CONDITION

Pancreatitis - children

Pancreatitis is inflammation of a child's pancreas that can cause abdominal pain, vomiting, and problems digesting food.

WHAT IT IS
Inflammation and injury of the pancreas

BODY SYSTEM
Digestive system

MAIN SYMPTOMS
Upper abdominal pain, vomiting, nausea, poor appetite

WHAT CAUSES IT
Injury, medicines, gallstones, infection, genes, or unknown

HOW IT IS DIAGNOSED
Symptoms, blood lipase tests, and sometimes imaging

MAIN TREATMENT
Fluids, pain relief, nutrition, and cause-specific care

CAN IT BE CURED?
Sometimes - acute episodes can fully resolve

IS IT AN EMERGENCY?
Sometimes - severe pain or dehydration needs urgent care

LONG-TERM OUTLOOK
Most recover; recurrent or chronic disease needs ongoing care

Overview

Pancreatitis means inflammation and injury of the pancreas. The pancreas is an organ behind the stomach. It makes enzymes that help digest food and hormones, including insulin, that help control blood sugar.

Pancreatitis in children can take several forms. Acute pancreatitis starts suddenly and is usually limited to one episode. Acute recurrent pancreatitis means a child has separate acute episodes, with improvement between them. Chronic pancreatitis causes lasting damage and scarring over time.

A mild acute episode may settle without permanent damage. More severe inflammation can affect nearby tissues or other organs. Repeated or chronic inflammation can interfere with digestion, growth, nutrition, and blood sugar control.

Abdominal pain and vomiting have many possible causes in children. These symptoms do not by themselves mean that your child has pancreatitis. Medical assessment and testing are needed.

Symptoms

The most common symptom is pain in the upper or middle abdomen. It may start suddenly, become intense, or spread through to the back. Some children feel worse after eating or when lying flat. Younger children may not be able to describe where the pain is.

Other possible symptoms include:

Babies and toddlers may have less specific signs. They may refuse feeds, vomit, appear sleepy, or seem uncomfortable when their abdomen is touched.

Chronic pancreatitis can cause pain that comes and goes or, less often, ongoing pain. If the pancreas stops making enough digestive enzymes, a child may have greasy, pale, foul-smelling stools. These can be difficult to flush. Poor weight gain, weight loss, bloating, and vitamin deficiencies may follow.

Damage to the cells that make insulin can lead to diabetes. Signs can include increased thirst, frequent urination, tiredness, or unexplained weight loss.

- Nausea, vomiting, or loss of appetite
- A swollen or tender abdomen
- Fever or a fast heartbeat
- Irritability, unusual crying, or reduced activity in a young child

Causes and risk factors

There is not always a single cause. Even after testing, the reason for an episode may remain unknown.

Possible causes and risk factors in children include:

Some children have more than one risk factor. Repeated episodes make an inherited, structural, or metabolic cause more likely and may lead to more detailed testing.

- Gallstones or blocked ducts: Stones or thick bile can block the tubes that drain the pancreas.

- Medicines: Certain medicines have been linked with pancreatitis. A suspected medicine should not be stopped unless a clinician advises it.
- Abdominal injury: A bicycle-handlebar injury, sports injury, fall, or vehicle crash can damage the pancreas.
- Infections: Some viral and other infections can trigger pancreatic inflammation.
- Inherited changes: Changes in genes such as PRSS1, SPINK1, CFTR, or CTRC can increase susceptibility. A gene change does not always mean symptoms will occur.
- Structural differences: Some children are born with differences in the pancreatic or bile ducts that affect drainage.
- Metabolic conditions: Very high blood triglycerides or high calcium levels can cause pancreatitis.
- Immune-related disease: Rarely, the immune system mistakenly attacks the pancreas.

Diagnosis

Pancreatitis is usually diagnosed when at least two of the following are present:

Lipase is an enzyme made mainly by the pancreas. A raised lipase level supports the diagnosis, but the number does not reliably show how severe an episode will be.

Blood tests may also check liver function, blood sugar, calcium, triglycerides, hydration, and signs of inflammation. Tests may be repeated to monitor the child's overall condition rather than to prove that the pancreas is healing.

An abdominal ultrasound can look for gallstones, blocked bile ducts, or fluid around the pancreas. The pancreas is sometimes difficult to see because bowel gas can block the view.

Magnetic resonance imaging, including MRCP, can show the pancreas and its ducts in greater detail. MRCP is a type of MRI designed to examine fluid-filled ducts. CT scanning may be used when complications are suspected or the diagnosis remains unclear, but it is not always needed for an uncomplicated episode.

Children with recurrent or chronic pancreatitis may have genetic testing, a sweat test for cystic fibrosis, or specialised imaging. Genetic counselling can help families understand what a result may mean for the child and their relatives.

- Abdominal pain or other symptoms typical of pancreatitis
- Pancreatic enzymes in the blood, usually lipase or amylase, at least three times the laboratory's upper limit of normal

- Imaging findings that show pancreatic inflammation

Treatment and management

Children with suspected acute pancreatitis are often assessed in hospital. Treatment is based on the severity of the illness, hydration, pain, vomiting, and the underlying cause.

Early care may include fluids, pain relief, and medicine for nausea. Fluid needs are monitored carefully because both dehydration and excess fluid can cause problems.

Children are generally encouraged to eat as soon as they can tolerate food. If eating is not possible, nutrition may be given through a tube into the stomach or small intestine. Feeding through the digestive tract helps support the intestine and is usually preferred over nutrition delivered only through a vein.

Antibiotics like amoxicillin or doxycycline do not treat pancreatic inflammation itself. They may be used if there is evidence of a bacterial infection elsewhere or an infected complication.

