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The evidence used in the preparation of this leaflet is available on request. Please email: patient.information@salisbury.nhs.uk if you would like a reference list.

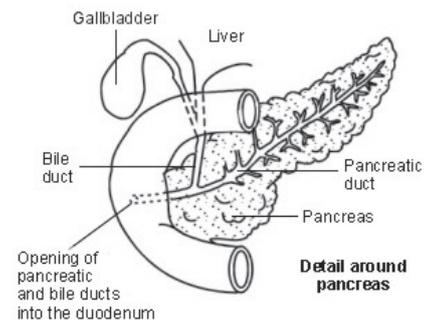
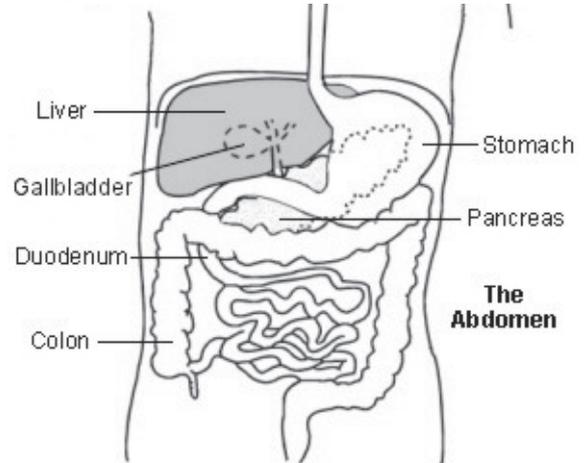
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Chronic Pancreatitis (1 of 4)

Chronic pancreatitis can cause tummy (abdominal) pain, poor digestion, diabetes and other complications. Alcohol is the common cause. Treatment includes painkillers, other medication and, most importantly, stopping alcohol drinking for good. Surgery is sometimes needed.

What is the pancreas?

The pancreas is in the upper tummy (abdomen) and lies behind the stomach and guts (intestines). It makes a fluid that contains chemicals (enzymes) that are needed to digest food. The enzymes are made in the pancreatic cells and are passed into tiny ducts (tubes). These ducts join together like branches of a tree to form the main pancreatic duct. This drains the enzyme-rich fluid into the duodenum (the part of the gut just after the stomach). The enzymes are in an inactive form in the pancreas (otherwise they would digest the pancreas). They are 'activated' in the duodenum to digest food.



Groups of special cells called 'Islets of Langerhans' are scattered throughout the pancreas. These cells make the hormones insulin and glucagon. The hormones are passed (secreted) directly into the bloodstream to control the blood sugar level.

The bile duct carries bile from the liver and gallbladder. This joins the pancreatic duct just before it opens into the duodenum. Bile passes into the duodenum and helps to digest food.

What is pancreatitis?

Pancreatitis means inflammation of the pancreas. There are two types.

- **Acute pancreatitis** - when the inflammation develops quickly, over a few days or so. It usually goes away completely and leaves no permanent damage to the pancreas. Sometimes it is serious. Acute pancreatitis is not dealt with further in this leaflet. See separate leaflet called 'Pancreatitis - Acute' for further detail.
- **Chronic pancreatitis** - when the inflammation is persistent. The inflammation tends to be less intense than acute pancreatitis but as it is ongoing it can cause scarring and damage. About 4 in 100 people across the world at any one time have chronic pancreatitis

It is not known how many people in the UK have this condition but it is thought to have increased considerably over the years. It is more common in men than women. The average age that it occurs is 51.

What are the causes of chronic pancreatitis?

- **Alcohol** - is the common cause (about 7 in 10 cases). Men aged 40-50 are the most common group of people affected. In most cases the person has been drinking heavily for 10 years or more before symptoms first begin.
- **Smoking** - has recently been found to be linked to chronic pancreatitis.
- **Genetic conditions** - there are some rare genetic conditions which can lead to chronic pancreatitis developing. Cystic fibrosis can be one cause. Genetic means the you are born with it and it is passed through families through special codes inside cells called genes.
- **Autoimmune conditions** - your own immune system attacks the pancreas. This can be associated with other autoimmune diseases - for example, Sjögren's syndrome and primary biliary cirrhosis.
- **Other causes** - are uncommon. They include abnormalities of the pancreas such as narrowing of the pancreatic duct (due to various reasons) and conditions inherited from one of your parents (hereditary).
- **Malnutrition** - and eating lots of cassava may be a cause in some countries.
- **Unknown** - in some cases no cause can be identified. No cause is found in around 2 out of 10 cases of chronic pancreatitis.

