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# Pancreatic Cancer

*Understanding your diagnosis*



**Let's Make Cancer History**

1 888 939-3333 | [www.cancer.ca](http://www.cancer.ca)

# Pancreatic Cancer

## *Understanding your diagnosis*

When you first hear that you have cancer you may feel alone and afraid. You may be overwhelmed by the large amount of information you will have to take in and the decisions you will need to make.

The introductory information in this brochure can help you and your family take the first step in learning about pancreatic cancer. A better understanding may give you a sense of control and help you work with your healthcare team to choose the best care for you.

## What is cancer?

Cancer is a disease that starts in our cells. Our bodies are made up of millions of cells, grouped together to form tissues or organs such as muscles and bones, the lungs and the liver. Genes inside each cell order it to grow, work, reproduce and die. Normally, our cells obey these orders and we remain healthy.

But sometimes the instructions in some cells get mixed up, causing them to behave abnormally. These cells grow and divide uncontrollably. After a while, groups of abnormal cells form lumps, or tumours.

Tumours can be either *benign* (non-cancerous) or *malignant* (cancerous). Benign tumour cells stay in one place in the body and are not usually life-threatening.

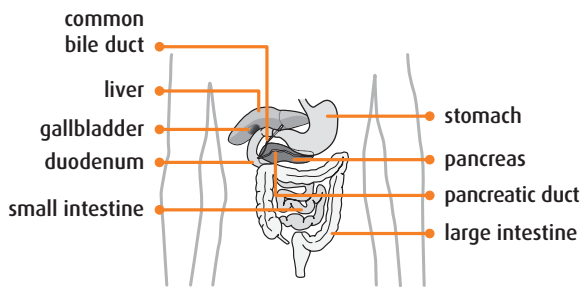
Malignant tumour cells are able to invade nearby tissues and spread to other parts of the body. Cancer cells that spread to other parts of the body are called *metastases*.

The first sign that a malignant tumour has spread (metastasized) is often swelling of nearby lymph nodes, but cancer can spread to almost any part of the body. It is important to find and treat malignant tumours as early as possible.

Cancers are named after the part of the body where they start. For example, cancer that starts in the pancreas but spreads to the lungs is called pancreatic cancer with lung metastases.

## What is pancreatic cancer?

Pancreatic cancer starts in the cells of the pancreas. The pancreas is a large gland that lies behind your stomach deep in the upper part of the abdomen.



The pancreas is part of the digestive system. Digestive juices made by the pancreas flow down a tube in the centre of the pancreas called the *pancreatic duct*. The pancreatic duct joins the common bile duct, which carries bile from the liver. The common bile duct then empties into the duodenum (the first part of the small intestine). The pancreatic juices and bile help further digest food in the duodenum after food has left the stomach.

The pancreas is also part of the hormonal system and makes insulin and other hormones. Hormones made in the pancreas enter the bloodstream and help your body use or store the energy (sugar and fat) from the food you eat.

Most pancreatic cancers start in the ducts that carry pancreatic juices. Pancreatic cancer that starts in the cells that make hormones (called *islet cell cancer*\*) is rare.

\* The information in this brochure is about pancreatic cancer that starts in the ducts. For information about islet cell cancer, contact our *Cancer Information Service* at 1 888 939-3333.

## Causes of pancreatic cancer

Most people diagnosed with pancreatic cancer are over the age of 65. There is no single cause of pancreatic cancer, but some factors increase the risk of developing it.

- smoking
- obesity
- having diabetes or chronic pancreatitis (long-term inflammation of the pancreas)
- having an inherited disorder, such as
  - > hereditary pancreatitis
  - > hereditary non-polyposis colon cancer (HNPCC)
  - > Peutz-Jeghers syndrome
  - > familial breast cancer (BRCA2)
  - > familial atypical multiple mole melanoma syndrome (FAMMM, also called *atypical mole syndrome*)

Some people develop pancreatic cancer without any of these risk factors.

