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Functional abdominal pain

information for parents, carers and relatives

Functional abdominal pain (FAP) is common in children or teenagers. The average prevalence is at least 13% (some studies suggest it affects 30% of school-aged children). **The word functional means that there is no physical blockage, infection, inflammation or disease causing the pain.**

What causes the pain?

We know the pain of FAP is real. It can be very upsetting for children and families. We know from studies that FAP is multifactorial, with the child's personality and family response to symptoms influencing severity and impact.

During development in the womb, the neural crest (the early brain) of an embryo has cells that migrate downwards, ultimately developing into what we recognise at the gut's nervous system. This huge network of nerves sends signals to the brain to say we are hungry, full or ill. Messages can go in both directions of the 'mind-gut axis'. Sometimes things outside the gut can affect these messages and they are misinterpreted by the brain. For example it is common not to feel hungry on the morning of an important test, to visit the toilet many times, or even vomit. (Runners call this 'Runners' diarrhoea). **The symptoms are real but they are not caused by a physical disease.** We have adrenaline receptors in our stomach. We know that perceived threat (such as exams, stress, or marathon nerves) can elevate adrenaline levels and this acts on the stomach, diverting blood away from the stomach - some people feel this as nausea, whilst others feel this as pain or as 'butterflies'. Adrenaline release can also affect gut movements (and result in diarrhoea).

What are the signs and symptoms of FAP

Children with FAP complain of recurrent tummy pain, usually around their belly button, which goes on for at least three months. They have no other signs of serious illness, such as fever, weight loss, persistent vomiting or blood in their poo. Your doctor is likely to consider this when the pain has been occurring for two months at least four episodes a month.

Is a dangerous condition being missed?

We know from studies that 90%-94% children presenting to GPs with recurrent abdominal pain have no underlying disease. The doctor who has seen you at RACH will have asked lots of questions about the tummy pain and other things such as bowel habits and general health. They may ask for a sample of urine or poo or sometimes arrange blood tests. In most cases, however, tests are not needed and your answers to the questions are more useful. For example, many parents worry about Gluten (Coeliac disease)- but actually it is a very rare cause of chronic abdominal pain in children. One study took blood from 227 children ≥5 years of age with recurrent abdominal pain, but only one child was found to have coeliac disease.

Surely if my child is in severe pain – then the disease must be severe?

Pain is a complex phenomenon. Studies in children have found that the severity of their pain is not always related to disease activity - we know this from children with Crohns disease (a form of inflammatory bowel condition) and patients with childhood arthritis. Blood markers (which act as a marker of how active the disease is) compare poorly against how much pain the child is feeling. This is because pain (and its interpretation in the brain) is dependent on so many factors.

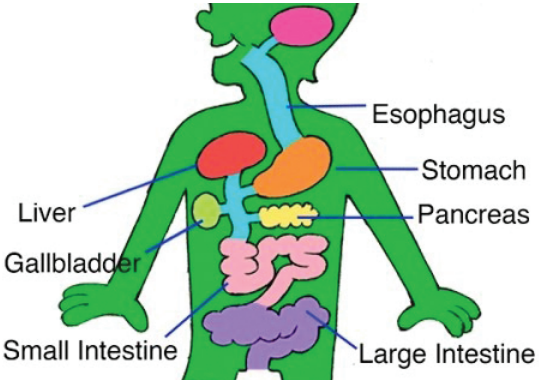
What factors affect the sensation of pain?

- At least 50% of children with chronic functional abdominal pain have high levels of anxiety - it does not always mean that anxiety is the cause of the pain - sometimes it just co-exists.
- Some children may develop 'Visceral hypersensitivity', ie increased sensitivity to normal gut activity. They are more aware of sensations within their gut (this is well recognised after a bout of gastroenteritis). Over time - our brain strengthens these connections and 'upregulates' the pain processing pathway.
- Children with autistic spectrum disorders can experience hypersensitive sensory systems that can affect their experience of pain.

What can be done to help?

Encourage your child to understand that there is no serious physical problem causing their pain and they should try not to let the pain become central in their life. Everyone focusing on the pain or worrying about a possible underlying disease will make it worse.

