CONDITION

Chronic pancreatitis

Learn how chronic pancreatitis affects digestion and blood sugar, including its symptoms, causes, diagnosis, treatment, complications, and follow-up care.

WHAT IT IS
Long-lasting inflammation and scarring of the pancreas

BODY SYSTEM
Digestive

MAIN SYMPTOMS
Upper abdominal pain, oily stools, unintended weight loss, nausea or vomiting

WHAT CAUSES IT
Environmental, genetic or medical factors, sometimes unknown

HOW IT IS DIAGNOSED
CT or MRI, endoscopic ultrasound, pancreatic function tests

MAIN TREATMENT
Lifestyle changes, symptom control, nutritional support, procedures

CAN IT BE CURED?
No, pancreatic damage is generally permanent

IS IT AN EMERGENCY?
Sometimes, severe or rapidly worsening abdominal pain

LONG-TERM OUTLOOK
Permanent damage requiring long-term management

Overview

Chronic pancreatitis is long-lasting inflammation and scarring of the pancreas, an organ behind the stomach. The pancreas makes enzymes that digest food and hormones, including insulin, that control blood sugar.

Unlike acute pancreatitis, which causes sudden inflammation, chronic pancreatitis develops over time. Some people have repeated acute attacks before permanent damage becomes clear; others develop chronic symptoms without recognized attacks.

Scarring can block the ducts that carry digestive enzymes and reduce the pancreas's ability to make enzymes and hormones. This damage is generally permanent. Treatment focuses on controlling symptoms, maintaining nutrition, managing diabetes, treating blocked ducts or other complications, and preventing further injury.

Poor digestion can cause weight loss, vitamin deficiencies, and weak bones. Damage to insulin-producing cells may lead to diabetes related to pancreatic disease. Chronic pancreatitis also increases pancreatic cancer risk, although routine cancer screening is not recommended for everyone.

Symptoms

Symptoms vary. Pain may occur in episodes, become constant, or be absent. Some people first seek care because of weight loss, digestive problems, or newly diagnosed diabetes.

Common symptoms include:

Oily stools and weight loss may indicate exocrine pancreatic insufficiency , meaning the pancreas does not release enough digestive enzymes, particularly those needed to absorb fat. These symptoms may appear only after substantial pancreatic damage.

Pain sometimes decreases after years, but this does not mean pancreatic function has recovered.

Seek emergency care for severe or rapidly worsening abdominal pain, especially with repeated vomiting, fainting, confusion, breathing difficulty, vomiting blood, black or bloody stools, or inability to stay awake. Seek prompt assessment for fever, yellow skin or eyes, inability to keep fluids down, or a newly swollen and tender abdomen.

- Upper abdominal pain, sometimes spreading to the back
- Pain that worsens after eating
- Nausea or vomiting during painful episodes
- Reduced appetite or avoiding food because it causes pain
- Unintended weight loss
- Bloating, gas, or abdominal discomfort
- Frequent, oily, pale, foul-smelling stools that may float or be difficult to flush
- Symptoms of high or low blood sugar

Causes and risk factors

Chronic pancreatitis often results from a combination of environmental, genetic, and medical factors. Sometimes no cause is identified.

Heavy, long-term alcohol use is an important cause, although not everyone who drinks heavily develops pancreatitis. Tobacco smoking independently increases risk and may accelerate progression. Repeated acute pancreatitis can also cause permanent scarring. Acute attacks may be associated with alcohol, gallstones, very high triglycerides, certain medicines, high calcium, injury, or other conditions.

Changes in genes such as PRSS1 , SPINK1 , CFTR , and CTRC can increase susceptibility. Genetic testing may be considered when pancreatitis starts at a young age, affects several relatives, or has no clear cause. Having a gene change does not always mean the condition will develop.

Other causes and risk factors include:

Autoimmune pancreatitis can resemble pancreatic cancer on imaging. Specialist evaluation is essential because its treatment and follow-up differ from other forms of pancreatitis.

- Narrowing or blockage of the pancreatic duct
- Differences in pancreatic anatomy
- Autoimmune pancreatitis
- Cystic fibrosis or related disorders
- Repeated pancreatic injury
- Rare metabolic or inherited conditions

Diagnosis

No single test detects every case, and early chronic pancreatitis can be difficult to diagnose. A clinician combines symptoms, medical history, examination findings, imaging, and tests of pancreatic function.

Blood tests may assess liver function, blood counts, calcium, triglycerides, nutrition, and blood sugar. Amylase and lipase levels may be normal, so normal results do not rule out chronic pancreatitis. Selected people may need immune-marker or genetic testing.

Contrast-enhanced CT or MRI can show scarring, calcium deposits, fluid collections, blocked ducts, and other possible causes of symptoms. Magnetic resonance cholangiopancreatography, or MRCP, provides detailed images of the pancreatic and bile ducts. Secretin may sometimes be given during MRCP to improve the view and provide information about pancreatic function.

