Stents and bypass surgery for pancreatic cancer

This fact sheet is for people with pancreatic cancer who can’t have an operation to remove the cancer (inoperable cancer), but may have a stent or bypass surgery to relieve symptoms caused by the cancer. Your partner or family might also find it helpful.

The fact sheet explains how these treatments can be used to treat a blocked bile duct or duodenum. It describes what the treatments involve, possible side effects, how they can affect your diet, and getting back to normal afterwards.

Contents

What is inoperable pancreatic cancer? ............................................................... 2
What are stents? .................................................................................................. 2
Stent for a blocked bile duct ............................................................................ 3
Stent for a blocked duodenum ......................................................................... 6
Are there any problems with stents? ................................................................. 7
What is bypass surgery? .................................................................................... 9
After your bypass surgery ............................................................................... 13
Are there any side effects from bypass surgery? ............................................. 15
Diet after a stent or bypass surgery ................................................................. 15
Coping with pancreatic cancer ......................................................................... 16
Further information and support .................................................................... 17

Each hospital will do things slightly differently so use this fact sheet as a general guide. Ask your doctor or specialist nurse for more information about your treatment.

You can also speak to our specialist nurses on our confidential Support Line. Call free on 0808 801 0707 or email support@pancreaticcancer.org.uk
What is inoperable pancreatic cancer?

Inoperable pancreatic cancer is cancer that can’t be removed by surgery. Pancreatic cancer can be difficult to diagnose because it doesn’t usually cause many symptoms in the early stages, and symptoms can be quite vague. This means that by the time it is diagnosed, the cancer may have grown quite large or spread to nearby organs or blood vessels (locally advanced cancer). Or it may have spread beyond the pancreas to other parts of the body (advanced or metastatic cancer). This means that it is not possible to have surgery to remove the cancer. But you may be offered chemotherapy, and sometimes radiotherapy, to control the growth of the cancer and relieve symptoms.

Pancreatic cancer can cause jaundice by blocking the bile duct. The bile duct is the tube that carries bile from the liver to the duodenum (first part of the small intestines). Bile is a fluid produced by the liver to help digestion. The main symptoms of jaundice are yellow skin or eyes, itchiness, pale stools (poo) and dark urine. Pancreatic cancer can also block the duodenum, which means that food can’t flow out of the stomach. If this happens food can build up in your stomach, making you feel and be sick (nausea and vomiting) and lose weight.

There are treatments to help manage these symptoms.

- A tube (called a stent) can be put into a blocked bile duct or duodenum to relieve a blockage (see pages 3 - 8).
- Surgery, called bypass surgery, can create a new way for bile to flow from the liver to the intestines, and for food to flow out of the stomach into the duodenum (see pages 9 - 12).

What are stents?

Stents are small, flexible plastic or metal tubes. The stent is inserted into your bile duct or duodenum to open them up and relieve the blockage.

A stent used to open the bile duct is called a biliary stent. A stent used to open the duodenum is called a duodenal stent. Sometimes stents may need to be put into both the duodenum and the bile duct – but this is not very common.


**Plastic stents**

Plastic stents are sometimes used to relieve jaundice and sickness before surgery to remove cancer, or during tests to see if you can have surgery.

Plastic stents can become blocked after a few months. This is often because bacteria and bile particles build up inside the stent. Plastic stents are usually replaced every three or four months. They can be replaced with a metal stent, which is wider and has a smaller risk of getting blocked.

**Metal stents**

There may be a lower risk of complications with metal stents compared to plastic stents. Metal stents are used more than plastic stents because they are wider and can expand. This makes it easier for bile to drain from the liver, and for food to flow from the stomach. They may be used if you are having chemotherapy, because they last longer than plastic stents, and the risk of infection is less. This allows chemotherapy to work more effectively. Metal stents for a blocked bile duct are also better at draining the bile.

**Stent for a blocked bile duct**

**Having a stent inserted with ERCP**

If the cancer is blocking your bile duct causing jaundice, you may be able to have a stent put in. This will open up the bile duct, and relieve the jaundice. A stent for a blocked bile duct is usually put in using a procedure called endoscopic retrograde cholangio-pancreatography (ERCP). A flexible tube with a camera and light on the end (an endoscope) is put into your mouth and passed down your throat into your stomach. The camera shows the inside of your body on a screen. The stent is placed inside the bile duct using a small wire. When the stent is in the right place the wire is removed, and the blocked bile duct should drain normally.

