



# Chronic pancreatitis and your diet

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## What does the pancreas do?

The pancreas is a gland located behind the stomach and below the ribcage. It plays a major role in the digestion of food.

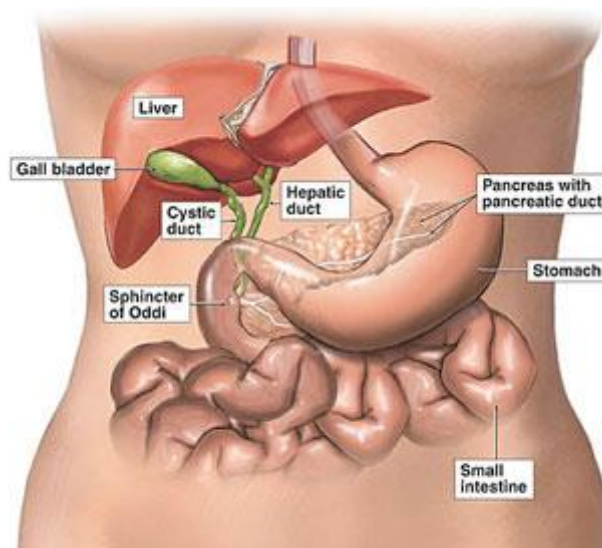
It produces enzymes which help to break down the carbohydrates, proteins and fat you eat and drink. These enzymes are released into the gut through the pancreatic duct.

The pancreas also helps to control the level of glucose (sugar) in your blood by producing hormones such as insulin and glucagon.

## What is chronic pancreatitis?

Chronic pancreatitis is a condition where long term inflammation of the pancreas causes it to become permanently damaged. It is different to acute pancreatitis where the inflammation is only short-term and the pancreas can sometimes return to normal. However, having several episodes of acute pancreatitis can lead to scarring of the pancreas and may eventually lead to chronic pancreatitis.

Chronic pancreatitis often gets worse over time, with further symptoms or complications of advanced chronic pancreatitis developing.



## **What causes chronic pancreatitis?**

Chronic pancreatitis can affect people of any age, but is most common in middle-aged men. Alcohol is known to damage the pancreas and the more you drink the higher your chance of developing chronic pancreatitis.

Smoking has a strong link with chronic pancreatitis. For example, those who smoke heavily will develop chronic pancreatitis earlier, and it will progress faster. Often people who smoke will experience worse pain than those who do not smoke. Continuing to smoke with chronic pancreas means you have a much higher risk of developing pancreatic cancer.

Other causes include:

- A problem with the immune system, causing it to attack the pancreas (known as autoimmune pancreatitis)
- An inherited genetic mutation disrupting the function of the pancreas.
- In up to 3 out of 10 people with the condition, the cause is unknown – this is known as ‘idiopathic’ chronic pancreatitis.

## **What are the symptoms of chronic pancreatitis?**

The most common symptom of chronic pancreatitis is abdominal (stomach) pain, which in some cases can be constant and severe. The pain usually develops in the middle or left side of the abdomen and may travel along your back. It has been described as a burning or shooting pain which comes and goes, but could last for several hours or days. Although the pain sometimes occurs after eating a meal, there is often no trigger.

Some people also experience symptoms of nausea and vomiting during the pain. As chronic pancreatitis gets worse over time, the painful episodes may become more frequent and more severe.

Eventually, a constant mild to moderate pain can develop in the abdomen in between episodes of severe pain. This is most common in people who continue to drink alcohol and smoke after being diagnosed with chronic pancreatitis. Those who stop drinking alcohol and stop smoking can experience a reduction in the severity of their pain.

Other symptoms may develop as the pancreas becomes more damaged and progresses to advanced chronic pancreatitis. These include diabetes and problems digesting food. You can read more about these complications in this booklet.

## **Early chronic pancreatitis**

Symptoms of early chronic pancreatitis are normally recurring episodes of pain, with or without nausea and vomiting. If you have been diagnosed with the early stages of chronic pancreatitis you can support your health and wellbeing by following the lifestyle changes listed below on page 9.

