

Functional Abdominal Pain in Children

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What is functional abdominal pain?

Abdominal pain that cannot be explained by any visible or detectable abnormality, after a thorough physical examination and appropriate further testing if needed, is known as functional abdominal pain. Functional abdominal pain can be intermittent (recurrent abdominal pain or RAP) or continuous. Although the exact cause is not known, nerve signals or chemicals secreted by the gut or brain, may cause the gut to be more sensitive to triggers that normally do not cause significant pain (such as stretching or gas bloating). Because of this change in bowel function, this type of abdominal pain is often referred to as “functional abdominal pain.”

How common is functional abdominal pain?

Functional abdominal pain is one of the most common complaints of children and adolescents who are seen by gastroenterologists who care for young patients. In fact, almost a quarter of all children seen for stomach or intestinal complaints have functional abdominal pain.

Is functional abdominal pain related to other types of chronic abdominal pain?complaints?

Functional abdominal pain includes several different types of chronic abdominal pain, including recurrent abdominal pain, functional dyspepsia, and irritable bowel syndrome. Recurrent abdominal pain (RAP) was originally defined about 50 years ago as three or more bouts of abdominal pain (belly ache) in children 4-16 years old over a three-month period severe enough to interfere with his/her activities. Usually, this pain is located around the umbilicus (belly button), however the pattern or location of abdominal pain is not always predictable. The pain may occur suddenly or slowly increase in severity. The pain may be constant or may increase and decrease in severity.

Some children with functional abdominal pain may experience dyspepsia, or upper abdominal pain associated with nausea, vomiting, and/or a feeling of fullness after just a few bites (early satiety). Others may experience abdominal pain with bowel movements. Pain that is usually relieved by bowel movements, or associated with changes in bowel movement habits (mainly constipation, diarrhea, or constipation alternating with diarrhea) is the classic irritable bowel syndrome (IBS).



What else can cause chronic abdominal pain in children?

Most young children will point to the umbilicus (belly button) when asked to describe the location of abdominal pain. However, pain centered around the belly button could be due to a number of causes that should be considered when evaluating a child with chronic abdominal pain. Some of those causes are not very serious while other causes require close and long term care. Possible causes that should be considered based on the history, physical examination and testing, are acid reflux, constipation, lactose intolerance, parasitic infections of the small and large intestines, infections of the stomach with a germ called *Helicobacter pylori* (that is associated with ulcers in the first portion of the small bowel), inflammatory bowel diseases (IBD) such as Crohn's disease and ulcerative colitis, celiac disease which is a sensitivity to cereal grains, food allergies, inflammation of the liver (hepatitis), gall bladder problems, an inflamed pancreas, an intestinal obstruction (blockage), appendicitis, and many more rare disorders. It must be emphasized that typically, none of these more severe problems cause abdominal pain in most children with chronic or recurrent bellyaches. Instead, the pain is usually "functional".

Is functional abdominal pain a serious condition?

Parents and children need to be reassured that functional abdominal pain is not life threatening. However, functional abdominal pain may have negative effects on the child's physical and psychological state. The pain may interfere with school attendance, participation in sports and other extra-curricular activities. Infrequently, it may affect appetite and sleep. The changes in the daily routine may affect the child's mood and emotions, and in turn cause depression and anxiety. In some cases, children previously suffering from anxiety, depression and other psychiatric disorders may show an exaggerated pain response. Sometimes, the parent and the child may not be consciously aware of any stress or emotional disturbances.

How can serious causes of abdominal pain be separated from non-serious causes such as functional abdominal pain?

Detailed information regarding the location of abdominal pain, the frequency (number of times per week) and duration of a typical episode, and association with other complaints will in most cases provide useful clues about the cause, and will guide further testing. Other important pieces of information, known as "red flags" or "alarm signs" that a physician may inquire about include weight loss, poor growth, fever, joint pains, mouth ulcers, unusual rashes, loss of appetite, blood that appears in the vomiting or stool, and night time awakening due to diarrhea and abdominal pain. The doctor will also ask about the effects of foods and beverages upon the pain, and relationship to stools, sleep, physical activities, and emotional stress.