Treatment may also address a specific cause. A procedure called ERCP can sometimes remove an obstructing stone or treat a narrowed duct. Surgery may be recommended for gallbladder stones or certain complications. These decisions are made by a specialist team because invasive procedures have their own risks.

Long-term care for recurrent or chronic pancreatitis may include:

Pancreatic enzyme products need to be matched to a child's needs. They should be used under specialist guidance rather than started or adjusted without advice.

- Pancreatic enzyme capsules to help digest meals and snacks
- Nutrition support and monitoring of growth
- Testing for vitamin deficiencies and diabetes
- A structured plan for managing pain
- Endoscopic or surgical treatment for selected duct problems

Complications

Most children with acute pancreatitis recover, but complications can occur. Severe inflammation may cause dehydration, breathing difficulty, low blood pressure, kidney problems, or injury to pancreatic tissue.

Fluid can collect beside the pancreas. A collection surrounded by a wall is often called a

pseudocyst. Some collections disappear with monitoring. Others cause pain, infection, vomiting, or blockage and may need drainage.

In severe cases, part of the pancreas may lose its blood supply and die. This is called pancreatic necrosis. It needs close specialist care, particularly if infection develops.

Repeated attacks can lead to chronic pancreatitis. Permanent damage may then reduce the pancreas's ability to make digestive enzymes or insulin. Possible long-term problems include poor growth, low bone strength, vitamin deficiencies, diabetes, and persistent or recurring pain.

Not every child develops these problems. Follow-up is used to identify them early rather than assuming they will occur.

Prevention

Many cases of childhood pancreatitis cannot be prevented. This is especially true when the cause is inherited, related to anatomy, or unknown.

A few risks can be reduced. Seat belts and age-appropriate protective equipment can lower the risk of serious abdominal injury. Medicines should be taken only as directed, but a prescribed medicine should not be stopped because pancreatitis is suspected without prompt medical advice.

When a cause is identified, treating it may reduce future episodes. This may include managing gallstones, very high triglycerides, high calcium, or a duct blockage.

Children and teenagers with recurrent or chronic pancreatitis should avoid smoking, vaping nicotine, and alcohol. These exposures can further injure the pancreas over time. They should also follow their care team's nutrition plan rather than adopting a highly restrictive diet without support.

Living with it and what to expect

An uncomplicated acute episode may improve over several days, although appetite, energy, and comfort can take longer to return. Follow-up may include a review of symptoms, growth, test results, and the possible cause.

One episode does not always lead to another. However, a child who has repeated episodes may need ongoing care from a paediatric gastroenterology or pancreas team. The team may include dietitians, pain specialists, diabetes clinicians, psychologists, radiologists, and

surgeons.

Chronic pancreatitis cannot usually be reversed. Symptoms may change over months or years. Some children have long periods with little pain, while others have repeated pain or digestive problems. Regular checks of height, weight, puberty, nutrition, vitamin levels, and blood sugar help guide care.

Pain and hospital visits can affect sleep, school, sport, and family routines. A school plan may cover access to water, toilets, snacks, enzyme medicine, missed work, and what to do if pain starts.

Many children continue school, friendships, travel, and activities with suitable planning. The level of support needed is shaped by the frequency of episodes, the amount of pancreatic damage, and whether digestion or blood sugar has been affected.

When to get medical help

Seek prompt medical advice if your child has persistent or repeated upper abdominal pain, especially with vomiting, poor eating, fever, or pain spreading to the back. A child with known pancreatitis should also be assessed if familiar symptoms return.

Contact the child's usual care team soon if there are signs of longer-term problems, such as greasy stools, poor growth, weight loss, repeated pain, increased thirst, or frequent urination. These usually need timely assessment but are not automatically emergencies.

Go to an emergency department or call local emergency services if your child has:

If a significant blow to the upper abdomen is followed by worsening pain or vomiting, urgent assessment is also appropriate. Pancreatic injury may not be obvious immediately after an accident.

- Severe or rapidly worsening abdominal pain
- Trouble breathing, blue or grey skin, or chest pain
- Fainting, confusion, extreme sleepiness, or difficulty waking
- Repeated vomiting with an inability to keep fluids down
- Signs of major dehydration, such as very little urine or a very dry mouth
- Vomit containing blood or material that looks like coffee grounds

Common questions

Is pancreatitis contagious?

No. Pancreatitis cannot spread from one person to another. An infection that triggers an episode may sometimes be contagious, but the pancreatic inflammation itself is not.

Can a child eat during pancreatitis?

Many children can begin eating once nausea, vomiting, and pain allow. Early feeding is often helpful. A feeding tube may be used when a child cannot eat enough safely. The exact plan is based on the child's condition.

Does every child with pancreatitis need to stay in hospital?

Many children with a first suspected acute episode are monitored in hospital for fluids, pain control, nutrition, and complications. The need for admission and its length are based on symptoms, hydration, test results, and the support available at home.

Will pancreatitis come back?

It can, but a repeat episode is not certain. Recurrence is more likely when there is an inherited risk, a structural duct problem, gallstones, or another cause that remains present.

Does a high lipase level mean the pancreatitis is severe?

Not necessarily. Lipase helps confirm pancreatic inflammation, but a very high result does not by itself predict the course. Symptoms, vital signs, organ function, hydration, and imaging findings provide more useful information about severity.

Can children with pancreatitis live a normal life?

Many return to their usual activities after an acute episode. Children with recurrent or chronic disease may need medicines, nutrition support, appointments, or school adjustments. Their day-to-day experience depends on pain, digestion, blood sugar, and the frequency of episodes.

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