Before the ERCP, tell your hospital team about any medicines that you are taking. You will be asked not to eat or drink for at least six hours before the procedure – although you may be able to have small sips of water up to two hours beforehand. This is to make sure that your stomach and duodenum are empty. Tell your medical team if you have diabetes – they will tell you how to manage it. You will have a sedative before the stent is put in. This is to make you drowsy and relaxed, but will not send you to sleep in the same way as a general anaesthetic.

The procedure usually takes 30-40 minutes.
Having a stent inserted through the skin (PTC)

Some people may not be able to have a stent put in with an ERCP. Instead, the stent is inserted through the tummy and liver wall and into the bile duct, using a narrow needle. This is called a percutaneous transhepatic cholangiogram (PTC).

You will have a sedative to make you drowsy. You will also have injections of a local anaesthetic into your tummy area (abdomen) or lower chest. This will make it numb, so that you can’t feel anything.

The PTC needle is guided into the bile duct using x-ray pictures on a computer screen. Dye is injected into the needle so that the blockage shows up on the screen. A wire is inserted into the needle and used to guide the stent into position. An x-ray will then be taken of your bile duct to make sure that it’s in the right place.

What happens afterwards?

After an ERCP you may have a blood test to check that it has not caused any problems. You will be told when you can drink and eat again.
You may be able to go home on the same day, or the next day. If you are going home on the same day, you will need someone to collect you from the hospital and stay with you overnight. This is because the sedative can stay in your body for up to 24 hours. Don’t drive, use any machinery or sign any legal documents for 24 hours.

If you have a PTC you will usually need to stay in hospital for a few days afterwards. There may be a temporary drain left in the bile duct for a few days, to help the bile to flow freely. This will be removed before you leave hospital.

You will be given antibiotics before and after an ERCP or PTC to prevent an infection of the bile duct (cholangitis).

**Will I feel better?**

It is usually easy to know if the stent is working. Any symptoms of jaundice (see page 2) usually improve within the first couple of days. It may take around two to three weeks for your jaundice to go completely.

Bilirubin is a substance found in bile, and jaundice develops when there’s a build-up of bilirubin in the blood. Levels of bilirubin are measured during blood tests called ‘liver function’ tests. They will affect how soon you may be able to start treatment such as chemotherapy or radiotherapy. Your hospital should give you blood test forms or a letter to take to your GP to have the blood tests after one week, two weeks and so on.

**Benefits and risks of stents for treating a blocked bile duct**

**Benefits**

- The stent should keep the bile duct open and stop bile building up and causing jaundice.
- It will help to improve any symptoms of jaundice (see page 2).
- You should start feeling better a day or two after having the stent put in.

**Risks**

- The stent may get blocked and the symptoms you had before may return (see page 7).
- There is a risk of infection after having a biliary stent put in. Infections can be treated with antibiotics (see page 7).
- There is a small risk of your stent moving after it has been put in. If this happens it will need to be replaced (see page 8).
- Sometimes an ERCP can cause pancreatitis (see page 8).
**Stent for a blocked duodenum**

If the cancer is blocking the duodenum, you may be able to have a stent put in to keep the duodenum open. It should stop you being sick, and you should start to feel like eating again.

**How is the stent inserted?**

During the procedure a flexible tube with a camera on the end, called an endoscope, is put in through your mouth and down into the duodenum. A fine wire is then used to guide the stent into place inside the duodenum. You may go into hospital the day before the stent is inserted, or on the day. You will be asked not to eat or drink for at least six hours beforehand to make sure that your stomach and duodenum are empty. Tell your doctor or nurse if you have diabetes, as this might affect your care before the stent is put in. You will have a sedative by an injection, which will make you very drowsy and relaxed.

The procedure takes 30-40 minutes.

**What happens afterwards?**

You will be told when you can drink again. This is usually once the sedative has worn off. Once you are able to drink without problems, you will be able to eat. It is normal to take several days to build back up to eating solid food (see page 15). You may need to stay in hospital overnight but this will depend on how quickly you recover.
Will I feel better?
After the stent has been put in you should find that your symptoms improve. For example, you should stop feeling sick and find it easier to eat.

The stent should help food move more easily through your duodenum. But you will need to be careful about what you eat, to make sure the stent doesn’t get blocked (see page 15).

Benefits and risks of stents for a blocked duodenum

Benefits
- The stent opens up the blocked duodenum so food can flow, and you can eat and drink.
- Symptoms such as feeling and being sick should improve quickly, usually within a couple of days.

Risks
Having a duodenal stent put in is generally safe, but there may be some risks.

