulty, including problems with attachment, positioning and suck–swallow–breath co-ordination, may interfere with self-organising neuro-hormonal and autocrine breastfeeding feedback loops, causing cry-fuss behaviours, failure to thrive, or both.^{36 39} The

months of life.^{10 42 48 52} Because of human evolutionary biology, babies sleep safest in same room as parents,^{51 69 70} and are more settled in the first few months of life if they are breastfed on demand and in close physical contact with the care giver.⁵³ Attunement contrasts with

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 ≠ 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 compared to placebo in a 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

PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Efficacy of Proton-Pump Inhibitors in Children With Gastroesophageal Reflux Disease: A Systematic Review


Rachel J. van der Pol, Marije J. Smits, Michiel P. van Wijk, Taher I. Omari, Merit M. Tabbers and Marc A. Benninga

Pediatrics 2011;127:925-935; originally published online Apr 4, 2011;

CONCLUSIONS: PPIs are not effective in reducing GERD symptoms in infants. Placebo-controlled trials in older children are lacking. Although PPIs seem to be well tolerated during short-term use, evidence supporting the safety of PPIs is lacking. *Pediatrics* 2011;127:925–935

Over-Prescription of Acid-Suppressing Medications in Infants: How It Came About, Why It's Wrong, and What to Do About It

Eric Hassall, MBChB, FRCPC, FACG¹



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CLINICAL REVIEW

Managing infants who cry excessively in the first few months of life

Gastro-oesophageal reflux disease

According to expert consensus, gastro-oesophageal reflux disease is not a cause of excessive crying in the first months of life.^{6 w4} Proton pump inhibitors increase the baby's risk of infection and possibly of food allergies.^{15 16 w6} These drugs are

CLINICAL REVIEW

Managing infants who cry excessively in the first few months of life

- Differential diagnosis cited in this paper:
 - Maternal reasons - expectations
 - Feeding problems
 - Functional lactose overload
 - Allergy
 - Infection

GER

CMA

DYSPHAGIA
HAEMATEMESIS
MELENA
RUMINATION
NAUSEA/BELCHING
ARCHING
BRADYCARDIA
HICCUPS
SANDIFER'S SYNDROME
ASPIRATION
LARINGITIS/STRIDOR
RESPIRATORY INFECTIONS
HOARSENESS

CRYING
IRRITABILITY
COLIC
PARENTAL ANXIETY
FEEDING REFUSAL
FAILURE TO THRIVE
VOMITING
REGURGITATION
SIDEROPENIC ANAEMIA
WHEEZING
APNEA/ALTE/SIDS
SLEEP DISTURBANCES

DIARRHEA
BLOODY STOOLS
RHINITIS
NASAL CONGESTION
ANAPHYLAXIS
CONSTIPATION
ECZEMA/DERMATITIS
ANGIOEDEMA
LIP SWELLING
URTICARIA/ITCHING

