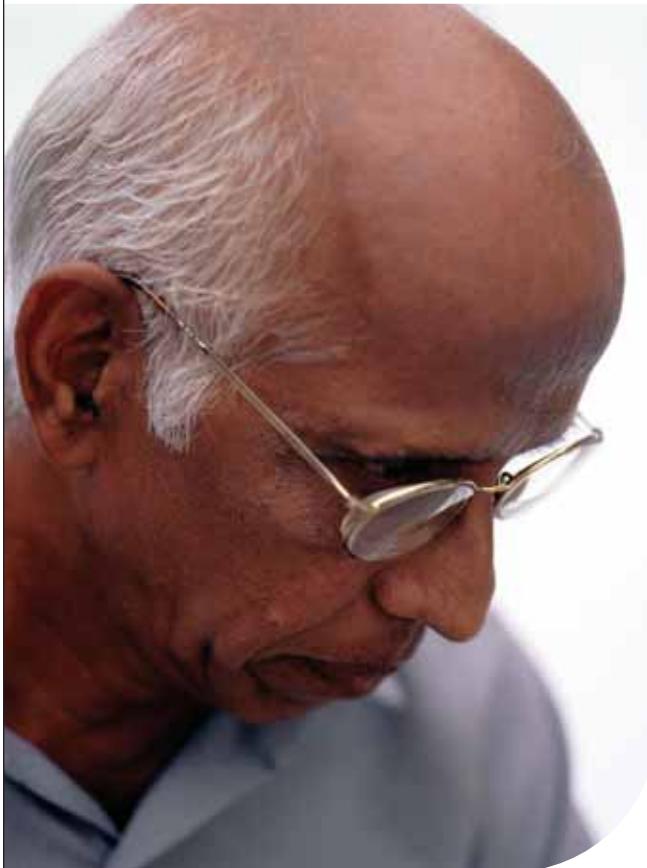




Canadian Cancer Society
Société canadienne du cancer

Stomach Cancer

Understanding your diagnosis



Let's Make Cancer History

1 888 939-3333 | cancer.ca

Stomach 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 stomach cancer (also called *gastric 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 and 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*.

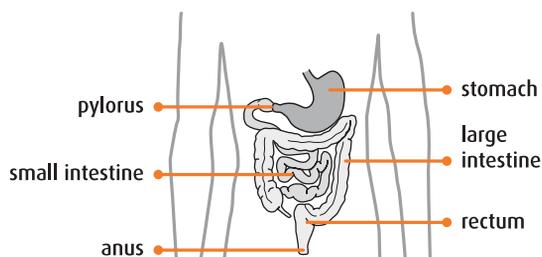
The first sign that a malignant tumour has spread (metastasized) is often swelling of nearby lymph nodes, but cancer can spread to almost any part of the body. It is important to find and treat malignant tumours as early as possible.

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

What is stomach cancer?

The stomach is a muscular sac-like organ in the upper abdomen. It is part of the digestive system. Organs of the digestive system change food into energy and help pass waste out of the body.

Food moves from the mouth through the esophagus to the stomach. In the stomach, the food is mixed with digestive juices (enzymes and acids), which are made by the glands in the lining of the stomach. The semi-solid mixture leaves the stomach through a muscular ring called the *pylorus* and passes into the small intestine. From there, food goes to the large intestine, where digestion is finished.



The wall of the stomach has four layers. Stomach cancer begins in the cells of the inner layer, which is called the *mucosa*.^{*} It can spread through the other layers of the stomach as it grows.

^{*} Stomach cancers that start in the lymphatic tissue (*lymphoma*), in the stomach's muscular tissue (*sarcoma*) or in the tissues that support the organs of the digestive system (*gastrointestinal stromal tumour*) are less common and are treated in different ways. For information on those cancers, contact our *Cancer Information Service* at 1 888 939-3333.

