



Canadian
Cancer
Society

Pancreatic Cancer

Understanding your diagnosis



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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 have to take in and the decisions you need to make.

“ *All I could hear was ‘cancer.’ I heard my doctor say something like, ‘We’re going to try to get the surgery done as soon as possible.’ I didn’t hear one word after that.* ”

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

For more information

You can find more in-depth information about pancreatic cancer on cancer.ca. Or call us at 1-888-939-3333 to learn more about cancer, diagnosis, treatment, support and services near you.

Check out our video series on common cancer topics. These short, simple videos cover subjects like *What is cancer?* and *Coping when you’re first diagnosed*.

Find the series at cancer.ca/cancerbasics.

What is cancer?

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

But sometimes the instructions in some cells get mixed up and the cells behave abnormally. These cells start to grow and divide uncontrollably. After a while, a group of abnormal cells forms a lump, or tumour.

Tumours can be either non-cancerous (benign) or cancerous (malignant). Non-cancerous tumour cells stay in one place in the body and are not usually life-threatening. Cancerous tumour cells can grow into nearby tissues and spread to other parts of the body. It's important to find and treat cancerous tumours as early as possible. In most cases, finding cancer early increases the chances of successful treatment.

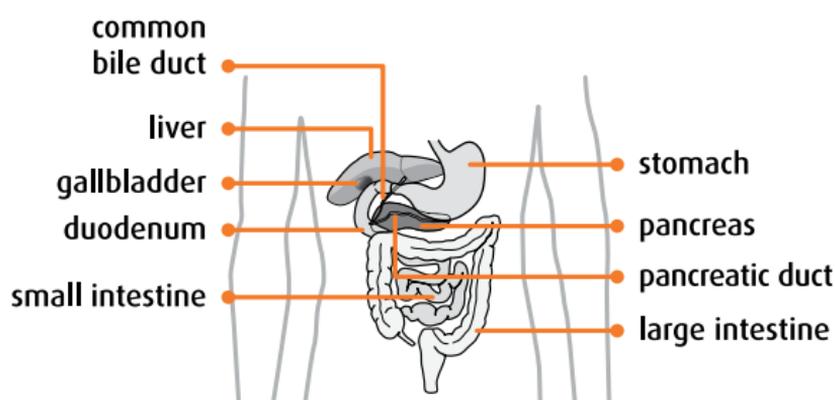
Cancer cells that spread to other parts of the body are called metastases. The first sign that a tumour has spread (metastasized) is often swelling of nearby lymph nodes, but cancer can spread to almost any part of the body.

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 flat gland behind and below your stomach in the upper part of the abdomen. It is part of your digestive system.

Location of the Pancreas



The pancreas makes digestive juices that flow down a tube called the pancreatic duct. The pancreatic duct joins the common bile duct, which carries bile from the liver. The common bile duct then flows into the duodenum (the first part of the small intestine). The pancreatic juices and bile help digest food in the duodenum after the food has left the stomach.

The pancreas makes insulin and other hormones. These hormones enter the bloodstream and help your body use or store 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. For information about islet cell cancer, contact us at 1-888-939-3333.

Diagnosing pancreatic cancer

Your doctor may suspect you have pancreatic cancer after hearing about your symptoms, taking your medical history and doing a physical exam. To find out for sure, your doctor will arrange special tests. These tests may also be used to help plan treatment.

Symptoms: Pancreatic cancer may not cause any signs or symptoms in the early stages. A tumour in the pancreas can grow large without causing symptoms.

When the tumour is larger or starts to spread outside the pancreas, common symptoms of pancreatic cancer may include:

- jaundice (your skin and the whites of your eyes may look yellow)
- pain in the stomach or upper back that may feel worse at night or when lying flat
- unexplained weight loss
- loss of appetite
- nausea and vomiting
- digestive problems, such as feeling full after a small meal, bloating, gas, diarrhea or constipation
- diabetes or high blood sugar
- itching
- dark urine
- fatigue
- depression
- weakness
- fever and shivering
- swollen legs

The process of diagnosing cancer may seem long and frustrating. But other health problems can cause some of the same symptoms. The doctor has to make sure there are no other possible reasons for a health problem.

