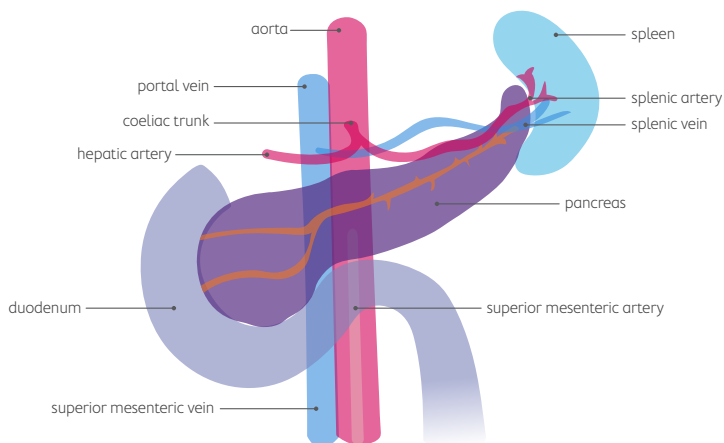




# What is pancreatic cancer?

The pancreas is a gland that lies behind the stomach in the back of the abdomen. It helps in digestion and regulates blood sugar levels by producing insulin.

Pancreatic cancer occurs when abnormal cells in the pancreas grow out of control. It can occur in the head, body or tail of the pancreas.



Types of pancreatic cancer include:

- **pancreatic ductal adenocarcinoma**, which starts in the cells that make enzymes to help digestion, called the exocrine cells – approximately 95% of all pancreatic cancers are of this type
- **pancreatic neuroendocrine tumours (or endocrine tumours)**, which start in the hormone-producing cells – around 5% of pancreatic cancers are of this type.

## Symptoms

Pancreatic cancer often has no symptoms in its early stages, which makes it hard to detect. As the disease progresses, some common symptoms may include:

- yellowing of the skin and eyes due to bile duct obstruction (jaundice)
- itchy skin
- dark urine
- discomfort in the upper abdomen that may radiate to the back
- unexplained weight loss
- unexplained extreme tiredness (fatigue)
- loss of appetite
- feeling sick (nausea) or vomiting
- change in stools – may be pale, greasy or float.

## Causes and risk factors

Most pancreatic cancers develop with no obvious cause, but some factors are known to increase the risk. They include:

- ageing – pancreatic cancer is more common in people aged over 65 years and relatively uncommon in people under 50 years
- gender – men are more likely to develop pancreatic cancer than women
- smoking tobacco significantly raises the risk
- frequent alcohol use
- obesity
- diabetes – new-onset diabetes in older adults can be a warning sign
- family history – a family history of pancreatic cancer or certain genetic syndromes can increase risk
- long-term inflammation of the pancreas (chronic pancreatitis).

## Diagnosis

Diagnosing biliary cancer can be challenging. Doctors may use several methods to diagnose it, including the following.

### Blood tests

Blood tests can check for tumour markers, which are chemical substances produced by cancers that show up in the bloodstream. CA19-9 is a tumour marker linked to pancreatic cancer.

### Computed tomography (CT) scan

A CT scan uses X-rays to build up a 3-dimensional picture of the pancreas and the other organs around it. It is also usual to scan your chest and pelvic area to check for any signs of cancer outside the pancreas.

### Positron emission tomography (PET)

During a PET scan, a small amount of radioactive dye is injected into a vein. This scan can pick up very small areas of active cells.

### Magnetic resonance imaging (MRI)

An MRI scan uses magnets and radio waves to build up detailed cross-sectional images of the pancreas and surrounding areas.

### Magnetic resonance cholangio-pancreatography (MRCP)

This type of MRI scan is sometimes used to give clearer pictures of the bile and pancreatic ducts and any associated blockages.

### Endoscopic ultrasound (EUS)

A thin, flexible tube (endoscope) with an ultrasound probe at the end is passed through your mouth into your stomach to take pictures of the pancreas and the other organs around it.