Causes of stomach cancer

Men are more likely to be diagnosed with stomach cancer than women. There is no single cause of stomach cancer, but some factors increase the risk of developing it:

- inflammation or other problems in the stomach, such as:
 - > chronic gastritis (long-term inflammation of the stomach lining)
 - > intestinal metaplasia (changes to the cells in the lining of the stomach)
 - > pernicious anemia (a blood disease that affects the stomach)
 - > having had stomach surgery before
 - > lower production of stomach acids than normal
- infection caused by *Helicobacter pylori* (*H. pylori*) bacteria, which are commonly found in the stomach
- growing older, particularly after 50
- smoking
- family history of stomach cancer
- workplace exposure in rubber processing and lead manufacturing

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

Symptoms of stomach cancer

Stomach cancer often does not cause any signs or symptoms in its early stages. The most common symptom is a mild ache in the abdomen that feels like indigestion. Possible symptoms include:

- loss of appetite
- heartburn
- indigestion that does not go away
- nausea and vomiting
- a bloated feeling after eating
- change in bowel habits
- unexplained weight loss
- feeling very tired

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

Diagnosing stomach cancer

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

Blood tests: Your red blood cell count is checked to see if you have anemia (low red blood cell count) caused by blood loss from a stomach tumour. Blood is also taken to show how well your organs are working and may suggest whether or not you have cancer.

Fecal occult blood test (FOBT): A small sample of your stool is examined in a laboratory to check for blood that can be seen only with a microscope.

Imaging studies: Imaging studies allow tissues, organs and bones to be looked at in more detail. Using x-rays, ultrasounds, CT scans, MRIs or bone scans, 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.

You may have a series of x-rays of the esophagus and stomach called an *upper gastrointestinal (GI) series* or a *barium swallow*. You’ll be asked to drink a thick, chalky liquid called *barium*. The barium coats the inside of the esophagus, stomach and small intestine and makes them show up more clearly on the x-rays. If there are signs of cancer, the doctor will also look to see if it has spread.

Gastroscopy: Gastroscopy uses a thin, flexible tube with a light at the end (called a *gastroscope*). The tube is placed down your throat to look inside the esophagus and the stomach. During a gastroscopy, you will probably be given a mild anesthetic (freezing) and you may be given a mild sedative to help you relax. You will have a sore throat afterwards. This is normal and should disappear after a couple of days.

Biopsy: If an abnormal area is found, the doctor can take several samples of tissue through the gastroscope for examination under a microscope. Removing the cells from the body to check them under a microscope is called a *biopsy*. A biopsy is usually necessary to make a definite diagnosis of cancer. If the cells are cancerous, they may be studied further to see how fast they are growing.

You may need a general anesthetic (you will be unconscious) if tissue samples are taken.

Further testing: If tests show that you have cancer of the stomach, your doctor may order more blood tests and imaging studies or possibly a *laparoscopy* to find out if the cancer has spread. For a laparoscopy, a thin, flexible tube with a light and camera at the end is inserted through a small cut in the abdomen. Your doctor will look around the abdomen and may take several small biopsy samples and may remove some lymph nodes.

Staging and grading

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 and a grade.

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

For stomach cancer, there are five stages.

Stage	Description
0	Cancer cells are found only in the innermost layer of the stomach lining (<i>mucosa</i>). Stage 0 is also called carcinoma <i>in situ</i> .
1	Cancer has spread beyond the innermost layer of cells to the next layer (<i>submucosa</i>) and cancer cells have spread to 1 to 6 lymph nodes. OR cancer has spread to the muscle layer, but has not spread to lymph nodes or other organs.
2	Cancer has spread only to the submucosa and cancer cells have spread to 7 to 15 lymph nodes. OR cancer has spread to the muscle layer (<i>muscularis</i>) and cancer cells have spread to 1 to 6 lymph nodes. OR cancer has spread to the outer layer of the stomach (<i>serosa</i>), but has not spread to lymph nodes or other organs.
3	Cancer has spread to the muscle layer and cancer cells have spread to 7 to 15 lymph nodes. OR cancer has spread to the outer layer and cancer cells have spread to 1 to 6 lymph nodes. OR cancer has spread to nearby organs, but has not spread to lymph nodes or to distant organs.
4	Cancer has spread to more than 15 lymph nodes. OR cancer has spread to nearby organs and at least 1 lymph node. OR cancer has spread to distant parts of the body.