## Symptoms of pancreatic cancer

Pancreatic cancer often does not cause any signs or symptoms in its early stages. Because the pancreas lies deep in the abdomen and doesn't have nerves that can send pain messages to the brain, a tumour in the pancreas can grow quite large without causing symptoms.

When the tumour is larger or starts to spread outside the pancreas, it may cause discomfort or a mild ache in the upper abdomen that

feels like indigestion. Possible symptoms include:

- discomfort in the stomach area (upper abdomen) or upper back
- pain in the upper abdomen or back that may feel worse at night or when lying flat
- unexplained weight loss
- a bloated feeling after eating
- loss of appetite
- nausea and vomiting

If the tumour is blocking the common bile duct, you may develop jaundice, which will cause your skin and the whites of your eyes to turn yellow and your urine to be darker.

Other health problems can cause some of the same symptoms. Testing is needed to make a diagnosis.

## Diagnosing pancreatic cancer

After taking your medical history and completing a physical examination, your doctor may suspect you have pancreatic cancer. To confirm the diagnosis, your doctor will arrange special tests. These tests may also be used to “stage” the cancer. You may have one or more of the following tests.

**Imaging studies:** Imaging studies allow tissues, organs and bones to be looked at in more detail. Using abdominal ultrasounds, CT scans and MRIs, your healthcare team can get a picture of the size of the tumour and see if it has spread. These tests are usually painless and do not require an anesthetic.

**Blood tests:** Blood is taken and studied to see if the different types of blood cells are normal in number and appearance. The results show how well your organs are working and may suggest whether or not you have cancer.

Your blood may also be tested for tumour markers. Tumour markers are substances (usually proteins) that can show up in the blood in some types of cancers. CEA and CA19-9 are two markers that can show up in pancreatic cancer. Tumour marker tests are mainly used to check a person's response to cancer treatment, but they can also be used to diagnose pancreatic cancer.

**Endoscopy:** An endoscopy lets your doctor look inside certain parts of your body using an endoscope. An endoscope is a thin, flexible tube with a light and sometimes a tiny camera at the end. To diagnose pancreatic cancer, you may have one of the following endoscopic procedures:

- For an *endoscopic retrograde cholangiopancreatography* (ERCP), the endoscope is placed down your throat and passed through the stomach and duodenum into the opening of the pancreatic duct. The doctor can then take x-rays of the pancreas and common bile duct. Dye is injected through the endoscope into the bile and pancreatic ducts. The dye helps show any abnormalities or blockages of the ducts on the x-ray. If the tumour is blocking the bile ducts or small intestine, a small metal tube (called a *stent*) may be put in place, using the endoscope, to open

the blockage. You will be given a mild anesthetic (freezing) for this test.

- For a *laparoscopy*, the endoscope is inserted through a small cut in the abdomen. A laparoscopy lets your doctor look at the pancreas and other organs in the abdomen. You will be given a general anesthetic (you will be unconscious).

**Biopsy:** A biopsy may be necessary to make a definite diagnosis of cancer. Cells are removed from the body and checked under a microscope. There are many ways to do a biopsy. For pancreatic cancer, cells may be taken during ERCP or laparoscopy. Another way to do a biopsy is with a *fine needle aspiration*. For a fine needle aspiration, a thin needle is inserted through the skin of the abdomen. The doctor may use ultrasound or CT images to guide the needle to the lump or abnormal area.

**Further testing:** If the initial diagnostic tests show that you have pancreatic cancer, your doctor may order more tests to find out if the cancer has spread and if the cancer can be removed by surgery.

## Staging

Once a definite diagnosis of cancer has been made and your healthcare team has the information it needs, the cancer will be given a stage.

The cancer stage describes the tumour size and tells whether it has spread beyond the place where it started to grow.

For pancreatic cancer, there are four stages.