Your doctor will do one or more of the following tests to make a diagnosis.

Blood tests: Blood is taken to see if the different types of blood cells are normal in number and how they look. Other blood tests help to show how well your organs are working and may suggest whether you have cancer and if it has spread.

Your blood may also be tested for tumour markers. Tumour markers are substances (usually proteins) in the blood with some types of cancers. CA19-9 and CEA are 2 markers that may be a sign of pancreatic cancer.

Imaging tests: The healthcare team uses CT scans, ultrasounds, MRIs or PET scans to look at your tissues, organs and bones in more detail. They can see the size of the tumour and if it has spread.

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 small camera at the end. To diagnose pancreatic cancer, you may have one of the following endoscopic procedures:

- An ERCP (endoscopic retrograde cholangiopancreatography) uses an endoscope and x-rays to look at the ducts that drain the pancreas, liver and gallbladder. The endoscope goes in your mouth and down your throat. You will be given a mild anesthetic (freezing) for this. It can find a tumour that is blocking a duct. It can also be used to put in a tube called a stent to open a blockage.
- For a laparoscopy, the endoscope is inserted through a small cut in the abdomen. Your doctor can then look at the pancreas and other organs in the abdomen. You will be given a general anesthetic (you will be unconscious).

Biopsy: A biopsy is usually needed to make a definite diagnosis of cancer. Cells are taken from the body and checked under a microscope. If the cells are cancerous, they will be studied more to see how fast they are growing. There are many ways to do a biopsy.

For pancreatic cancer, cells may be taken during an ERCP or a laparoscopy. Another way to do a biopsy is with 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 tumour or abnormal area.

Further testing: Your doctor may order more tests to find out if the cancer has spread and to help plan your treatment.

Will I be OK?

Most people with cancer want to know what to expect. Can they be cured?

A prognosis is your doctor's best estimate of how cancer will affect you and how it will respond to treatment. It looks at many factors including:

- the stage of the cancer
- how well you can do ordinary tasks and carry out daily activities (called your performance status)

Even with all this information, it can still be very hard for your doctor to say exactly what will happen. Each person's situation is different.

Your doctor is the only person who can give a prognosis. Ask your doctor about the factors that affect your prognosis and what they mean for you.

Staging and grading

Once a diagnosis of cancer has been made, the cancer is given a stage and a grade. This information helps you and your healthcare team choose the best treatment for you.

The following stages for pancreatic cancer describe where the cancer is and if it has spread.*

Stage	Description
0	Cancer cells are found only in the lining of the pancreas.
1	Cancer is found only in the pancreas.
2	Cancer has spread to nearby tissues or to nearby lymph nodes or both.
3	Cancer has spread to large 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, and may have spread to nearby lymph nodes.

A grade is given based on how the cancer cells look and act compared with normal cells. To find out the grade of a tumour, a biopsy sample is looked at under a microscope.

Low grade means that the cancer cells look and act much like normal cells. They tend to be slow growing and are less likely to spread.

High grade means that the cancer cells look and act less normal, or more abnormal. They tend to grow more quickly and are more likely to spread.

* This table summarizes the stages of pancreatic cancer according to the Union for International Cancer Control (UICC). For more in-depth information, visit cancer.ca.

Treatments for pancreatic cancer

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

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

Surgery: Surgery is a common treatment for pancreatic cancer. It may be done to try to completely remove the tumour or to reduce pain and ease symptoms. During the operation, all or part of the tumour and some healthy tissue around the tumour are removed.