To find out the grade of a tumour, the biopsy sample is examined under a microscope. A grade is given based on how the cancer cells look and behave compared with normal cells. This can give your healthcare team an idea of how quickly the cancer may be growing and how likely it is to spread.

Stomach cancer tumours may be given a grade using Lauren's classification system. Stomach tumours are divided into two grades: intestinal or diffuse.

Grade	Description
Intestinal	The cancer cells look and behave almost like intestinal (bowel) cells. They tend to grow slowly.
Diffuse	The cancer cells look and behave quite differently from normal cells. They tend to grow quickly and they're more likely to spread to other parts of the stomach or to other parts of the body.

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

Treatments for stomach cancer

Your healthcare team will consider your general health and the type, stage and grade 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 with medicine. 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 stomach 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 is the most common treatment for stomach cancer. An operation to remove all or part of the stomach is called a *gastrectomy*. The type of gastrectomy you have depends on the stage of the cancer and whether or not it has spread.

A *partial gastrectomy* may be all that's needed if the cancer is found at a very early stage. The surgeon removes only the cancerous part of the stomach, as well as nearby lymph nodes. The surgeon may also remove the lower part of the esophagus or the upper part of the small intestine, depending on where the cancer is found. Reconstructive surgery is done at the same time to attach the remaining part of the stomach to the esophagus or the small intestine.

For a *total gastrectomy*, the surgeon removes the entire stomach, nearby lymph nodes, part of the esophagus, part of the small intestine and other tissues near the tumour. The spleen may also be removed. Reconstructive surgery is done at the same time to attach the esophagus to the small intestine.

Palliative surgery does not cure the cancer but can relieve symptoms. If the tumour cannot be removed and is blocking the esophagus, a hollow tube (called a *stent*) may be put in the esophagus to keep it open. This will make eating and swallowing easier. If a tumour that can't be removed is blocking the passage of food from the stomach to the intestine, the surgeon may make a new connection between the stomach and the small intestine to allow food to bypass the blockage. This is called *bypass surgery*.

After surgery you may have some pain or nausea. 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 a few days before you are able to drink and gradually start eating soft foods.

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

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. Chemotherapy, together with radiation therapy, may be used to treat stomach cancer after surgery. It can be used to relieve pain or control the symptoms if the tumour cannot be removed.

Although healthy cells can recover over time, you may experience side effects from your treatment like a skin rash or itching, nausea, vomiting, loss of appetite, fatigue, hair loss and an increased risk of infection. Your healthcare team can suggest ways to control many of these side effects.

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. Radiation therapy, together with chemotherapy, may be used to treat stomach cancer after surgery. It can be used to relieve pain or control the symptoms if the tumour cannot be removed.

Radiation 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. These side effects are a result of damage to normal cells.

The side effects will usually go away when treatment is over and the normal cells repair themselves.

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.

Maintaining a healthy diet: After treatment for stomach cancer, you may need to make changes to your diet and your eating habits. You may find it easier to eat several small meals and snacks throughout the day, rather than eating three large meals. It's important to eat well so that you get enough calories and protein to control weight loss and maintain your strength both during and after your cancer treatments. Your doctor, dietitian or nutritionist can give you more information about how to maintain a healthy diet.

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 stomach cancer, you may want to learn more. Please contact the Canadian Cancer Society for more detailed information on stomach 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**.
- Visit our website at **cancer.ca**.
- Contact your local Canadian Cancer Society office.



We'd like to hear from you

E-mail us at publicationsfeedback@cancer.ca if you have comments or suggestions to help us make this booklet more useful for you and other readers.

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, our services or to make a donation.



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