Stomach Cancer Overview

The information that follows is an overview of this type of cancer. It is based on the more detailed information in our document *Stomach Cancer*. This document and other information can be obtained by calling 1-800-227-2345 or visiting our website at www.cancer.org.

What is cancer?

The body is made up of trillions of living cells. Normal body cells grow, divide into new cells, and die in an orderly way. During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out, damaged, or dying cells.

Cancer begins when cells in a part of the body start to grow out of control. There are many kinds of cancer, but they all start because of this out-of-control growth of abnormal cells.

Cancer cell growth is different from normal cell growth. Instead of dying, cancer cells keep on growing and form new cancer cells. These cancer cells can grow into (invade) other tissues, something that normal cells cannot do. Being able to grow out of control and invade other tissues are what makes a cell a cancer cell.

In most cases the cancer cells form a tumor. But some cancers, like leukemia, rarely form tumors. Instead, these cancer cells are in the blood and bone marrow.

When cancer cells get into the bloodstream or lymph vessels, they can travel to other parts of the body. There they begin to grow and form new tumors that replace normal tissue. This process is called *metastasis*.

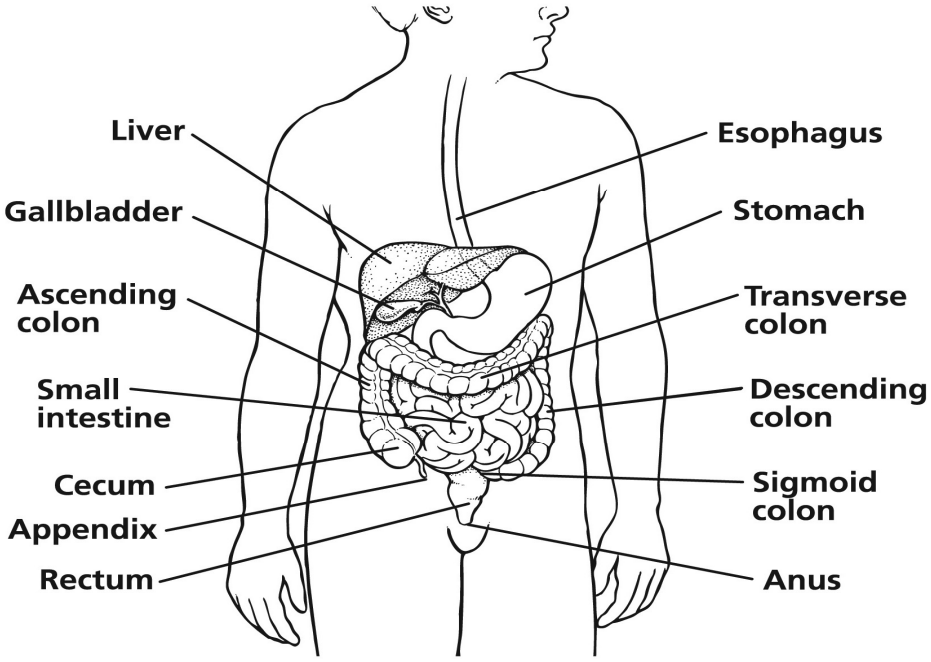
No matter where a cancer may spread, it is always named and treated for the place where it started. For instance, breast cancer that has spread to the liver is still breast cancer, not liver cancer. Likewise, prostate cancer that has spread to the bone is still prostate cancer, not bone cancer.

Different types of cancer can behave very differently. For example, lung cancer and breast cancer are very different diseases. They grow at different rates and respond to different treatments. That is why people with cancer need treatment that is aimed at their own kind of cancer.

Not all tumors are cancerous. Tumors that aren't cancer are called *benign*. Benign tumors can cause problems— they can grow very large and press on healthy organs and tissues. But they cannot grow into other tissues. Because of this, they also can't spread to other parts of the body (metastasize). These tumors are almost never life threatening.

What is stomach cancer?

Stomach cancer (also called *gastric cancer*) starts in the stomach. The picture below shows the stomach and other parts of the digestive system. To understand stomach cancer, it helps to know about the normal structure and function of the stomach.



Stomach or abdomen?

In everyday speech, the word "stomach" is often used to refer to the part of the body between the chest and the hips. For instance, people with pain in the appendix, small intestine, colon, or gallbladder might say they have a "stomach ache." The medical term for this area is the *abdomen* and doctors would describe the pain as "abdominal pain."