Note: gallstones, which are a common cause of acute pancreatitis, do not cause chronic pancreatitis unless the little tube which attached the gallbladder to the liver (the bile duct) is damaged by a stone or by infection.

What happens in chronic pancreatitis?

A persistent inflammation develops in the pancreas. The reason why alcohol or other factors trigger this inflammation is not clear, although in some people it is thought to relate to their genes. Over time the inflammation causes scarring and damage to parts of the pancreas. This can then lead to not enough chemicals (enzymes) and insulin being made. A lack of enzymes causes poor digestion of food (malabsorption). A lack of insulin causes diabetes.

Over time clumps of calcium are deposited and can form stones in the pancreas. Calcium stones and/or scarring of the pancreatic ducts may block the flow of enzymes along the pancreatic ducts.

Chronic pancreatitis is often becomes worse with time. The time from the initial triggering of inflammation to damage, scarring, calcium stones, and then to developing digestion problems or diabetes, is often several years. However, many months or years of this process can go on before any symptoms are first noticed.

What are the symptoms of chronic pancreatitis?

The symptoms can vary between cases. The most common symptoms include:

- **Tummy (abdominal) pain** - just below the ribs is common. The pain is typically felt spreading through to the back. It tends to be persistent and may be partly eased by leaning forward. It may be mild at first but can become severe. Eating often makes the pain worse. This may lead to your eating less and then losing weight. The pain can be intermittent so not present all the time. **Note:** around 1 person in 5 with chronic pancreatitis does not have any abdominal pain.
- **Poor digestion** (malabsorption) - occurs if not enough enzymes are made by the damaged pancreas. In particular, the digestion of fats and certain vitamins is affected. Undigested fat from the diet may remain in the gut and be passed with stools (faeces). This causes pale, smelly, loose stools that are difficult to flush away (steatorrhoea). Weight loss can also occur if food is not fully digested.
- **Diabetes** - occurs in about 1 in 3 cases. This occurs when the pancreas cannot make sufficient insulin. Symptoms usually include excess thirst, passing large amounts of urine and further weight loss unless the diabetes is treated. However, chronic pancreatitis is actually an uncommon cause of diabetes.
- **Feeling sick** (nausea) - and generally feeling unwell may also occur.

Alcohol-related chronic pancreatitis usually follows a typical pattern. There is often a first bout of acute pancreatitis with severe abdominal pain and vomiting. This may settle but, if drinking continues, the pancreas becomes more and more damaged. Recurring bouts of acute pancreatitis may develop. Unlike a 'one-off' acute pancreatitis, the pain may then not go and chronic (ongoing) pain and other symptoms may then develop.

How is chronic pancreatitis diagnosed?

Unfortunately, there is currently no single test for chronic pancreatitis.

Diagnosing chronic pancreatitis in its early stages is often difficult. Many pancreatic cells can be damaged before abnormalities show up on tests, X-rays or scans. The amount of enzymes made by the pancreas and the number of insulin-producing cells can become quite low before any symptoms of poor digestion or diabetes develop.

Once the damage and scarring to the pancreas is more severe, or when calcium stones start to form, then the damaged pancreas can be detected by X-rays or scans. However, by this time the malabsorption or symptoms of diabetes may have already developed.

Tests done usually include:

- Blood tests to check your blood count, kidney and liver function.
- Blood tested for diabetes.
- Your doctor may also request a sample of your faeces (poo, stools or motions) for testing.
- An X-ray or CT scan of your tummy (abdomen) may be performed.
- A cholangiogram is a test which produces a picture of the bile ducts. This is often done

using an MRI scan.