Endoscopic ultrasound places an ultrasound probe near the pancreas using a flexible

instrument passed through the mouth. It can identify subtle changes and obtain tissue samples when needed, although some findings are not specific to chronic pancreatitis.

Endoscopic retrograde cholangiopancreatography, or ERCP, can treat duct stones, narrowing, or leaks. Because it can cause complications, including acute pancreatitis, it is generally not used solely for diagnosis when safer imaging is sufficient.

Stool testing, particularly fecal elastase, can help identify exocrine pancreatic insufficiency. Assessment may also include weight trends, vitamin levels, bone health, blood sugar, and review by a dietitian.

Treatment and management

Treatment depends on the cause, symptoms, pancreatic function, and duct anatomy. Care may involve primary care, gastroenterology, dietetics, endocrinology, pain specialists, endoscopy, and pancreatic surgery.

Avoiding alcohol is generally advised because it may trigger attacks or cause further injury. Stopping smoking is also important. Medicines, counseling, and structured support programs can help.

People usually need enough calories and protein to prevent weight and muscle loss. Small, frequent meals may be easier to tolerate. Do not begin severe fat restriction without professional guidance because it can worsen calorie and vitamin deficiencies. A dietitian can tailor eating advice to symptoms and nutritional needs.

Pancreatic enzyme replacement therapy is used when the pancreas does not produce enough digestive enzymes. Capsules must be taken with meals and snacks so the enzymes mix with food. A clinician adjusts the dose according to meal size, symptoms, weight, and nutritional response. An acid-reducing medicine like omeprazole or lansoprazole may be added if treatment is not working adequately. Enzymes improve digestion but do not reliably relieve pancreatic pain by themselves.

People with malabsorption may need monitoring or replacement of vitamins A, D, E, and K and other nutrients. Supplements should be based on clinical assessment because excessive doses can be harmful.

Pain treatment may include adjusted meal patterns, non-opioid medicines when medically appropriate, mental health support, and specialist pain care. Opioids like oxycodone or morphine may be considered for selected people after weighing benefits and harms. Persistent or changing pain should prompt evaluation for a blocked duct, stone, fluid collection, ulcer, cancer, or another treatable cause.

Endoscopic procedures can remove or break up some duct stones and place temporary stents across narrowed areas. Larger stones may require extracorporeal shock wave lithotripsy, which uses sound waves to break them into smaller pieces. These treatments are most useful when an obstructed main pancreatic duct contributes to pain.

Surgery may drain an enlarged blocked duct, remove a severely damaged part of the pancreas, or combine drainage and removal. For some people with painful obstructive disease, surgery provides longer-lasting relief than repeated endoscopic treatment. A surgical referral allows discussion of options and does not mean surgery is required.

Diabetes caused by pancreatic damage is sometimes called pancreatogenic or type 3c diabetes. Treatment may include insulin or other glucose-lowering medicines. Blood sugar can be difficult to regulate because the pancreas may lose cells that produce both insulin and glucagon, which helps protect against low blood sugar. Diabetes education should include how to recognize and treat hypoglycemia.

Autoimmune pancreatitis may respond to corticosteroids or other medicines that suppress inflammation. Treatment should begin only after specialist evaluation because infection and pancreatic cancer can cause similar findings.

Complications

Possible complications include:

There is no standard pancreatic cancer surveillance program for most people with chronic pancreatitis. People with hereditary pancreatitis or a strong family history may need assessment through a specialist high-risk program. New jaundice, a change in the usual pain pattern, unexplained worsening weight loss, or a pancreatic mass requires timely evaluation, although these findings do not necessarily mean cancer is present.

- Exocrine pancreatic insufficiency and malnutrition
- Vitamin deficiencies, muscle loss, and weight loss
- Osteopenia or osteoporosis
- Diabetes and episodes of low blood sugar
- Pancreatic pseudocysts, which are collections of enzyme-rich fluid
- Blockage of the bile duct, stomach outlet, or intestine
- Pancreatic duct narrowing, stones, or leaks
- Fluid in the abdomen or chest from a duct leak

- Blood vessel problems, including splenic vein thrombosis
- Anxiety, depression, sleep problems, and reduced quality of life
- Increased pancreatic cancer risk

Follow up

Regular follow-up helps monitor symptoms, nutrition, blood sugar, medicines, and complications. Visits may include review of weight, bowel symptoms, diet, alcohol and tobacco use, pain control, and how enzymes are taken. Blood tests may check for diabetes or nutritional deficiencies. Bone density testing may be appropriate for people with long-term malabsorption, low body weight, vitamin D deficiency, or other risk factors.

Contact the treating clinician promptly if greasy stools, diarrhea, weight loss, or pain continue despite treatment. The timing or dose of pancreatic enzymes may need adjustment, although other digestive conditions can cause similar symptoms.

Arrange urgent assessment for jaundice, fever, repeated vomiting, dehydration, rapidly increasing abdominal swelling, or major blood sugar changes. Use emergency services for severe worsening pain with fainting, confusion, breathing difficulty, significant bleeding, or inability to stay awake.

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