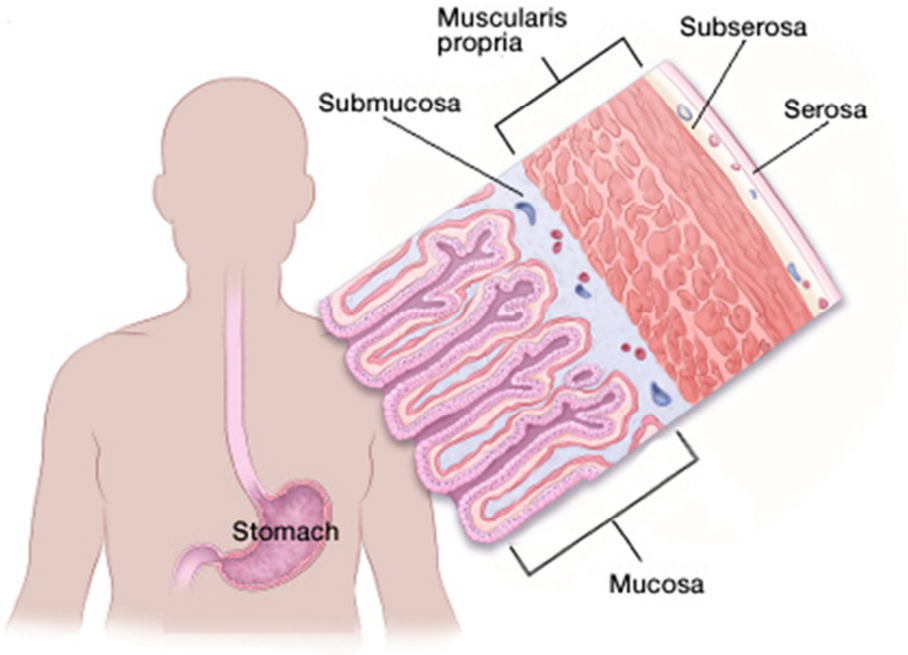
The difference is important because the stomach is only one of many organs in the abdomen that cancer can start in. So stomach cancer should not be confused with cancers in other organs in the same area. These other cancers can cause different symptoms. They are treated differently and have a different outlook for survival (prognosis).

The stomach

After food has been chewed and swallowed, it passes down a tube called the *esophagus* and goes into the stomach. The stomach is a sack-like organ that holds food and mixes it with gastric juice to begin the process of digestion.

Cancer can start in any part of the stomach. Symptoms, treatment options, and the outlook for survival all depend on where the cancer starts in the stomach.

The stomach wall has 5 layers. It helps to know about these layers because as cancer grows deeper into them, the outlook for the patient gets worse. These are the 5 layers, working from the inside out:



- The innermost layer is called the *mucosa*. This is where stomach acid and digestive juices are made. It is also where most stomach cancers start.
- The next layer is the *submucosa*.
- A layer of thick muscle called the *muscularis propria* moves and mixes the stomach contents.

- The outer 2 layers, the *subserosa* and the *serosa*, act as wrapping for the stomach.

Growth of stomach cancer

Most of the time stomach cancer starts in the inner lining of the stomach (the mucosa) and slowly grows out into the other layers.

Stomach cancer tends to grow slowly over many years. Before a true cancer starts, there are usually changes that take place in the mucosa. These early changes rarely cause symptoms and often are not noticed.

Cancers starting in different *sections* (as opposed to layers) of the stomach may cause different symptoms, tend to have different outcomes, and may call for different treatment options. To find out more about the different sections of the stomach, please see our more detailed document *Stomach Cancer*.

How stomach cancer spreads

Stomach cancer can spread in different ways. It can grow through the wall of the stomach and into nearby organs. It can also spread to nearby lymph nodes (bean-sized collections of immune system cells) and then spread through the lymph system. When stomach cancer is more advanced, it can travel through the bloodstream to other organs like the liver, lungs, and bones. If the cancer has spread, the patient's outlook is not as good.

Types of cancers in the stomach

Adenocarcinoma

By far, most cancers of the stomach are a type called *adenocarcinomas*. This cancer starts from cells that form the lining of the innermost layer, the mucosa. The terms *stomach cancer* or *gastric cancer* almost always refers to this type of cancer.

Other stomach tumors

Lymphomas, gastrointestinal stromal tumors (often called GISTs), and carcinoid tumors are other, much less common, tumors that are found in the stomach. The treatment and outlook for these cancers are different from that of adenocarcinoma and are not covered in this document. For more information on these, see *Non-Hodgkin Lymphoma*, *Gastrointestinal Stromal Tumor*, or *Gastrointestinal Carcinoid Tumors*.

The rest of the information here refers only to adenocarcinoma of the stomach.

How many people get stomach cancer?

The American Cancer Society's estimates for stomach cancer in the United States for 2015 are:

- About 24,590 new cases of stomach cancer
- About 10,720 deaths from stomach cancer

This is a disease that mostly affects older people. About 6 out of 10 people found to have stomach cancer are 65 or older. The risk of a person getting stomach cancer in their lifetime is about 1 in 111, but it is slightly higher for men than for women.

