Stents and bypass surgery for pancreatic cancer

This fact sheet is for people with pancreatic cancer who are having a stent or bypass surgery. These treatments help symptoms caused by the cancer blocking the bile duct or duodenum. Family members may also find it helpful. It describes what the treatments involve, possible side effects, how they can affect your diet, and recovering afterwards.

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Each hospital will do things slightly differently so use this fact sheet as a general guide. Ask your doctor or 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 nurse@pancreaticcancer.org.uk
What are stents and bypass surgery used for?

Stents and bypass surgery are used to treat symptoms caused by pancreatic cancer.

- Pancreatic cancer can cause **jaundice** by blocking the bile duct. The bile duct is the tube that takes bile from the liver to the duodenum (which is the first part of the small intestine). Bile is a fluid which the liver makes to help you digest food. Jaundice turns your skin or eyes yellow. It can also make you feel itchy and causes pale poo and dark urine.

- After you eat, food goes from your stomach into your duodenum. Pancreatic cancer can block the duodenum, which means that food can’t flow out of the stomach. This is known as gastric outlet obstruction. If this happens, the food can build up in your stomach and make you **feel and be sick** (nausea and vomiting) and lose weight.

Stents or bypass surgery can treat these symptoms.

- A tube called a stent can be put into the bile duct or duodenum to unblock them (see page 3).

- Bypass surgery gets around the blockage. It makes a new way for bile to flow to the intestines, and for food to flow out of the stomach into the duodenum. Read more about this on page 9.
What are stents and when are they used?

Stents are small metal or plastic tubes. A stent for a bile duct is called a biliary stent. A stent for the duodenum is called a duodenal stent. Sometimes stents may need to be put into both the bile duct and the duodenum, but this is not usually done at the same time.

- You may have a biliary or a duodenal stent put in to treat your symptoms if your cancer is inoperable, which means that it can’t be removed by surgery.
- If you have jaundice and your cancer can be removed by surgery but you aren’t yet fit enough to have the operation, you may have a biliary stent put in before the surgery.

Metal stents

Metal stents are used most often because they are wider than plastic stents and can expand. This means they don’t get blocked so easily, so there is less chance of problems than with plastic stents. You may have a metal stent if you are having chemotherapy because they last longer than plastic stents and there is less chance of infection. This helps chemotherapy to work more effectively.

Plastic stents

Plastic stents are often used in the short term, such as before surgery to remove the cancer, or during tests to see if you can have surgery.

Plastic stents can get blocked after a few months. This is often because bacteria and tiny bits from the bile build up inside the stent. Plastic stents are usually replaced every three or four months. They may be replaced with a metal stent, which is much less likely to get blocked.

Advantages and disadvantages of stents

Advantages

- The stent should open up the bile duct or duodenum and treat your symptoms.
- You should start feeling better quickly, normally within a couple of days of having the stent put in.
- Treating symptoms may mean you can start or continue treatment for the cancer.

Disadvantages

- The stent may get blocked and the symptoms you had before may come back (see page 7).
- There is a chance of an infection after having a stent put in. Infections can be treated with antibiotics (see page 7).
- There is a small chance of your stent moving after it has been put in. If this happens it may need to be replaced (see page 7).
- There is a small risk of complications such as a hole in the duodenum or bleeding (see page 8).
Stent for a blocked bile duct

If the cancer is blocking your bile duct and causing jaundice, you may have a stent put into the bile duct.

Having a stent put in with an ERCP

A stent for a blocked bile duct is usually put in using a procedure called an endoscopic retrograde cholangio-pancreatography (ERCP). An ERCP uses a tube with a camera on the end which is passed down your throat.

Before the ERCP, tell your medical team about any medicines that you are taking, especially medicine to thin your blood (such as warfarin or clopidogrel) or for diabetes (such as metformin or insulin). Your medical team will tell you how to take these medicines before the ERCP.

You will be asked not to eat or drink for at least six hours before the ERCP – although you may be able to have small sips of water up to two hours before. This is to make sure that your stomach and duodenum are empty.

You will have a sedative before the stent is put in. This will make you sleepy and relaxed, but won’t send you to sleep.

The 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 put inside the bile duct using a small wire. When the stent is in the right place the wire is removed. The stent should unblock the bile duct, which should then drain normally.

The ERCP usually takes 30-40 minutes.

Having a stent put in through the skin (PTC)

Some people may not be able to have a stent put in with an ERCP. Instead, the stent is passed through the tummy wall and liver, and into the bile duct, using a thin needle. This is called a percutaneous transhepatic cholangiogram (PTC). A PTC is often used if the blockage is high up in the bile duct, near the liver.

You will have a sedative to make you sleepy. You will also have injections of a local anaesthetic into your tummy area 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 put 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 the stent is in the right place.
What happens afterwards?