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

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 reflux

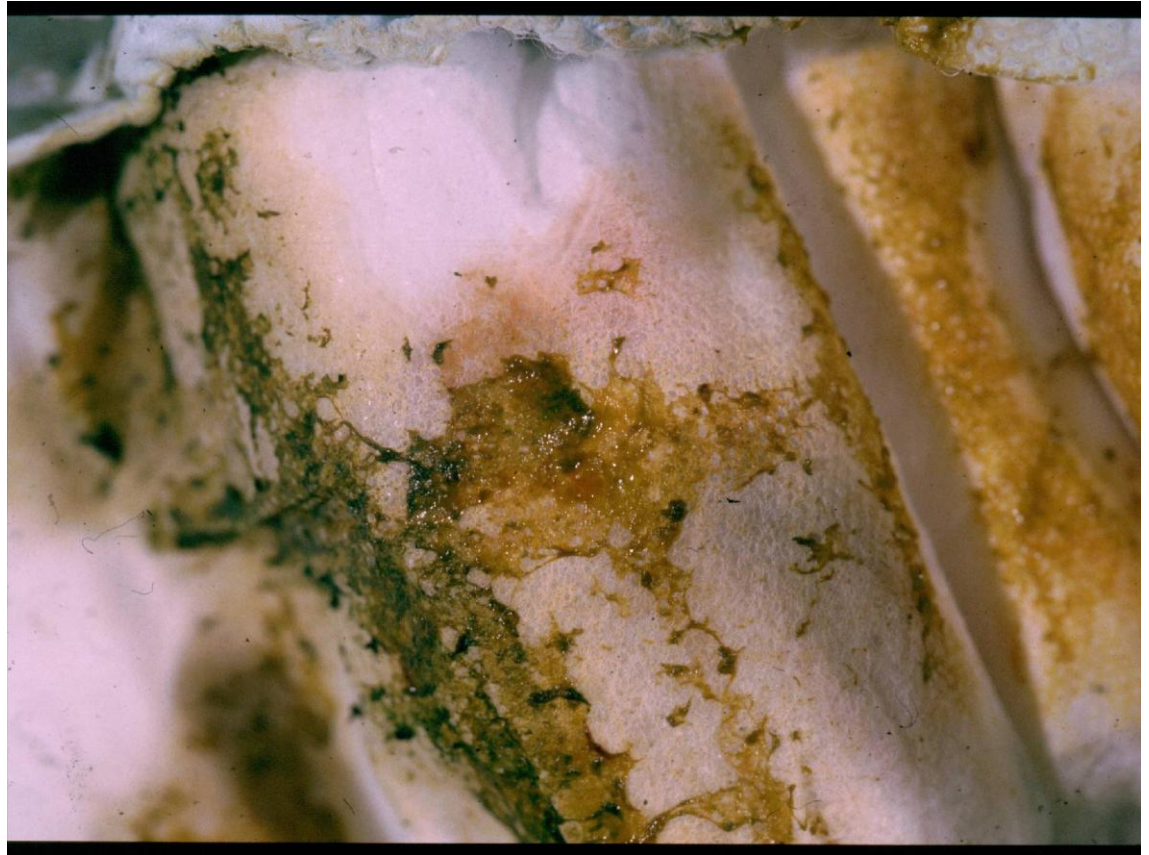


Breast feed induced
proctitis

Do I need to change
mothers diet?

What should I
remove?

What happens when
they get older



■ What would you do for this new born who is exclusively breast feeding?

- Advise mother to stop dairy in her diet
- Advise mother to stop breast feeding
- Give lactase drops to help break down the lactose
- Give neocate to the mother

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Diarrhoea – sugar or protein

- Don't use the word lactose intolerance
- There is 7g of lactose in breast and formula milk
- Mucous + blood = colitis



- Is this a normal variant?
- Is a little inflammation good for you?
- Not always dietary protein induced proctocolitis
 - May be infection....



Jack, age 5 describes abdominal pain with rice and wheat. He has eczema and mild asthma .Mother wants allergy testing

- Take blood for RAST testing
- Refer to hospital for skin testing
- Discourage any allergy testing
- Treat his constipation, assuming it's the cause of his pain

Inaccuracy of histories

“Unlike any other area in medicine, the history of adverse reaction to food is more often incorrect than it is correct”