It is important to try to eat a healthy balanced diet, exercise regularly and be a healthy weight for your height. You will be advised to stop drinking alcohol, and if you smoke, you should stop as soon as possible. Speak to your GP or practice nurse about support to stop smoking.

Further information on healthy eating can be found at [www.nhs.uk/Livewell/Goodfood/Pages/the-eatwell-guide.aspx](http://www.nhs.uk/Livewell/Goodfood/Pages/the-eatwell-guide.aspx)

## **Advanced chronic pancreatitis**

Other complications and symptoms can occur when the pancreas becomes so damaged that it can no longer function properly. It can lose the ability to produce enough enzymes (which are needed to break down food in the gut).

It can also stop producing enough insulin, causing diabetes. Both of these complications can lead to you developing further health problems if they are not treated.

## **What is pancreatic exocrine insufficiency?**

Your pancreas produces digestive enzymes that break your food down into pieces small enough to be absorbed through the wall of your gut. When your pancreas is damaged or inflamed, it may not produce enough of these enzymes to digest your food adequately. This is called 'pancreatic exocrine insufficiency'.

If you cannot properly digest and absorb your food and drink you may develop some or all of the following symptoms:

- Pale, greasy or oily stools that may float and are difficult to flush
- Offensive smelling wind and stools
- Loose and frequent stools
- Larger more bulky stools
- Wind, flatulence, bloating, abdominal pain or cramping
- Unintentional weight loss or struggling to regain weight
- Blood sugar levels can be difficult to control
- Vitamin and mineral deficiencies

If left untreated, poor absorption of food can lead to extreme weight loss, vitamin and mineral deficiencies, osteoporosis and other health complications.

## How is pancreatic exocrine insufficiency treated?

Treatment of pancreatic enzyme insufficiency involves taking a replacement pancreatic enzyme, usually in the form of capsules. It may be referred to as PERT (pancreatic enzyme replacement therapy). These medicines contain three types of enzymes to help you digest your food:

- Lipase (to help digest fats)
- Amylase (to digest starchy carbohydrates)
- Protease (to help you digest protein).

If you have pancreatic exocrine insufficiency you are likely to be prescribed one of the following enzyme medications: Creon<sup>®</sup>, Nutrizym<sup>®</sup>, Pancrease<sup>®</sup>, or Pancrex<sup>®</sup>.

To work effectively pancreatic enzyme capsules should be taken every time you eat or have a milky drink. The first capsule should be taken with the first mouthful of food or drink, and the rest spread out throughout your meal.

More information on how best to take your enzymes can be found in a separate information book. If you have been recommended to take enzyme capsules then ask your dietitian, nurse or doctor for this information booklet.

It is important to know that these enzymes are made from pigs pancreas' as they are most similar to ours. There are no alternatives available at this time. Speak to your doctor, dietitian or specialist nurse if you have concerns about this.

If you are still experiencing symptoms of not absorbing your food and drinks, you may need to increase the number of enzymes you are taking. Your dietitian, specialist nurse or doctor can advise you on how to do this. Some people will need high doses of these capsules.

Some people find some medications; especially pain killers, iron supplements and some anti-sickness drugs can cause constipation. Do not be tempted to reduce your enzymes

to treat constipation. This will cause you to not digest and absorb your food well and is not a healthy way of treating constipation. You need to take the right dose of enzymes alongside a laxative if needed. Your doctor or dietitian can provide further information on this.

## **Type 3c diabetes**

The other main function of the pancreas is to make hormones, including insulin.

Insulin controls the level of glucose (sugar) in your blood by moving it from the bloodstream into the cells of the body where it is either used for energy or stored.

Damage to your pancreas may prevent it from producing enough insulin and this causes diabetes. Diabetes is a common complication of chronic pancreatitis and affects about a third of people with the condition. If you already have diabetes further damage to your pancreas can make it harder for you to control your blood sugar levels.