Stage	Description
1	Cancer is found only in the pancreas. The tumour can be any size, but it has not spread to lymph nodes or any other part of the body.
2	Cancer has spread to nearby tissues or organs, or to nearby lymph nodes.
3	Cancer has spread to major blood vessels near the pancreas. It may have spread to nearby lymph nodes.
4	Cancer has spread to distant parts of the body, such as the liver, lungs or abdominal cavity.

It is important to know the stage of the cancer. This information helps you and your healthcare team choose the best treatment for you.

## Treatments for pancreatic cancer

Your healthcare team will consider your general health and the type and stage of the cancer to recommend what treatments will be best for you. You will work together with your healthcare team to make the final treatment choices. Talk to them if you have questions or concerns.

Treatments affect everyone in different ways. It's hard to predict which side effects you will have. Your healthcare team will tell you what to expect with each treatment. They will also let you know what side effects you should report right away and which ones you can wait to tell them about at your next appointment. If you notice any side effects or symptoms that you did not expect, talk to a member of your healthcare team as soon as possible.

Patients often worry about the side effects of cancer treatment. However, side effects can often be well managed and even prevented. Be open with your healthcare team. Tell them your concerns and ask questions. They will help you get the care and information you need.

For pancreatic cancer, you might receive one or more of the following treatments.

**Surgery:** A decision to have surgery depends on the size of the tumour and where it is. During the operation, all or part of the tumour and some healthy tissue around the tumour

are removed. Surgery is done under general anesthetic (you will be unconscious) and you will stay in the hospital for several days after the surgery.

Surgery for pancreatic cancer is a major operation. It has significant side effects and it takes several weeks to recover. It is important to discuss with your doctor the benefits and possible risks of surgery.

Sometimes all of the cancer can be removed with surgery. For early-stage pancreatic cancer, there are three types of surgery.

- **Whipple procedure (pancreaticoduodenectomy):** This type of surgery is done when the tumour is found in the widest part of the pancreas (the head). The surgeon removes the head of the pancreas, part of the stomach and small intestine, the common bile duct, the gallbladder and nearby lymph nodes.
- **Distal pancreatectomy:** This type of surgery is done when the tumour is found in other parts of the pancreas. The surgeon removes the part of the pancreas where the tumour is found and the spleen. This surgery is rare.
- **Total pancreatectomy:** This type of surgery is done when the cancer has affected the entire pancreas. The surgeon removes the entire pancreas, part of the stomach and small intestine, the common bile duct, the gallbladder, the spleen and nearby lymph nodes. This surgery is rare.

After all or part of your pancreas is removed, you will likely need to take pills or injections to replace the enzymes and insulin that were made by your pancreas. You will take these replacements for the rest of your life.

More commonly, pancreatic cancer is found at a later stage and cannot be completely removed. Then surgery is used to relieve the symptoms caused by the cancer.

If the tumour cannot be removed and is blocking the bile duct and the stomach, a hollow tube (stent) may be put in the bile duct to keep it open. The stent can be inserted during ERCP. If a stent can't be put in place, the surgeon may make a new connection between the stomach and the small intestine to bypass the blockage. This is called *bypass surgery*.

After surgery you may have some pain or nausea. The surgery can also cause diarrhea or cramping. These side effects are temporary, and can be controlled.

During surgery, a feeding tube may be placed into your small intestine to give you liquids and nutrients until you are able to eat and drink on your own. It will be several days before you are able to drink and gradually start a soft diet.

**Chemotherapy:** Chemotherapy may be given as pills or by injection. Chemotherapy drugs interfere with the ability of cancer cells to grow and spread, but they also damage healthy cells. Although healthy cells can recover over time, you may experience side effects from your treatment like nausea, vomiting, loss of appetite, fatigue, hair loss and an increased risk of infection.

Chemotherapy may be used to treat pancreatic cancer after surgery. It can be used to relieve pain or control symptoms if the tumour cannot be removed.