Bock, 1998

Professor Paediatrics, Colorado

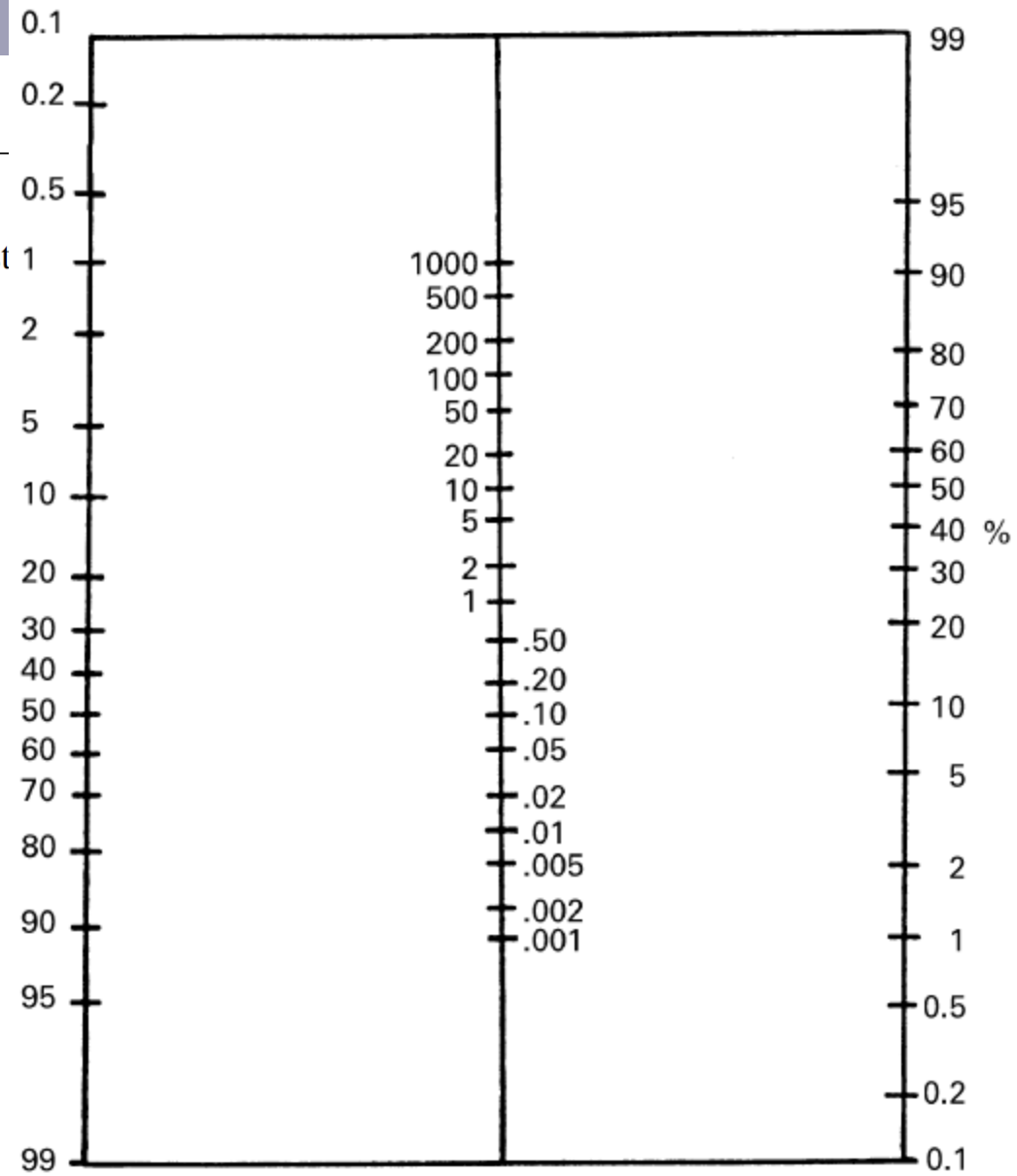
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graph TD; A[IgE-mediated allergy is suspected] --> B[Offer a skin prick test and/or blood tests for specific IgE antibodies to the suspected foods and likely co-allergens. Base choice of test on:]; B --> C[the clinical history and]; B --> D[the suitability for, safety for, and acceptability to the child (or their parent or carer) and]; B --> E[the available competencies of the healthcare professional.]; C --> F[Tests should only be undertaken by healthcare professionals with appropriate competencies.]; D --> G[Only undertake skin prick tests where there are facilities to deal with an anaphylactic reaction.]; E --> H[Interpret test results in the context of clinical history.]; F --> I[Do not use atopy patch testing or oral food challenges to diagnose IgE-mediated allergy in primary care or community settings.];
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IgE-mediated allergy is suspected

- Offer a skin prick test and/or blood tests for specific IgE antibodies to the suspected foods and likely co-allergens. Base choice of test on:
 - the clinical history **and**
 - the suitability for, safety for, and acceptability to the child (or their parent or carer) **and**
 - the available competencies of the healthcare professional.
- Tests should only be undertaken by healthcare professionals with appropriate competencies.
- Only undertake skin prick tests where there are facilities to deal with an anaphylactic reaction.
- Interpret test results in the context of clinical history.
- Do not use atopy patch testing or oral food challenges to diagnose IgE-mediated allergy in primary care or community settings.