Try to remember the pain is real but try not to let it change your child's activities or school attendance. Try to reassure and distract. A younger child may find it helpful to see a picture of their small and large intestines and that they are sensitive to the feeling of their food going 'round the bend'.



Some children (aged 9 years upwards) find this video helpful.
https://www.youtube.com/watch?v=65PeQyvQBHE
Teenagers should read this leaflet with you.
Typically pain killers have little effect on FAP.

Did you know the brain is 'plastic'?

This means our brains can develop new connections.

The pain of FAP is not life-threatening and does not require activity restriction. It does not need time off school. In fact, treatment focuses on return to normal activity **despite** the child experiencing some discomfort – eventually the brain will develop newer connections and the unhelpful, oversensitive connections will reduce.

Here are some tips to help manage the pain:

Have realistic ultimate goals- such as being able to do normal activities (rather than stopping due to the pain), having good attendance at school, and increasing your child's ability to cope with the pain.

Planning ahead for pain episodes at school (eg, being allowed to go to the school office until pain subsides, BUT just be aware that regular use of the office may reinforce symptoms).

Communicate with school to explain that regularly sending your child home can reinforce symptoms (Show them leaflet!)

IF your child is sent home due to pain (without any other alerting features such as fever, vomiting or diarrhoea), then bedrest without television/screens and a neutral approach is advisable

Parental modelling of healthy responses to abdominal pain (eg, encourage deep breathing, relaxation techniques). Check out 'You Tube' for videos on 'square breathing' or 'balloon breathing'

Distraction shifts the brain's attention away from perceiving the pain and 'muddles' the pain receptors. Distraction techniques include conversation, games, television, and guided imagery.

WEIRD BUT TRUE… In one randomized trial, abdominal pain was deliberately brought on (by getting the child to drink huge amounts of water quickly) – they found that pain was significantly reduced in those children whose parents were assigned to provide distraction (eg, "What would you like to do this evening?").

- Try colouring, trip to the park, playing a game
- A study looking at teenagers with irritable bowel, found that there was some improvement in symptoms in the group assigned to regular yoga, compared against the no-activity group. This was thought to be due to the effect of yoga on general well-being and improved mood, rather than a direct effect on the gut. There are apps/videos your teenager can try such as Yoga with Adrienne, STOPP, Mood-Juice.

What about diet/probiotics ?

Reduce fizzy drinks and caffeine. Encourage a balanced diet rich in fruit and vegetables and regular exercise. If your child strains to open their bowels or passes hard, infrequent, painful stools, then it is worth increasing their fibre and fluid intake. Laxatives may be needed if hard, painful infrequent stools occur and your doctor can advise you about this.

Food allergy has become a popular media topic, but in the absence of hives (bumpy, raised itchy rash), or vomiting, or lip swelling/ itching developing within 1-2 hours of eating a food, an IgE mediated food 'allergy' is very unlikely. Some children may have a food 'intolerance'- but the link with abdominal pain is very poor.

If you suspect a link to food, such as dairy or wheat- then excluding that individual food type for a 2 week period, followed by complete re-introduction of the food, can be trialled - exclusion must be followed by reintroduction of the suspected food, along with a food diary, in order to objectively decide about symptom improvement. This is to avoid the recent trend towards limiting children's diets, with very little proven benefit. If you do try this, then exclude only one food at a time.

A few individual trials have found symptom benefit from probiotic (but a recent review looking at ALL available studies suggests no definite benefit). Some parents may wish to undertake a trial for a month and then stop, to see if there is any improvement.
There is no evidence to suggest one particular strain over another. These can be purchased from high street chemists or online.

The following are NOT features of FAP- and need further medical assessment if they develop.

- Bloody stools, severe diarrhoea, recurrent vomiting or bloody vomit.
- Fever
- Pain on urination
- Lethargy or reduced responsiveness
- Weight loss
- Less than two bowel motions a week.

More reading

https://patient.info/childrens-health/recurrent-abdominal-pain-in-children-leaflet

The official fundraising arm of the
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Useful numbers:

NHS 111 - 24hr advice line
Practice Plus (Brighton walk-in Centre) **0333 321 0946**
Practice Plus GP – **0300 130 3333**
8am/8pm - 7 days a week

This leaflet is intended for patients receiving care in Brighton and Hove or Haywards Heath

carer and patient information group approved

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