### Endoscopic retrograde cholangio-pancreatography (ERCP)

Like the EUS, this test uses an endoscope. The endoscope is used to guide a catheter into the bile and/or pancreatic duct(s); this is done to insert a small amount of dye. Then X-ray images are done, which will show blockages or narrowing of the duct(s) that might be caused by the cancer.

ERCP may also be used to put a thin plastic or metal tube (stent) into the blocked duct to keep it open.

### Laparoscopy

This is a small operation done under general anaesthetic. A long tube with a camera at one end (a laparoscope) is inserted through small cuts in your abdomen to check whether the cancer has spread.

### Biopsy

A biopsy takes a small sample of the pancreas tissue during an EUS, ERCP or laparoscopy, or through your skin with local anaesthetic and guided by CT. The tissue samples are then examined under a microscope.

A biopsy may not be performed in certain cases when surgical removal is planned upfront.

In cases when surgery is not planned at the beginning, you will need to have a biopsy before starting chemotherapy or taking part in a clinical trial.



## Staging

Once diagnosed, you may have further tests to determine how far the cancer has spread. This is called staging, and your doctors will use the results to advise on treatment.

The table outlines staging for pancreatic cancer.

Stage	Where cancer is found
1	Cancer is found only in the pancreas and has not spread.
2	Cancer has spread to nearby lymph nodes.
3	Cancer has spread to major blood vessels or more lymph nodes.
4	Cancer has spread to other parts of the body. This is known as 'advanced cancer'.



## Treatment

Treatment depends on the stage of cancer, and your overall health and preferences. Common options include the following.

### Surgery

If the cancer is detected early, surgery may be done to remove part or all of the pancreas. The most common surgical procedures are:

- **Whipple's procedure** – This is a complex operation that removes the head of the pancreas and gallbladder, along with parts of the small intestine.
- **Distal pancreatectomy** – This operation removes the tail and body of the pancreas.

### Chemotherapy

Drugs are used to kill cancer cells or stop their growth. This can be done before surgery to shrink tumours or after surgery to destroy any remaining cancer cells.

It is often the main treatment for advanced cancer.

### Radiation therapy

Radiation therapy uses high-energy X-rays to destroy cancer cells. It can be used alone or in combination with other treatments.

### Immunotherapy

Immunotherapy treatments help the body's immune system fight cancer.

### Targeted therapy

These drugs target specific characteristics of cancer cells. For example, some may target specific genetic mutations found in certain tumours.

## Clinical trials

Clinical trials allow new treatments to be tested and offer access to potentially more effective therapies than otherwise available.

Ask your doctor if there is a trial that could work for you.

## Living with pancreatic cancer

A diagnosis of pancreatic cancer can be overwhelming. Here are some tips for coping.

### Stay informed

Learn about your condition and treatment options. Knowledge can empower you.

### Pain management

Talk to your healthcare team about managing pain and other symptoms.

### Nutritional support

Engage with a dietitian, who can help with diet-related side effects and maintaining weight and strength during treatment.

Many people find that relieving dietary-related symptoms makes the biggest difference to how they feel.

### Physical wellbeing

You will feel physical effects from the cancer and its treatment.

Physical activity can help with symptoms. The amount of exercise you can tolerate will depend on how you feel and whether you are having treatment or recovering from it.

An exercise physiologist or physiotherapist can assist you in staying active.

### Emotional wellbeing

Seek support, talk to friends and family, or attend support groups. A cancer counselling service can support you and provide different strategies to help you cope. Simple relaxation techniques can help such as deep breathing or listening to soothing music – both are easy things to do at home.

### Practical support

Accept offers of help and ask for help if you need it.

It is important to deal with work or financial situations so that they don't become an extra source of stress.

Talk to your employer about taking sick leave, reducing your hours or working from home. Ask about any financial help or benefits you may be entitled to.

## Reducing risk

While there is no guaranteed way to prevent pancreatic cancer, some lifestyle choices can help lower your risk. They include:

- controlling diabetes – if you have diabetes, work with your doctor to manage your condition
- having regular check-ups – discuss any family history of pancreatic cancer with your doctor, as they may recommend closer monitoring
- quitting smoking – if you smoke, seek help to stop
- maintaining a healthy weight – aim for a balanced diet and regular exercise.