After an ERCP you may have a blood test to check that the ERCP has not caused any problems such as inflammation of the pancreas (see page 8). You will be told when you can drink and eat again (normally after four to six hours). You will be told who to contact if you have any problems after the ERCP.

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 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 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 may 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 normally easy to know if the stent is working. Any symptoms of jaundice (see page 2) usually improve in the first couple of days. It may take around two to three weeks for your jaundice to go completely and for you to feel better. Until the jaundice is completely gone you may still feel tired and not have much appetite.

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 with blood tests called liver
function tests. The level of bilirubin in your blood 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.

**Stent for a blocked duodenum**

If the cancer is blocking the duodenum, you may 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 put in?**

You may go into hospital the day before the stent is put in, or on the day. You will be asked not to eat or drink for at least eight 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. A 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.

The procedure takes 30-40 minutes.

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**This diagram shows a duodenal stent**

- **Stomach**
- **Duodenal stent**
- **Duodenum**
- **Pancreas**
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. At first you will have softer foods so that the stent doesn’t get blocked. 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 begin to 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 what you eat to make sure the stent doesn’t get blocked (see below). If you need advice or are having problems speak to your dietitian.

Are there any problems with stents?

Blockages
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 another stent can be put in to treat the blockage.

With a duodenal stent, solid food can block the stent and it may need to be replaced – often after three or four months. Your nurse or dietitian should tell you what foods you shouldn’t eat, to make sure the stent doesn’t get blocked. See more about eating on page 15.

Infection
There is a risk of infection with both types of stent. This is usually caused by the stent getting blocked.

Signs of infection include tummy pain, aching muscles, high temperature or shivering. If this happens go to your local accident and emergency (A&E) department. Antibiotics can treat the infection and the stent can be replaced.

Stent moving out of place
Sometimes 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. The symptoms you had before the stent was put in may also come back. Speak to your doctor or nurse if you get any of these symptoms – they can decide if the stent needs to be replaced.
Inflamed pancreas

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

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.

Discomfort

Occasionally stents cause discomfort in the upper tummy when they are first put in. This is not common and normally gets better over a few days.

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 during or after the stent is put in. This can cause bleeding, being sick, or an infection.

If you have any side effects after you have left hospital, phone your nurse or doctor, or go to your local A&E department if it's outside working hours.

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

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

Questions to ask

Will a stent improve my symptoms?
Will I have a plastic or metal stent?
How quickly will I recover after the stent is 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 and when is it used?

Bypass surgery is another way to treat a blocked bile duct or duodenum.

- The operation to bypass a blocked bile duct is called a choledochojejunostomy or hepaticojejunostomy.
- The operation to bypass a blocked duodenum is called a gastrojejunostomy.

These operations may be done at the same time to treat both blockages.

Bypass surgery won’t remove the cancer but it may help your symptoms. Whether this is an option for you will depend on your symptoms, your diagnosis and how fit you are.

- You may have bypass surgery for a blocked bile duct or duodenum if your surgeon started surgery to remove the cancer (such as a Whipple’s operation), but found that this wasn’t possible because the cancer had spread. Bypass surgery may be done instead to help treat your symptoms.
- You may have bypass surgery for a blocked duodenum if your cancer can’t be removed by surgery. Your doctor should consider bypass surgery rather than a duodenal stent if you are having longer-term treatment.
- If you have cancer that can’t be removed by surgery and your bile duct is blocked, you will usually have a stent put in rather than bypass surgery (see page 4).

Bypass surgery is a big operation, so it’s important to discuss the advantages and disadvantages with your surgeon before you decide to have this surgery, and ask any questions you have.

Advantages and disadvantages of bypass surgery

Advantages

- The surgery bypasses the blockage and should help your symptoms.
- It may be an option if a stent is not suitable for you.
- Bypass surgery avoids the problem of stents getting blocked.
- It is a longer lasting way to treat your symptoms.

Disadvantages

- You may have some side effects, but there are usually ways to manage these (see page 14).
- You may need to stay in hospital for a few days after bypass surgery, and it may take a few months to fully recover.
- Problems after surgery are more likely than with stents (see page 10).
Bypass surgery for pancreatic cancer is major surgery, and as with any major surgery, there are possible risks.

- There is a risk of your wound getting infected – you will be given antibiotics when you have your surgery to reduce this risk.
- With all surgery there is a risk that you may have some bleeding during the operation and need a blood transfusion to replace the blood lost. This is not very common and will be done during the operation.
- There are risks to having a general anaesthetic (medicines that put you to sleep so you don’t feel pain during surgery). These include blood clots in a vein (deep vein thrombosis or DVT) or an allergic reaction to the anaesthetic. But these are very rare.
- There is a small risk of dying from the surgery.

What does surgery involve?

Before the surgery

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 usually takes two to four hours, depending on your cancer and the type of surgery you are having.