**Radiation therapy:** In *external beam radiation therapy*, a large machine is used to carefully aim a beam of radiation at the tumour. The radiation damages the cells in the path of the beam – normal cells as well as cancer cells.

Side effects will be different depending on what part of the body receives the radiation. You may feel more tired than usual, have some diarrhea, or notice changes to the skin (it may be red or tender) where the treatment was given. Radiation therapy, alone or together with chemotherapy, may be used to treat pancreatic cancer after surgery. It can be used to relieve pain or control symptoms if the tumour cannot be removed.

**Clinical treatment trials:** Clinical treatment trials investigate new approaches to treating cancer, such as new drugs, new types of treatments or combinations of existing treatments. They are closely monitored to make sure that they are safe for the participants. Ask your doctor if there is a clinical trial suitable as a treatment option for you. You may benefit and so may future cancer patients.

**Complementary therapies:** Complementary therapies are used *together with* conventional treatments. More research is needed to understand if these therapies are effective and how they work.

Alternative therapies are used *instead of* conventional treatments. Alternative therapies haven't been tested for safety or effectiveness. It is still unknown whether they will harm you or be effective in the treatment of cancer.

If you are thinking about using a complementary or alternative therapy, it is important to find out as much as you can about the therapy and talk to your healthcare team. It's possible that the therapy might interfere with test results or regular treatments.

## After treatment

Follow-up care helps you and your healthcare team monitor your progress and your recovery from treatment. At first, your follow-up care may be managed by one of the specialists from your healthcare team. Later on it may be managed by your family doctor.

The schedule of follow-up visits is different for each person. You might see your doctor more often in the first year after treatment, and less often after that. After treatment has ended, you should report new symptoms and symptoms that don't go away to your doctor without waiting for your next scheduled appointment.

The end of cancer treatment may bring mixed emotions. You may be glad the treatments are over and look forward to returning to your normal activities. But you could feel anxious as well. If you are worried about your treatment ending, talk to your healthcare team. They are there to help you through this transition period.

Eating properly after pancreatic cancer treatment can be hard, so ask your healthcare team to refer you to a registered dietitian or nutritionist. A nutritional plan can be made especially for you to help you maintain your health, well-being and quality of life.

## Living with cancer

There are many sources of help available for people with cancer and for their caregivers.

**Your healthcare team:** If you need practical help or emotional support, members of your healthcare team may be able to suggest services in your community or refer you to cancer centre staff or mental health professionals.

**Family and friends:** Those closest to you can be very supportive. Accept offers of help. When someone says “Let me know how I can help,” tell them what they can do. Maybe they can run errands, cook a meal or give you a ride to your doctor’s office.

**People who have had a similar experience:** Consider visiting a support group or talking with a cancer survivor in person, over the telephone or online. Talking with and learning from others who have had similar experiences can be helpful. Try more than one option to see which one suits you best.

**Yourself:** Try to stay positive. Staying positive is about figuring out how to deal with cancer in the best way that you can – and everyone will do this their own way. It doesn’t mean that you must seem happy or cheerful all the time or avoid talking or thinking about the difficulties of having cancer. But it can mean looking after yourself by finding relaxing, enjoyable activities that refresh you mentally, spiritually or physically.

## The Canadian Cancer Society *Helping you understand cancer*

Now that you have been introduced to the basics of pancreatic cancer, you may want to learn more. Please contact the Canadian Cancer Society for more detailed information on pancreatic cancer. Our services are free and confidential.