Will there be any tests to diagnose the cause of abdominal pain?

The diagnosis of functional abdominal pain is often based on the report of symptoms and normal physical examination. It is also quite possible that the doctor may obtain some tests. The reason for these tests is to look for signs of any serious disease. These screening tests may initially include blood and stool tests. The results of screening tests often guide the doctor in deciding whether further tests are needed or whether a trial of diet changes, stress management or medication may be started. Testing should be limited if the history is typical for functional abdominal pain and the child's physical examination is normal. In that case, many doctors prefer to treat without testing in order to avoid the discomfort of testing or the slight risk associated with testing. Of course, if the history, the physical examination, or the results of screening tests are abnormal, further testing may be required. This further testing may include a test to confirm lactose intolerance, ultrasound of the abdomen, a CT of the abdomen, and upper GI series (radiology test), and possibly an endoscopy (scope). The scope allows the doctor to use a special camera on the scope to look at the inner lining of the food pipe, stomach, first and last portion of the small intestine and the large intestine. At the time of the scope, biopsies (small pinches of the lining) are also obtained and examined under the microscope for signs of certain infections and disorders like IBD and celiac disease. Normal test results in a child without alarm signs or red flags strongly suggest RAP or one of the other types of functional abdominal pain, such as irritable bowel syndrome or functional dyspepsia.

What is the management of children with functional abdominal pain?

If a specific cause for abdominal pain is discovered during the evaluation, the physician will discuss specific management of conditions like constipation, lactose intolerance, infections, IBD, celiac disease, and food allergies. If no specific cause is found and functional abdominal pain is suspected, the child needs to be reassured that his or her abdominal pain is accepted as a real disorder and not something that is "just in the head". The goal of managing functional abdominal pain is to provide a satisfactory quality of life through support, education, medicines and better coping skills. Reassurance about the good outcome of functional abdominal pain and the positive aspects of the child's health are crucial. Addressing the parents' and child's concerns and fears and identifying emotional or psychological stressors are also important. As noted before, some tests may be needed during the evaluation of functional abdominal pain, but it is also important for parents and children to know that doing too many unnecessary tests may be frustrating to the family and child. If functional abdominal pain is strongly suspected as the likely diagnosis, testing should be limited to the most useful, simple and relatively non-invasive tests.

The child may benefit from certain dietary changes depending on his/her history. These are recommended on a case-by-case basis. The physician may advise avoidance of greasy and spicy foods, caffeine, juices, and carbonated drinks. Eliminating lactose (a natural sugar in milk and other dairy products) from the diet may benefit those who suffer from lactose intolerance in addition to functional abdominal pain. Some children with



abdominal pain who also experience “gas” may improve by eating food slowly and by avoiding carbonated drinks, and gas forming foods such as cabbage, or beans. In addition, fruit drinks, sugar-free chewing gum, and sugar free candy sweetened with an alcohol called sorbitol should be avoided. Sorbitol, which tastes sweet, cannot be properly digested, and when taken in large amounts, it can cause cramping, bloating, and even diarrhea.

Some children may be candidates for medications, if functional abdominal pain is significantly limiting the daily routine. These medications include anti-spasmodic medicines for those with crampy pain in relation to bowel movements, laxatives for those with constipation, and acid-suppressing medicines for those with pain and dyspepsia. If the child does not respond to any of these treatments, he or she may benefit from low doses of medicines called tricyclic antidepressants (used at much higher doses to treat depression). At low doses, these medicines can be excellent pain relievers for some children. A fearful, anxious, or depressed child however should be fully assessed by a psychiatrist or psychologist. Some psychological treatments that help children cope with functional abdominal pain and other stressors, include behavioral therapy, relaxation exercises and hypnosis. It is very important that the physician, parents, and school encourage the child resume a normal routine.

What are the effects of the functional abdominal pain in the long term?

Fortunately, the diagnosis of functional abdominal pain has a good outcome overall, with almost half of these children getting better on their own or with treatment within a few weeks to months. A supportive and understanding environment at home and school is important to keep the child physically and mentally healthy.