- There is a risk that the stent may get blocked and the symptoms you had may return (see below).
- There is a small risk that your stent may move out of place. If this happens you may need to have a new stent put in (see page 8).
- There is a small risk of a hole developing in the duodenum (duodenal perforation) during or after having a stent put in. You may need surgery to treat this (see page 8).

Are there any problems with stents?
The main problem with stents is that they can get blocked. This is usually caused by the cancer growing through the stent, or a build-up of bile in a biliary stent. If this happens the blockage can be removed, or more stents can be put in. With a duodenal stent, solid food can block the stent, and it may need to be replaced – often after three or four months.

Infection
With both types of stent there is also a risk of infection. This is usually caused by the stent getting blocked. With biliary stents an infection may also be caused by bile flowing more slowly through the stent, or because bile salts have collected inside your stent.
Signs of infection include tummy pain, aching muscles, high temperature or shivering. If this happens contact your GP. This can be treated with antibiotics, and the stent can be replaced.

**Stent moving out of place**

Occasionally stents can move out of place. If this happens the stent is usually removed and a new one put in. Signs that there may be a problem include tummy pain, fever or shivering. The symptoms that you had before the stent was put in may also return. It is important that you speak to your doctor or nurse if you get any of these symptoms. They can decide if you need antibiotics or if the stent needs to be replaced.

**Inflamed pancreas**

Sometimes an ERCP for a biliary stent can cause pancreatitis, an inflammation of the pancreas. Symptoms include severe tummy and back pain and being sick. Your doctors will look out for this problem but if it happens after you have gone home, go to your local accident and emergency (A&E) department or phone your nurse.

Resting and having soft foods and fluids can help these symptoms to settle down. But if they are more severe you may need to go back to hospital.

**Other possible problems**

There are some other possible problems from having a stent put in, but these are very rare. For example, there is a risk of getting a hole in the duodenum (duodenal perforation) during or after a duodenal stent is put in. This can cause bleeding, vomiting or an infection.

If you do have any side effects after you have left hospital, speak to your doctor straight away. Or visit your local accident and emergency department.

If you have any questions or concerns about having a stent put in, speak to your medical team.

You can also speak to our specialist nurses on our free Support Line.

If a stent is not a suitable option for you, you may be able to have bypass surgery to relieve a blocked bile duct or blocked duodenum. You can read about this type of surgery on page 9.
Questions to ask

Will a stent improve my symptoms?
Will a plastic or metal stent be used?
How quickly will I recover after the stent has been put in?
Will I need to change my diet after having a duodenal stent put in?
Will I see a dietitian?
How will a stent affect future treatment such as chemotherapy?

What is bypass surgery?

Another option for relieving a blocked duodenum or bile duct is bypass surgery. Whether this is an option for you may depend on your symptoms and what is offered by your hospital. Sometimes it may be done if your surgeon started surgery to remove the cancer (such as a Whipple’s operation), but found that it wasn’t possible to remove it because it had spread beyond the pancreas. Bypass surgery may be done instead to help relieve your symptoms.

Bypass surgery is a major operation, so it’s important to discuss the risks and benefits of this type of surgery with your surgeon. Bypass surgery won’t remove the cancer but it may improve your symptoms. It can be carried out using open or laparoscopic (keyhole) surgery – read more on page 10.

You can ask our specialist nurses any questions about bypass surgery on our free Support Line.

Read more about surgery to remove pancreatic cancer, in our fact sheet, Surgery for operable pancreatic cancer, and on our website at pancreaticcancer.org.uk/surgery
**Bypass surgery for a blocked bile duct**

You may be offered bypass surgery for a blocked bile duct if you cannot have a stent, or you have had a stent but it hasn’t worked. This operation is called a choledochojejunostomy.

**What happens beforehand?**
You won’t be able to eat anything for at least six hours before your operation. You will be able to drink water up to two hours before your surgery. Tell your doctor or nurse if you have diabetes as this might affect your care before surgery.

**What happens during the operation?**
Bypass surgery generally takes two to four hours, depending on your cancer and the exact type of surgery you are having. The bile duct will be cut above the blockage and reconnected to the small intestines. This allows the bile to flow again.

The operation may be open surgery, when one large cut (incision) is made in the tummy. In some hospitals you might be able to have this done by keyhole (laparoscopic) surgery. With keyhole surgery, several small cuts (about 1-2 cms) are made in the tummy. A long thin tube with a camera on the end (called a laparoscope) is inserted through one hole. The surgeon then inserts surgical instruments through the other holes, guided by the images from the laparoscope.
Bypass surgery for a blocked duodenum

Bypass surgery for a blocked duodenum is called a gastro-jejunostomy. This operation is often done at the same time as bypass surgery for a blocked bile duct (see page 10).