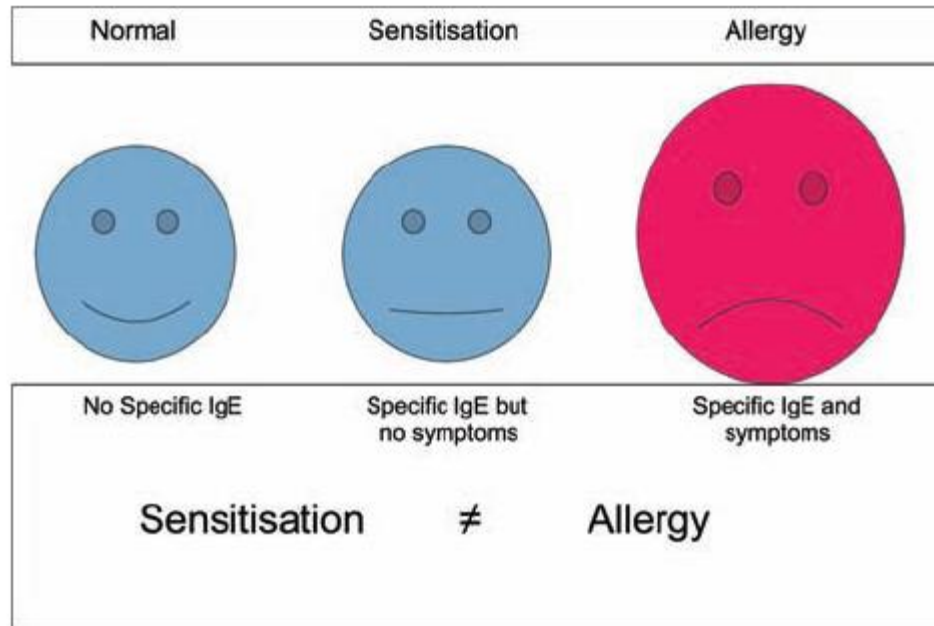
EDITORIAL

Food allergy—getting more out of your skin prick test



How to use serum-specific IgE measurements in diagnosing and monitoring food allergy

Gary Stiefel,¹ Graham Roberts¹⁻³



What should you do?

- Enteropathic build, +ve TTG
 - Refer for small bowel biopsy
 - Gluten free diet
 - Send to a paediatric gastroenterologist
 - Ask for AEN



