

APPENDIX 1. Differential diagnosis of recurrent abdominal pain in children³⁷

The list of possible causes is long but the list of probable causes is shorter.

Probable causes of recurrent abdominal pain:

- Recurrent abdominal pain with no organic cause is the most likely.
- IBS.
- Abdominal migraine (underlying cause in about 4-15% of children)
- Periodic syndromes.
- Constipation.
- Mesenteric adenitis:
 - o Nonspecific inflammation of the mesenteric lymph nodes.
 - o Associated with a mild peritoneal reaction and painful peristalsis in the terminal ileum.
 - o Usually mild and self-limiting.
- Urinary tract infections.

Possible organic causes of recurrent abdominal pain include:

- Hydronephrosis.
- Urolithiasis.
- Pancreatitis.
- Meckel's diverticulum.
- Peptic ulcer disease.
- Henoch-Schönlein syndrome.
- Sickle cell disease.
- Bezoar (ball of swallowed foreign material that fails to pass through the intestines).
- Coeliac disease.
- Crohn's disease.
- Ulcerative colitis.
- Aerophagy (excessive swallowing of air).
- Liver and gallbladder disease.
- Splenomegaly.
- Familial Mediterranean fever.
- C1 esterase inhibitor deficiency.

Remember other non-abdominal causes:

- Referred pain:
 - o Pleura/pneumonia.
 - o Testes/ovaries.
- Metabolic:
 - o Diabetes and diabetic complications (including diabetic ketoacidosis).
 - o Porphyria.
 - o Lead poisoning.
 - o Infection:
- Tuberculosis.
 - o Rheumatic fever.
 - o Brucellosis.
 - o Typhoid.
- Neurological:
 - o Tumours.
 - o Encephalitis.
 - o Epilepsy.



Functional Abdominal Pain and Your Child

Long-lasting and/or frequent abdominal pain is common in children. In a small number of children, abdominal pain can be caused by certain disorders such as coeliac disease or inflammatory bowel disease, but in most cases, a specific cause can't be found. This is called functional abdominal pain (FAP). Although little is known about how FAP develops, experts believe that many factors can play a role, including a child's gastrointestinal motility (stomach contractions that move food along the intestines), a higher sensitivity to pain and exposure to stressful life events.

If your child has been diagnosed with FAP, it is important to know that he/she is not faking the pain and that it's not "all in his/her head." It's like having a headache, where you can experience pain without having any underlying medical condition, and in fact many children with FAP can also suffer from headaches.

Treatment

FAP is not serious and in most cases it gets better over time without treatment. Some children, however, may need extra help. Treatment is aimed at helping your child return to normal activities and reduce pain levels. It may take some time to achieve results, but attending school and participating in other activities should be a priority. It's important to build a good relationship with your child's doctor or nurse. This will allow them to explore stress in your child's life (stress can cause and worsen pain) and try various treatments.

Your response to your child's pain is important too. For example, if you show that you're worried about your child's pain, he/she may become more anxious and the pain may get worse. Instead, try to distract your child with other activities and provide rewards (e.g., stickers on a chart) when he/she makes an effort to maintain usual activities.

Treatments that provide some benefit for FAP include:

- Relaxation strategies: a child imagines a relaxing place, relaxes from head to foot, and then chooses a symbol that reminds them of this state of relaxation. When feeling stress or pain, the child can use the symbol to prompt their mind to focus on relaxing the body.
- Other relaxation techniques: progressive muscle relaxation and deep breathing exercises.
The following website provides tips on relaxation techniques:
<http://www.mayoclinic.com/health/relaxation-technique/SR00007>.
This website has excellent sections for children, adolescents and parents: www.kidshealth.com
Alternatively, your doctor may be able to give you a booklet or CD on relaxation techniques
- Peppermint oil may help reduce pain in children aged 8 and over, weighing 30kg or more, who have irritable bowel syndrome (loose bowel movements, alternating with hard bowel movements).
- Lactobacillus may reduce both how often children get their pain and how severe the pain is.
- Cognitive behavioural therapy: based on the theory that our thoughts, behaviours and feelings interact. This therapy aims to resolve symptoms by making changes to thoughts and behaviours, but this treatment is not routinely available on the NHS and private treatment is expensive.

Dietary changes — such as eliminating foods (e.g., lactose or gluten) or adding foods (e.g., fibre)—have little or no benefit in treating FAP.

Sources:

- 1) Chacko, M. Patient information: Chronic abdominal pain in children and adolescents (Beyond the Basics). <http://www.uptodate.com/contents/chronic-abdominal-pain-in-children-and-adolescents-beyond-the-basics>;
- 2) University of Michigan Health System. Your Child topics: Abdominal Pain. <http://www.med.umich.edu/yourchild/topics/abpain.htm>;
- 3) Scholl J, Allen PJ. A primary care approach to functional abdominal pain. *PediatrNurs* 2007; 33(3):247-249.
- 4) www.patient.co.uk

All websites accessed September 2013.