The following can be symptoms of diabetes:

- Unexplained weight loss
- Passing urine often
- Feeling very thirsty
- Feeling very tired
- Dizziness

If you experience any of these symptoms please discuss them with your doctor, dietitian or specialist nurse. Diabetes can have serious complications if not treated.

If you develop diabetes you may need to make changes to your diet and medications to help control your blood sugar levels. Much of the dietary advice you may find that is available for people with other types of diabetes. For type 2 diabetes, advice is often aimed to help people lose weight, and this may not be appropriate for you. Your diabetes specialist nurse and dietitian will be able to advise you on what is best for you.

## **When should I seek medical advice?**

Always visit your GP if you are experiencing:

- Persistent vomiting
- Severe pain
- Symptoms of jaundice (yellowing of the skin and eyes)
- Unexplained weight loss
- Severe bloating (swollen stomach)
- Symptoms of diabetes such as feeling very thirsty, urinating frequently and feeling very tired
- If you have any untreated or worsening symptoms of pancreatic exocrine insufficiency described above
- Any other sudden change in symptoms



## How is chronic pancreatitis treated?

In most cases of chronic pancreatitis, there is no specific treatment to reduce the inflammation and repair the damage to the pancreas. Treatment for chronic pancreatitis aims to manage the complications and reduce any symptoms.

Treatment mainly focuses on lifestyle changes and medication to relieve pain and prevent malnutrition. Surgery is sometimes needed to treat severe chronic pain that does not respond to medication. People who do not smoke cigarettes and avoid drinking alcohol tend to experience less pain and live longer than those who continue to drink and smoke after receiving a diagnosis.

## What lifestyle changes should I make?

If you are diagnosed with chronic pancreatitis, some lifestyle changes will be recommended. These are described below. Further information on each of these is available from your doctor, specialist nurse or dietitian.

- **Avoid alcohol** – Alcohol is known to damage the pancreas, so even if it is not the cause of your pancreatitis, avoiding alcohol completely can prevent the progression of chronic pancreatitis and improve symptoms such as pain. If you feel you are dependent on alcohol, specialist groups (listed on the back of this leaflet) can provide you with support.
- **Stop smoking** – Smoking also damages the pancreas. Giving up smoking can slow down the progression of chronic pancreatitis, improve symptoms such as pain, and improve your overall health. Specialist support is available from your local stop smoking service (details on the back of this leaflet).
- **Do regular exercise** – regular exercise can help to reduce muscle loss, strengthen your bones, reduce pain, improve your appetite, stimulate digestion, prevent constipation and relieve anxiety and depression. If you are usually fit and active continue to do your usual exercise or activities. However, if you find it difficult to exercise your doctor, dietitian or specialist nurse can give you information on exercises that would be suitable for you to try.

- **Sunlight** - from May to September aim to spend 15 minutes in the sunshine between 10am and 3pm each day with bare arms and face without sunscreen. This helps your body to make vitamin D, needed for healthy bones. Taking an over the counter vitamin D supplement throughout the year is also recommended (see section below on vitamin and mineral supplements).
- **Joining a support group** for people with chronic pancreatitis, such as the [Pancreatitis Supporters' Network \(www.pancreatitis.org.uk\)](http://www.pancreatitis.org.uk), or the Pancreatitis Forum ([www.pancreatitis-forum.org.uk](http://www.pancreatitis-forum.org.uk)) may also help. Talking to other people with the same condition can often help to reduce any feelings of isolation and stress you may have.

## **Do I need to change my diet with chronic pancreatitis?**

When you have chronic pancreatitis problems with absorbing food can mean it is difficult to maintain your weight and you are at greater risk of having vitamin and mineral deficiencies.

It is important to eat well, take the prescribed dose of enzymes and aim to maintain a healthy weight for your height. There is not a list of forbidden foods for patients with chronic pancreatitis.