What happens beforehand?
You won’t be able to eat anything for at least six hours before your operation. You will be able to drink water up to two hours before your surgery. It is also important that you tell your doctor or nurse if you have diabetes as this might affect your care before surgery.

What happens during the operation?
This type of surgery usually takes about two to four hours. The surgeon will connect the stomach to the small intestines. This allows food to pass from the stomach into the small intestines, and should stop you feeling sick.
Before bypass surgery for a blocked duodenum

The stomach is connected to the small intestines so food can pass through

After bypass surgery for a blocked duodenum
After your bypass surgery

You may be in a high dependency unit (HDU) straight after the operation, before going back to the ward. You will have some tubes or drains put in during the operation, which are usually removed in the first couple of days. These may include:

- a tube in a vein in your arm or neck for fluids or medication
- drains under the skin near your wound to drain off any fluids
- a thin tube (catheter) through your urethra (the tube you pass urine through) into your bladder, to drain urine.

Following the operation, you may have some pain and will be given painkillers for this. You will be able to drink and eat soft foods, and after a few days you may be able to eat solid foods. But this may vary depending on your recovery.

You will probably spend four to ten days recovering in hospital, if there are no problems, any pain is well controlled and you are eating again.

Check-ups after surgery

You will usually have a check-up appointment within two to six weeks after you go home from hospital. The hospital team will check your wound. They will also discuss chemotherapy and any other future treatment that you might need. Some people may go on to have chemotherapy treatment and see an oncologist, who specialises in the treatment of cancer with chemotherapy.

Read more about chemotherapy in our fact sheet, Chemotherapy for pancreatic cancer, or at pancreaticcancer.org.uk/chemotherapy

If you have any questions about further treatment, you can speak to our specialist nurses on our free Support Line.
Recovering after surgery

Bypass surgery is major surgery and it may take around two to three months to recover. You will feel tired and weak at first, and your wound will need time to heal.

The surgery may help to manage some symptoms but it won’t cure the cancer. You may be able to have chemotherapy to control the growth of the cancer.

Gentle physical activity, such as walking, may help your recovery. Your medical team can give you advice on the most suitable type of exercise for you.

Benefits and risks of bypass surgery

The benefits and risks of bypass surgery can depend on your cancer and your general health. Discuss these with your doctor before you have this surgery, and ask any questions you have.

Benefits

- The surgery bypasses the blockage, and should relieve your symptoms.
- It may be an option if a stent is not suitable for you.

Risks

Bypass surgery for pancreatic cancer is major surgery, and as with any major surgery, there are possible risks.

- You may have some side effects, but there are usually ways to manage these (see page 15).
- You may need to stay in hospital for a few days after bypass surgery, and it may take a few months to fully recover from this type of surgery.
- There is a risk of your wound getting infected – you will be given antibiotics to reduce this risk.
- With all surgery there is a risk that you may have some bleeding during the operation, and will need a blood transfusion (replacing blood lost during surgery). This is not very common and will be done during the operation.
- There are risks to having a general anaesthetic, such as having an allergic reaction to the anaesthetic. But these are very rare.
Are there any side effects from bypass surgery?

You may have some side effects following your surgery. These will depend on the type of surgery you have had. Side effects will affect everyone differently, and you may not get all the side effects listed here.

**Pain**

You may feel some pain and discomfort after surgery. You will be given painkillers to manage this. Your pain will reduce over time.

**Fatigue**

It is normal to feel very tired from the anaesthetic and surgery, and everyone will recover differently from their surgery.

**Sickness after surgery**

Sometimes your stomach may take a while to start working again – this is called delayed gastric emptying, and will make you feel sick. If this happens, recovery may take a little longer – your surgical team will discuss this with you.

**Eating after surgery**

After surgery you might need to change your eating habits. For example, you might feel full more quickly, and will need to eat smaller meals more often. Your dietitian will be able to help you with your diet. If you haven’t seen a dietitian, ask to be referred to one.

**Diet after a stent or bypass surgery**

It may take you some time to build up your appetite after a stent or surgery. Try starting with small amounts of food frequently, and then increase the size of your meals.

The pancreas produces enzymes that help to break down (digest) food, so that nutrients from the food can be absorbed into the blood and used by the body. Pancreatic cancer can reduce the number of enzymes that your pancreas makes. This means that food is not properly digested.