- Looking at the pancreas with a telescope put down into your stomach is a newer technique that is sometimes used. Occasionally, dye is squirted up the tube leading to the pancreas (the pancreatic duct) to obtain a clearer picture of what is going on.

What complications can develop?

Most people with chronic pancreatitis do not have complications. However, the following may occur:

- **Pseudocyst** - develops in about 1 in 4 people with chronic pancreatitis. This is when pancreatic fluid, rich in chemicals (enzymes), collects into a cyst due to a blocked tube which leads to the pancreas (the pancreatic duct). These can swell to various sizes. They may cause symptoms such as worsening pain, feeling sick and vomiting. Sometimes they go away without treatment. Sometimes they need to be drained or surgically removed.
- **Ascites** - sometimes occurs. This is fluid that collects in the tummy (abdominal) cavity between the organs and guts (intestines).
- **Blockage of the bile duct** - is an uncommon complication. This causes jaundice as bile cannot get into the gut and leaks into the bloodstream. This makes your skin look yellow.
- **Cancer of the pancreas** - is more common than average in people with chronic pancreatitis. The risk increases in smokers and with increasing age.
- **Rare complications** - include blockage of the gut, bleeding or blood clot (thrombosis) in blood vessels near to the pancreas.

It is fairly common to feel low when you have chronic pancreatitis, especially if you are in pain. Some people even become depressed, which can respond well to treatment. It is important to talk to your doctor about any symptoms of depression you may have.

What is the treatment for chronic pancreatitis?

- **Stop drinking alcohol for good** - this is the most essential part of treatment. You should not drink alcohol even if it is not the cause of your chronic pancreatitis.
- **Painkillers** - are usually needed to ease the pain. Controlling the pain sometimes becomes quite difficult and referral to a pain clinic may be needed. Apart from painkillers, other techniques to block the pain may be considered, such as nerve blocks to the pancreas.
- **Enzyme replacement medication** - may be needed if the low level of chemicals (enzymes) causes poor digestion of food and steatorrhea. Capsules containing artificial enzymes are taken with meals.
- **Restricting fat in the diet** - may be advised if steatorrhea is bad.
- **Insulin** - if diabetes develops then insulin injections will be needed to control the blood sugar level.
- **Vitamins** - may need to be taken.
- Do not smoke - to minimise the risk of pancreatic cancer developing.

If you have autoimmune pancreatitis then you may be given a course of steroid tablets.

Surgery

Most people with chronic pancreatitis do not need surgery but an operation is sometimes needed. The common reason for surgery is for persistent bad pain that is not helped by painkillers or other methods. Improvement in pain occurs in about 7 in 10 patients who have surgery. The operation usually involves removing part of the pancreas.

There are different techniques that remove different amounts of the pancreas. The one chosen depends on the severity of your condition, whether the pancreatic duct is blocked, and also on various other factors.

Other operations may be advised in some cases - for example, removal of a large calcium stone that is blocking the main pancreatic duct. Another procedure that may help in some people is to 'stretch' wide a narrowed pancreatic duct to allow better drainage of pancreatic enzymes.

Surgery may also be needed if a complication develops. For example, if a blocked bile duct or pseudocyst develops.

Newer treatments are being introduced. In some cases the pancreas is removed and some of your own cells are transplanted back into the liver. This has been shown to improve both pain and also control of diabetes.

If the pain is persistent you may be offered a procedure to block the nerve supply to the area. Examples of treatments which involve this approach are coeliac plexus block and spinal cord stimulation.

If you need surgery, then your surgeon will be able to discuss with you in detail the type of operation you need.

What is the outlook (prognosis) for chronic pancreatitis?

If alcohol is the cause of chronic pancreatitis then other alcohol-related illnesses also commonly develop. If you continue to drink alcohol and pancreatitis becomes severe then life expectancy is typically reduced by 10-20 years. This is due to complications of pancreatitis or to other alcohol-related illnesses. If you stop drinking alcohol completely in the early stages of the condition, the outlook is better.

The outlook for other less common causes of chronic pancreatitis depends on the cause and severity of the condition.

Further help and information

Pancreatitis Supporters Network

 07914421541

Web: www.pancreatitis.org.uk