If you have early or mild chronic pancreatitis, you will usually be able to enjoy a 'normal' diet with few restrictions. You should follow normal healthy eating advice. With advanced or severe chronic pancreatitis, you may find that there are foods that you cannot tolerate, or that worsen your symptoms. This can vary from person to person.

Usually, if you are taking adequate amounts of pancreatic enzymes (the correct amounts at the correct times) you will tolerate a much higher range of food. Your pattern of eating is also important, for example smaller more frequent meals will better control your symptoms. Your dietitian can advise you on any changes you may need to make to your diet and enzymes to help you manage symptoms of malabsorption, gain weight, manage your diabetes or correct any deficiencies you may have.

## **What can I do if I have a small appetite and/or I am losing weight?**

If you are having difficulties eating or maintaining your weight the key is to eat “little and often” alongside the correct dose of enzymes. Small nutritious snacks are often easier to manage than a large meal and small portions can be more inviting.

Further information on how to cope with a small appetite is available from your dietitian, doctor or specialist nurse.

## **Do I need to take any nutritional supplement products?**

If you have lost weight, have a poor appetite or can only eat small amounts of food your doctor or dietitian may suggest you take nutritional supplement products. These supplements can help you to get enough calories, protein, vitamins and minerals.

Different types of nutritional supplement product are available, including milk based, juice flavored or yoghurt style drinks, powders, puddings and soups. You may want to try products from different companies to find one you like. They are available on prescription from your GP although you can buy some over the counter supplement products such as Complan<sup>®</sup> or Meretine<sup>®</sup> shakes and soups.

If you take pancreatic enzymes, you need to make sure you take these with any supplement drink you take.

## **Do I need to take a vitamin and mineral supplement?**

If you have pancreatic enzyme insufficiency you are at risk of developing some vitamin and mineral deficiencies. The risk of vitamin and mineral deficiencies increases if you are not taking enough pancreatic enzyme capsules.

Deficiencies in fat soluble vitamins (A, D,E and K), vitamin B12, iron and magnesium are most common. However, you could also develop a deficiency in Vitamin C, thiamine, niacin, folate, calcium, zinc, selenium and copper.

A lack of these vitamins can lead to a range of health concerns including an increased chance of getting an infection, muscle weakness, excess tiredness, muscle soreness and poor wound healing, osteoporosis and bone fractures. The best way to prevent this is to ensure that you have a healthy balanced diet and that you take adequate pancreatic enzymes to absorb your food and drink properly.

Many hospitals also recommend people with chronic pancreatitis take a vitamin and mineral supplement regularly. You should ask your dietitian or healthcare team if a vitamin and mineral supplement would be of benefit to you.

## **Vitamin supplements and bone health**

Vitamin D deficiency is common in the general population in northern Europe, as the sunlight is not strong enough for your body to make enough vitamin D for most of the year. When you have chronic pancreatitis you are at higher risk of vitamin D deficiency. It is recommended that anyone who is high risk takes a daily over the counter vitamin D supplement, a suitable dose would be 10mcg (400IU) per day.

If you have a confirmed vitamin D deficiency or insufficiency, you will need a higher dose to correct this. Vitamin D deficiency can contribute to poor bone health, and can also affect your immune system.

If you have chronic pancreatitis, you are at a high risk of developing osteoporosis (brittle bones) and osteopenia (lower bone density, which may lead to osteoporosis). You may be referred for a bone density assessment scan, known as a DXA scan. This is a painless procedure, similar to an x-ray. This can tell if you have osteoporosis or osteopenia. National guidelines now recommend regular DXA scans for people with chronic pancreatitis.

Osteoporosis is common in those with chronic pancreatitis due to poor absorption, smoking, chronic inflammation, poor diet, poor exercise, and vitamin D deficiency. If you have osteoporosis, or are more at risk of developing osteoporosis you should receive specialist advice and may require treatment.