This can be managed with pancreatic enzyme supplements. Pancreatic enzyme supplements help to break down food, and can help manage some symptoms, such as appetite and weight loss. They can also make a big difference to how you feel.
If you haven’t already been given pancreatic enzyme supplements, speak to your doctor or nurse, and ask to be referred to a dietitian.

Read more about pancreatic enzyme supplements and diet, including tips on what to eat after a stent, in our booklet, **Diet and pancreatic cancer**, or on our website at [pancreaticcancer.org.uk/diet](http://pancreaticcancer.org.uk/diet)

You can also speak to our specialist nurses on our free Support Line.

**Coping with pancreatic cancer**

Having pancreatic cancer can affect you emotionally as well as physically. You will probably go through a range of emotions. People find different ways to cope and there is support available. Your family and friends may also need support.

You may find that talking things through helps. Family and friends can be a fantastic support. But some people prefer not to talk to family and friends because they don’t want to worry them. You can also talk to your medical team. You will be given a main contact, or keyworker, who will usually be a specialist nurse. They can provide emotional support as well as medical care. Or talking to others affected by pancreatic cancer may help. We have an online discussion forum for anyone affected by pancreatic cancer. And there are support groups around the country where you can meet others.

We have information about coping with the emotional effects of pancreatic cancer on our website at [pancreaticcancer.org.uk/coping](http://pancreaticcancer.org.uk/coping)

You can also speak to our specialist nurses on our free Support Line. They have time to listen to your concerns and answer your questions.
Further information and support

Pancreatic Cancer UK services
We are here for everyone affected by pancreatic cancer.

We're here to support and listen
Our free and confidential Support Line is a lifeline for thousands of people affected by pancreatic cancer. Our specialist nurses understand the issues you might be facing and their expert help will support you in coping with pancreatic cancer.

Call free on 0808 801 0707 weekdays 10am-4pm, or email support@pancreaticcancer.org.uk

We're here with the information you need
We have the most up-to-date information on everything you need to know about pancreatic cancer through our website and publications, or our Support Line. We can help you every step of the way through diagnosis and treatment options to managing your symptoms and the care you receive.

Go to pancreaticcancer.org.uk/informationandsupport
Download or order our free publications at pancreaticcancer.org.uk/publications or call 0808 801 0707

Find an A-Z of medical words at pancreaticcancer.org.uk/medicalwords

We're here so you can share
Our Forum is a supportive place where everyone affected by pancreatic cancer can be there for each other online any time of day or night: forum.pancreaticcancer.org.uk

Local support groups mean you can meet other people to share your experiences: pancreaticcancer.org.uk/supportgroups

Our Living with Pancreatic Cancer Information Days provide local face to face support in an informal setting for people with pancreatic cancer: pancreaticcancer.org.uk/informationdays
Useful organisations

Cancer Research UK
www.cancerresearchuk.org
Helpline: 0808 800 4040  (Mon-Fri 9am-5pm)
Information for anyone affected by cancer.

Carers UK
www.carersuk.org
Advice Line 0808 808 7777
Support, information and advice for carers.

Healthtalk
www.healthtalk.org
Personal experiences presented in written, audio and video formats, including people talking about pancreatic cancer.

Macmillan Cancer Support
www.macmillan.org.uk
Support Line: 0808 808 00 00  (Mon-Fri 9am-8pm)
Provides practical, medical and financial support for anyone affected by cancer.

Maggie’s Centres
www.maggiescentres.org
Centres around the UK and online offer free, comprehensive support for anyone affected by cancer.

Marie Curie
www.mariecurie.org.uk
Support line: 0800 090 2309  (Mon-Fri 8am-6pm, Sat 11am-5pm)
Provides care and support for people living with a terminal illness, and their families.
Notes
Use this space to record anything you want to note down – for example, any questions for your medical team.
This fact sheet has been produced by the Support and Information Team at Pancreatic Cancer UK. It has been reviewed by health professionals and people affected by pancreatic cancer.

References to the sources of information used to write this fact sheet, and a list of health professionals who reviewed it, are available on our website – pancreaticcancer.org.uk

Pancreatic Cancer UK makes every effort to make sure that our services provide up-to-date, unbiased and accurate information about pancreatic cancer. We hope that this information will add to the medical advice you have received, and help you make decisions about your treatment and care. This information should not replace information and advice from your medical team – please speak to your doctor, nurse or other members of your medical team about any questions or concerns.

**Give us your feedback**

We hope you have found this information helpful. We are always keen to improve our information, so let us know if you have any comments or suggestions. Email us at publications@pancreaticcancer.org.uk or write to the Information Manager at the address below.

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