Surgery is done under a general anesthetic. You may stay in the hospital for several days or longer after the surgery. You may receive one of these surgeries for pancreatic cancer:

- Whipple procedure (pancreaticoduodenectomy): This is done when the tumour is in the widest part of the pancreas (the head) or in the opening of the pancreatic duct. The surgeon removes the head of the pancreas, the duodenum, the gall bladder, part of the common bile duct, the pylorus (bottom part of the stomach that attaches to the duodenum) and nearby lymph nodes.
- Modified Whipple procedure (pylorus-preserving pancreaticoduodenectomy): This modified version of the Whipple procedure does not remove the pylorus. This surgery does not affect stomach function.

- **Distal pancreatectomy:** This surgery is rare. It is done when the tumour is in the body or tail of the pancreas. The surgeon removes the part of the pancreas where the tumour is found. The spleen is only removed if the tumour has grown into the spleen or blood vessels supplying the spleen.
- **Total pancreatectomy:** This is done when the cancer has spread through the entire pancreas. The surgeon removes the entire pancreas, part of the stomach and part of the small intestine, the common bile duct, the gallbladder, the spleen and nearby lymph nodes. This surgery is also rare.

Often 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 is blocking the bile duct, a stent may be put in the bile duct to keep it open. The stent can be inserted during an ERCP. In some cases, the surgeon may do bypass surgery to help bile flow around a blockage.

After surgery, you may have pain, infection or bleeding. These side effects are temporary and can be controlled. If all or part of your pancreas is removed, you will likely have digestive problems and it will be hard to get enough nutrients. You may also have problems with diabetes or blood sugar. These side effects may last a long time or be permanent. Your healthcare team will help you learn to manage these side effects.

Chemotherapy: Chemotherapy uses drugs to treat cancer. Chemotherapy drugs may be given as pills or injected with a needle into a vein. They damage cancer cells, but they also damage some healthy cells. Although healthy cells can recover over time, you may experience side effects from your treatment, like nausea, vomiting, loss of appetite, a sore mouth or diarrhea.

Chemotherapy may be used before or after surgery to treat pancreatic cancer. If surgery is not possible, it may be used as the main treatment to relieve pain or control symptoms. Chemotherapy may be given along with radiation therapy (called chemoradiation).

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 cells that are in the path of the beam - both cancer cells and normal cells.

Radiation therapy may be used before or after surgery to treat pancreatic cancer. If surgery is not possible, it may be used as the main treatment to relieve pain or control symptoms. Sometimes it is used at the same time as chemotherapy (called chemoradiation).

Radiation side effects may include nausea and vomiting, loss of appetite or diarrhea. These side effects are temporary and can be controlled.

For more information on treatment, you may want to read our booklets *Chemotherapy and Other Drug Therapies* and *Radiation Therapy*.

Clinical trials: Clinical trials test new ways to treat cancer, such as new drugs, types of treatments or combinations of treatments. They provide information about the safety and effectiveness of new approaches to see if they should become widely available. Ask your doctor if any clinical trials are available that could be a treatment option for you. You may benefit and so may future cancer patients.

Our brochure *Clinical Trials* has more information, including how to find a clinical trial.

Complementary therapies: Complementary therapies – for example, massage therapy or acupuncture – are used *together with* conventional cancer treatments, often to help ease tension, stress and other side effects of treatment. They don't treat the cancer itself. More research is needed to understand if these therapies are effective and how they work.

If you're thinking about using a complementary therapy, learn as much as you can about the therapy and talk to your healthcare team. It's possible that the therapy might affect other treatments or test results.

Alternative therapies are used *instead of* conventional treatments. Alternative therapies haven't been tested enough for safety or effectiveness. Using alternative treatments alone for cancer may have serious health effects. Talk to your healthcare team before you try an alternative therapy.

Side effects of treatments

Some cancer treatments cause side effects, such as fatigue, nausea and vomiting or loss of appetite. Because treatments affect everyone differently, it's hard to predict which side effects - if any - you may have.