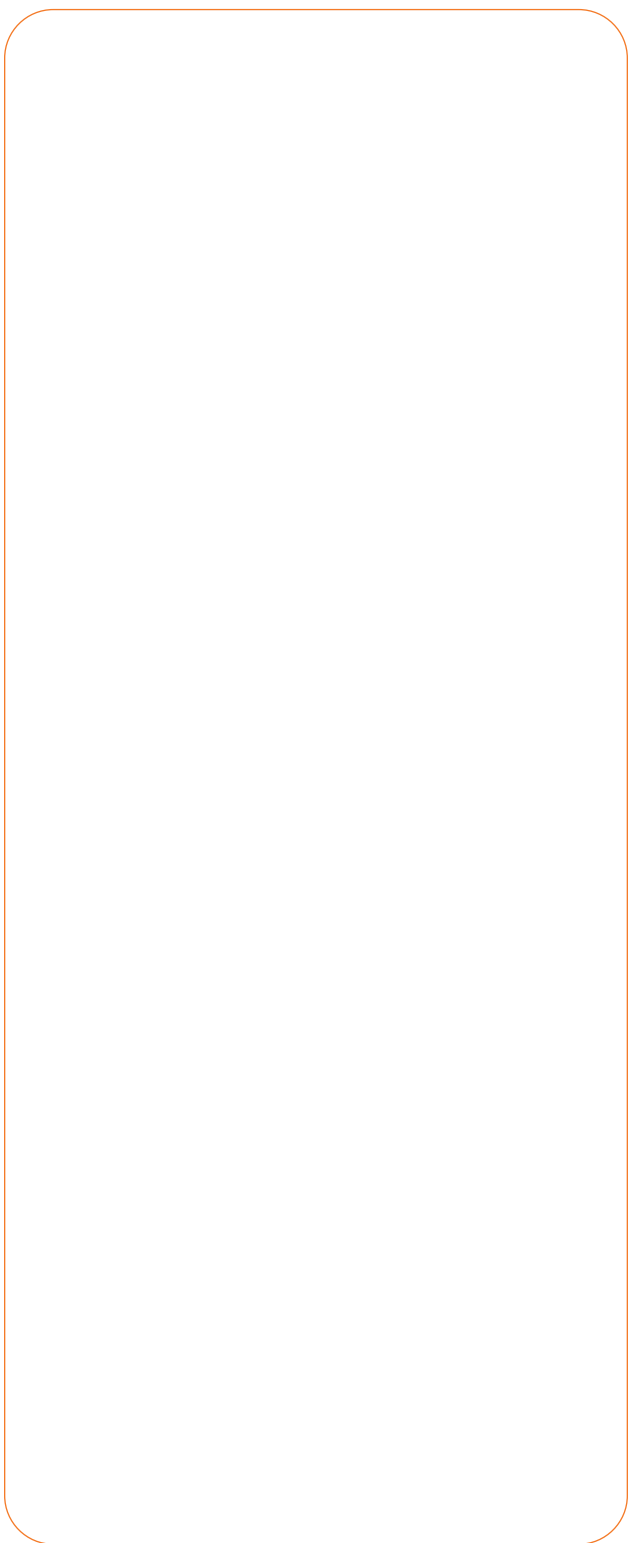
If you would like to talk to someone who has had a similar cancer experience, we can help you connect with a trained volunteer – in person, over the phone or in a group setting.

To contact the Canadian Cancer Society:

- Call an information specialist toll-free at **1 888 939-3333** Monday to Friday 9 a.m. to 6 p.m.
- E-mail us at [info@cis.cancer.ca](mailto:info@cis.cancer.ca).
- Visit our website at [www.cancer.ca](http://www.cancer.ca).
- Contact your local Canadian Cancer Society office.







## What we do

Thanks to the work of our volunteers and staff, and the generosity of our donors, the Canadian Cancer Society is leading the way in the fight against cancer. The Canadian Cancer Society:

- funds excellent research for all types of cancer
- advocates for healthy public policy
- promotes healthy lifestyles to help reduce cancer risk
- provides information about cancer
- supports people living with cancer

Contact us for up-to-date information about cancer, our services, or to make a donation.



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This is general information developed by the Canadian Cancer Society. It is not intended to replace the advice of a qualified healthcare provider.

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