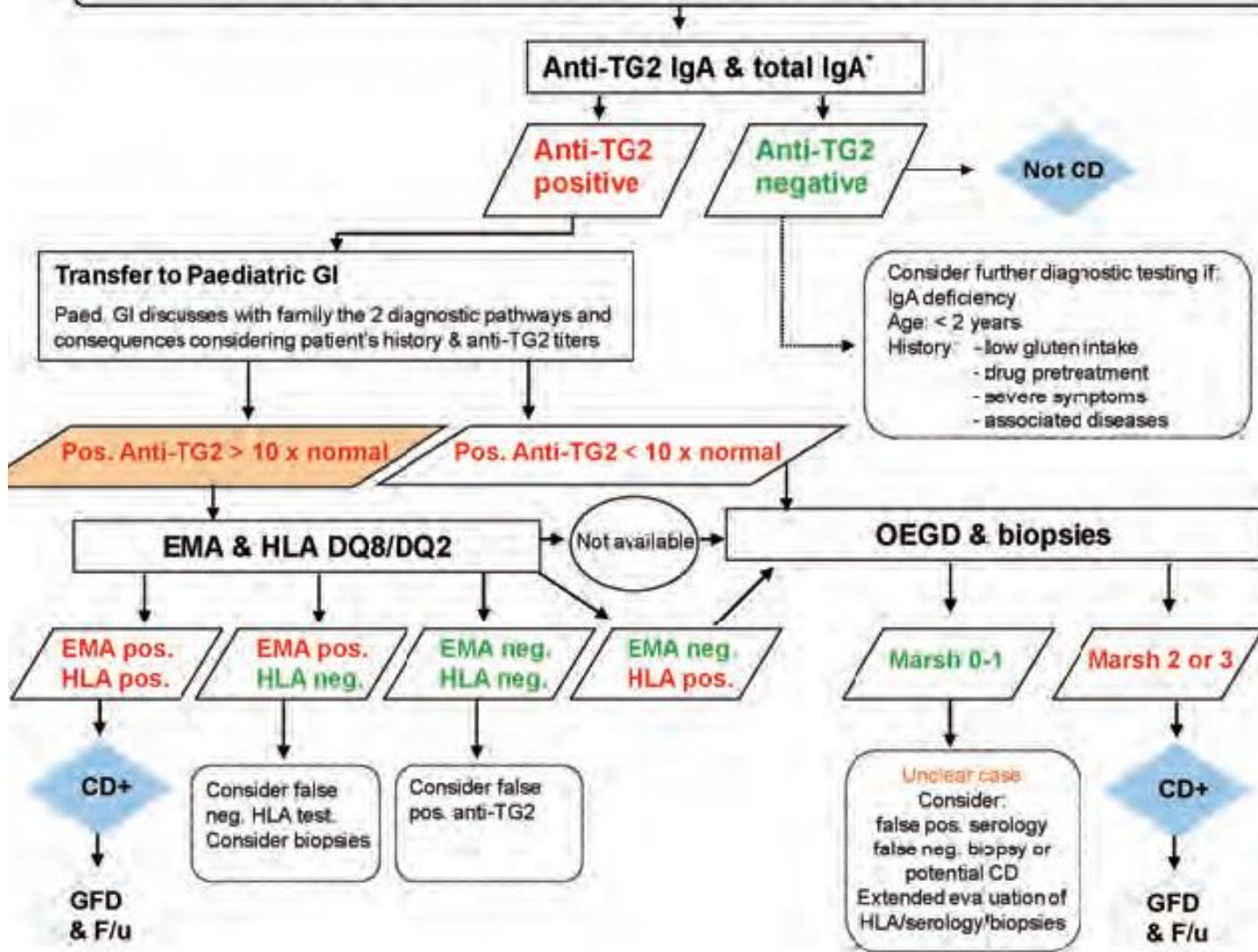
New guidelines for coeliac disease

CLINICAL GUIDELINE

European Society for Pediatric Gastroenterology, Hepatology, and Nutrition Guidelines for the Diagnosis of Coeliac Disease

**S. Husby, †S. Koletzko, ‡I.R. Korponay-Szabó, §M.L. Mearin, ||A. Phillips, ¶R. Shamir,
#R. Troncone, **K. Giersiepen, ††D. Branski, ‡‡C. Catassi, §§M. Lelgeman, ||||M. Mäki,
¶¶C. Ribes-Koninckx, ###A. Ventura, and ****K.P. Zimmer, for the ESPGHAN Working Group on
Coeliac Disease Diagnosis, on behalf of the ESPGHAN Gastroenterology Committee*

Child / Adolescent with Symptoms suggestive of CD



Dietary protein induced enteropathy

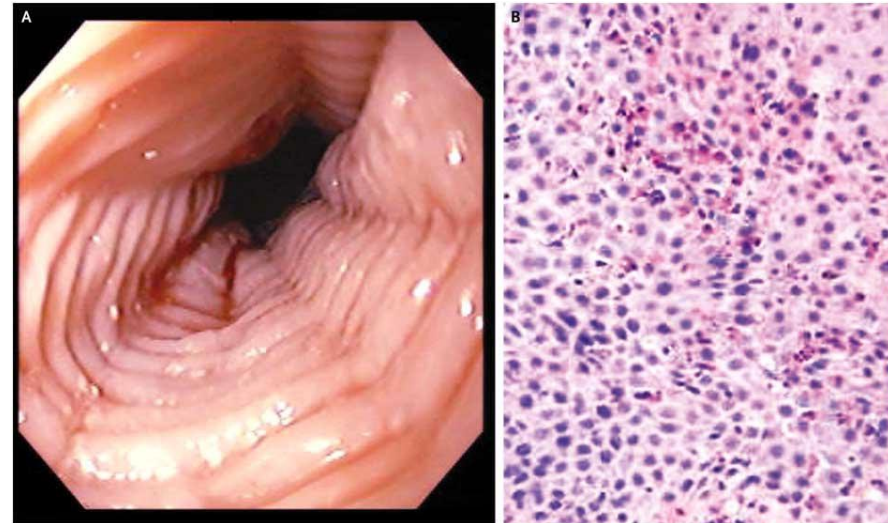
- Cows milk more likely than coeliac



Food sticking doctor

■ Therapeutic choices:

- PPI
- Dietary change
- Swallow budesonide respules
- Leave alone



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IgE mediated immediate reaction

- Food allergy like urticaria or anaphylaxis
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EE

Non IgE mediated – delayed manifestation

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

Eosinophilic GI disease

- Controversial treatment options
 - PPI
 - Asthma therapies
 - Dietary change
 - Elemental diet
 - How much is reflux
- How often to scope?
- Significance of eosinophils?
- Risk of strictures

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Learning points in GOR and infantile colic

A rethink about reflux, screaming and PPI
prescription



Learning points in infantile diarrhoea

Lactose intolerance is exceptional rare
Consider the role of cows milk protein
Do you need to withdraw cows milk