Side effects can often be well managed and even prevented. If you're worried about side effects, tell your healthcare team about your concerns and ask questions. They can tell you which side effects you should report right away and which ones can wait until your next visit.

If you notice any side effects or symptoms that you didn't expect, talk to a member of your healthcare team as soon as possible. They'll help you get the care and information you need.

Living with cancer

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

Our booklet *Coping When You Have Cancer* has more detailed information and resources.

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: People 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 drive you to your doctor’s office.

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

Yourself: Coping well with cancer doesn’t mean that you have to be happy or cheerful all the time. But it can mean looking after yourself by finding relaxing, enjoyable activities that refresh you mentally, spiritually or physically. Take some time to find ways to cope. You may also want to talk to a counsellor for more help.

Talking to someone who's been there

If you would like to talk to someone who's had a similar cancer experience, you can connect by phone with a trained volunteer who will listen, provide hope and suggest ideas for coping – all from the shared perspective of someone who's been there.

Register for this free program at match.cancer.ca or call us at 1-888-939-3333.

Want to connect with people online?

If you'd like to join our online community, visit CancerConnection.ca. You can read news, join discussion groups, get support and help others at the same time. You'll find caring, supportive people there.

After treatment

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

The schedule of follow-up visits is different for each person. You might see your doctor more often in the first 2 years after treatment and less often after that. You should report new symptoms or symptoms that don't go away to your doctor right away, without waiting for your next scheduled visit.

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're worried about your treatment ending, talk to your healthcare team. They can help you through this transition period.

Eating well: After treatment for pancreatic cancer, you may need to make changes to your diet and your eating habits. Your body may have difficulty getting enough vitamins and minerals. It may be easier to eat small meals and snacks throughout the day, rather than eating 3 large meals. Getting enough calories and protein will help you stay at a healthy weight and maintain your strength during and after your cancer treatments.

If your pancreas has been removed or is not working properly, you may be given pancreatic enzymes to help with digestion. And if you develop diabetes, you will need to take insulin to help regulate your blood sugar and maintain a healthy diet.

Self-esteem, body image and sexuality: It's natural to be concerned about the effects of pancreatic cancer and its treatment on your self-esteem, body image and sexuality. You may be worried about how your body looks after treatment, about having sex with a partner or that you may be rejected. It may help to talk about these feelings with someone you trust. Your doctor can also refer you to specialists and counsellors who can help you with the emotional side effects of treatment for pancreatic cancer.

What causes pancreatic cancer?

Most people 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. Some people can develop cancer without any risk factors, while others have some of these factors but do not get cancer.

Risk factors for pancreatic cancer include:

- using tobacco
- being obese
- having diabetes
- a family history of pancreatic cancer
- having an inherited disorder, such as hereditary breast and ovarian cancer (HBOC) syndrome, familial atypical multiple mole melanoma (FAMMM) syndrome or Peutz-Jeghers syndrome
- being exposed at work to certain chemicals
- having chronic pancreatitis (long-term inflammation of the pancreas)

Canadian Cancer Society

We're here for you.

When you have questions about treatment, diagnosis, care or services, we will help you find answers.

Call our toll-free number 1 888 939-3333.



Ask a trained cancer information specialist your questions about cancer. Call us or email info@cis.cancer.ca.



Connect with people online to join discussions, get support and help others. Visit CancerConnection.ca.



Browse Canada's most trusted online source of information on all types of cancer. Visit cancer.ca.

Our services are free and confidential. Many are available in other languages through interpreters.

Tell us what you think

Email cancerinfo@cancer.ca and tell us how we can make this publication better.



What we do

The Canadian Cancer Society fights cancer by:

- doing everything we can to prevent cancer
- funding research to outsmart cancer
- empowering, informing and supporting Canadians living with cancer
- advocating for public policies to improve the health of Canadians
- rallying Canadians to get involved in the fight against cancer

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



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