If you struggle to eat and drink as much calcium as you need, for example less than three portions each day of dairy food, you may benefit from taking a daily calcium supplement. Your dietitian can advise you if taking a calcium supplement is necessary for you. If you take a calcium supplement you should also take a vitamin D supplement (or combined vitamin D and calcium supplement) unless you know that your vitamin D blood levels are adequate. Without adequate vitamin D, you cannot absorb enough calcium.

Further information on chronic pancreatitis and healthy bones is available from your doctor, dietitian or specialist nurse.

## Questions to ask your healthcare team:

- Is there a specialist dietitian as part of the team?
- Can I be referred to a dietitian? And how soon can I see them?
- Would pancreatic enzyme supplements benefit me?
- How do I take pancreatic enzyme supplements?
- Should I be taking nutritional supplements?
- How often should I have the vitamin and mineral levels in my blood checked?
- How often should my blood sugar levels be checked?
- Do I need a bone density scan?

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**The information in this booklet does not replace the advice given to you by your Dietitian/Doctor/Nurse Specialist.**

**The advice in this booklet is suitable for most people, but everyone is different.**

**The contents of this booklet may differ to the information given to you by your medical team as their advice is specific to you, and your condition.**

**Other leaflets available in this series with more information on specific areas are:**

- Pancreatic enzyme replacement therapy
- Type 3c diabetes (pancreatogenic diabetes)
- Pancreatic disease and physical activity
- Nutrition and acute pancreatitis
- Chronic pancreatitis – high energy and protein advice
- Chronic pancreatitis – advice to help with constipation

**Useful contacts:**

Pancreatitis supporters network : [www.pancreatitis.org.uk](http://www.pancreatitis.org.uk)

Pancreatitis Forum: [www.pancreatitis-forum.org.uk](http://www.pancreatitis-forum.org.uk)

Core: <http://corecharity.org.uk/>

[www.nhs.org.uk](http://www.nhs.org.uk)

Diabetes UK – 0345 1232399 [www.diabetes.org.uk](http://www.diabetes.org.uk)

Alcohol concern - helpline (UK) 0300 1231110 [www.alcoholconcern.org.uk](http://www.alcoholconcern.org.uk)

Alcoholics Anonymous – helpline (UK) 0845 7697555 [www.alcoholics-anonymous.org.uk](http://www.alcoholics-anonymous.org.uk)

Al-Anon Family groups – helpline (UK) 020 74030888 [www.al-anonuk.org.uk](http://www.al-anonuk.org.uk)

Smoke free national helpline (UK) 0300 1231044

**These websites are separate organisations, and the authors of this booklet have no control over their contents**

**Always be careful with information obtained from the internet, when carrying out internet searches try and stick to accredited sites.**

**This booklet has been given to you by:**

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**Contact Number:**.....

**Authors**

Elizabeth Bradley  
Specialist Dietitian - Liver, HPB and NET, Queen Elizabeth Hospital Birmingham

Emily Button  
Specialist Gastro Surgical Dietitian, Addenbrooke's Hospital, Cambridge

Deirdre Burke  
Senior Dietitian-Pancreatic Cancer Care, St. Vincent's University Hospital, Dublin

Kate Latimer  
Hepato-Pancreatico-Biliary Specialist Dietitian, Sheffield

Laura Rettie  
Surgical Specialist Dietitian, Aberdeen Royal Infirmary

**Peer reviewed by:**

Dr Sinead Duggan, Post Doctoral Research Fellow, Trinity College, Dublin  
Oonagh Griffin, Specialist Pancreatic Dietitian, PhD Candidate, Trinity College Dublin  
Kathryn Freeman, Hepato-Pancreatico-Biliary Specialist Dietitian, Sheffield  
Laura McGeeney, Pancreatic Specialist Dietitian, Addenbrooke's Hospital, Cambridge  
Mary Phillips, Hepato-Pancreatico-biliary Specialist Dietitian, Guildford  
Sarah Dann, Hepato-Pancreatico-Biliary Specialist Dietitian, Royal Free Hospital, London  
Mr Asif Jah, Consultant HPB & Transplant Surgeon, Addenbrooke's Hospital, Cambridge

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