- For a blocked bile duct, the surgeon will cut the bile duct above the blockage and connect it to the small intestine. This allows the bile to flow again.
- For a blocked duodenum, the surgeon will connect the stomach to the small intestine. This allows food to pass from the stomach into the small intestine, and should stop you feeling sick.

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, the surgeon makes several very small cuts (about 1-2 cms) in the tummy. A long thin tube with a camera on the end (called a laparoscope) is put in through one hole. The surgeon then inserts surgical instruments through the other holes, guided by the images from the camera.
Bypass surgery for a blocked bile duct

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.

Before bypass surgery for a blocked bile duct

Pancreas
Duodenum
Bile duct
Gallbladder
Cancer blocking the bile duct
Duodenum
Liver
Stomach
Pancreas

Parts to be removed by surgery

After bypass surgery for a blocked bile duct

Remains of bile duct
Bile duct joined to small intestines
Small intestines
Duodenum

Pancreas
Stomach
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

The stomach is connected to the small intestines so food can pass through.
After your bypass surgery

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 in your tummy to drain off any fluids
- a thin tube called a catheter through your urethra (the tube you pass urine through) into your bladder, to drain urine.

After the operation, you may have some pain and will have painkillers for this. You should be able to drink and eat soft foods, and after a few days you may be able to eat solid foods. But this may depend on how well you are recovering from the operation.

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

Check-ups after surgery

You will normally have a check-up appointment two to six weeks after you go home from hospital. The hospital team will check your wound. They will also discuss any more treatment that you might need. For example, some people may have 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 bypass 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 treat 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 you recover from the surgery. Your medical team can give you advice about the best type of exercise to do.
Are there any side effects from bypass surgery?

You may have some side effects after your surgery. These will depend on the type of surgery you have had. You may not get all the side effects listed here.

Pain

You may have some pain and discomfort after surgery. You will be given painkillers to manage this and the pain will improve over time.

Read more about pain following surgery in our booklet, Pain and pancreatic cancer, or on our website at pancreaticcancer.org.uk/pain

Tiredness and fatigue

It may take some time to recover from the surgery, and you may feel tired and weak at first. It may take several weeks to be as active as you were before the operation.

Read more about tiredness and fatigue on our website at pancreaticcancer.org.uk/fatigue

Sickness after surgery

Sometimes your stomach may take a while to start working again – this is called delayed gastric emptying. This means food will take longer to pass through your stomach, which will make you feel sick. If this happens, it may take a little longer to recover – ask your surgical team about this.

Eating after surgery

After surgery for a blocked duodenum you might need to change your eating habits. For example, you might feel full more quickly, and 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 some time for your appetite to improve after having a stent put in or surgery. Try starting with small amounts of food often, and then gradually have bigger 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 broken down.

You can take pancreatic enzyme supplements to deal with this. This is known as pancreatic enzyme replacement therapy (PERT). Pancreatic enzyme supplements help to break down food, and can help with some symptoms, such as loss of appetite, weight loss and tummy discomfort. 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 about this, and ask to be referred to a dietitian.

Read more about pancreatic enzyme supplements and diet, including tips on what to eat if you have a duodenal stent, in our booklet, *Diet and pancreatic cancer*, or on our website at *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, and you will probably have lots of different feelings and worries. People find different ways to cope and there is support available. Your family and friends may also need support.

You may find that it helps to talk things through.

- 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 who will usually be a specialist nurse. They can provide emotional support as well as medical care.
- You can also speak to our specialist nurses on our Support Line. They have time to listen to your worries and answer your questions.
- Talking to others affected by pancreatic cancer may also help. We have an online discussion forum for anyone affected by pancreatic cancer. And we run Living with Pancreatic Cancer Support Days where you can meet others and get support dealing with pancreatic cancer.

Call our nurses free on 0808 801 0707 or email nurse@pancreaticcancer.org.uk

We have information about coping with the emotional effects of pancreatic cancer on our website at pancreaticcancer.org.uk/coping
Further information and support

Pancreatic Cancer UK services

We are here for everyone affected by pancreatic cancer.

We’re here to support and to 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 nurse@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. 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

Our Living with Pancreatic Cancer Support Days provide local face-to-face support in an informal setting for people with pancreatic cancer: pancreaticcancer.org.uk/supportdays

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

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

Healthtalk.org
Personal and patient experiences presented in written, audio and video formats.

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

Maggie’s Centres
www.maggiescentres.org
Tel: 0300 123 1801
Centres around the UK and online offer free, comprehensive support for anyone affected by cancer.

National Institute for Health and Care Excellence (NICE)
www.nice.org.uk/guidance/ng85
NICE provide guidance, advice and information for health professionals. They have produced guidelines for the diagnosis and care of people with pancreatic cancer.
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.

Details of the health professionals who reviewed this fact sheet are available on our website – pancreaticcancer.org.uk
For references to the sources of information used to write this fact sheet email us at publications@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 fact sheet 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 our Information Manager at the address below.

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