Stomach cancer is much more common in other parts of the world. It was once a leading cause of cancer deaths in the United States, but it is now much less common. The reasons for this decline are not fully known, but they may be linked to more use of refrigeration for food storage and less use of salted and smoked foods. Some doctors think that an important factor is the use of antibiotics to treat infections. These drugs can kill the bacteria called *H. pylori*, which is thought to be a major cause of this disease.

What are the risk factors for stomach cancer?

A risk factor is anything that affects a person's chance of getting a disease such as cancer. Different cancers have different risk factors. Some risk factors, such as smoking, can be changed. Others, like a person's age or family history, can't be changed. But risk factors don't tell us everything. Having a risk factor, or even several risk factors, does not mean that you will get the disease. And many people who get the disease may have few or no known risk factors.

Risk factors for stomach cancer

Scientists have found some risk factors that make a person more likely to develop stomach cancer.

- **Gender:** Stomach cancer is more common in men than in women.
- **Age:** Risk increases with age.
- **Ethnicity:** In the United States, stomach cancer is more common in Hispanic Americans, African Americans, and Asian Pacific Islanders than it is in non-Hispanic whites.

- **Where a person lives:** Worldwide, stomach cancer is more common in Japan, China, Southern and Eastern Europe, and South and Central America. This disease is less common in Northern and Western Africa, South Central Asia, and North America.
- **Infection** with the bacterium called *Helicobacter pylori* (*H. pylori*).
- **MALT lymphoma of the stomach**, which is also caused by infection with *H. pylori*.
- **Diet:** An increased risk of stomach cancer is seen in people with diets high in smoked foods, salted fish and meats, and pickled vegetables. The risk of stomach cancer seems to be lowered by eating lots of fresh fruits and vegetables.
- **Tobacco use**
- **Being overweight or obese**
- **Earlier stomach surgery:** people who have had part of their stomach removed to treat other problems like ulcers have a higher risk of stomach cancer.
- **Pernicious anemia**
- **Menetrier disease,** a rare disease that involves changes in the stomach lining
- **Type A blood**
- **Certain inherited cancer syndromes**
- **Family history:** People with close family members (parents, siblings, and children) who have had stomach cancer are more likely to get this disease.
- **A type of stomach polyp** called *adenomatous* or *adenoma* sometimes change into stomach cancer.
- **Certain types of work:** Workers in the coal, metal, and rubber industries seem to have a higher risk of getting stomach cancer.
- **Common variable immunodeficiency,** a condition where the immune system can’t make enough antibodies in response to germs.

For more information about these risk factors, see our document *Stomach Cancer*.

Can stomach cancer be prevented?

There is no sure way to prevent stomach cancer, but there are things you can do that might lower your risk.

Diet, body weight, and exercise

Increased use of refrigeration for food storage (rather than using salting, pickling, and smoking) has helped lower the rate of stomach cancer. To help reduce your risk, avoid a diet that is high in smoked and pickled foods and salted meats and fish.

A diet high in fresh fruits and vegetables can lower stomach cancer risk. Citrus fruits (such as oranges, lemons, and grapefruits) may be extra helpful. Grapefruit and grapefruit juice can change the levels of certain drugs in your body, so you should talk to your doctor about this before adding grapefruit to your diet. The American Cancer Society recommends that people eat a healthy diet, with an emphasis on plant foods. This includes eating at least 2½ cups of vegetables and fruits every day. Choosing whole-grain breads, pastas, and cereals instead of refined grains, and eating fish, poultry, or beans instead of processed meat and red meat may also help lower your risk of cancer.

Studies that have looked at using vitamins and minerals to lower stomach cancer risk have had mixed results so far. Combinations of some vitamins (A, C, and E and the mineral selenium) might reduce the risk of stomach cancer in people with poor diets to begin with. But most studies looking at people who eat healthy diets have not found any benefit. Further research in this area is needed.

Being overweight or obese may add to the risk of stomach cancer. On the other hand, being physically active may help lower your risk. The American Cancer Society recommends staying at a healthy weight all your life by eating right and getting enough exercise. Aside from possible effects on the risk of stomach cancer, losing weight may also have an impact on the risk of some other cancers and health problems.

You can find more information in the *American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention*.

Stay away from tobacco

Tobacco use can increase the risk of stomach cancer, as well as other cancers. If you don’t use tobacco, please don’t start. If you already do and want help quitting, call your American Cancer Society at 1-800-227-2345.

H. pylori infection

It is not yet clear whether everyone with on-going (chronic) infection with *H. pylori* bacteria should be treated to prevent stomach cancer. Some studies have suggested that giving antibiotics to people with *H. pylori* infection might lower their rate of getting stomach cancer. But more research needs to be done.

If you or your doctor thinks you might have *H. pylori* infection, you can be tested for this. The simplest way is a blood test that looks for antibodies to *H. pylori*, but other tests are used as well.

Aspirin use

Using aspirin or other drugs like it may lower the risk of stomach cancer and colon cancer. But these drugs can also cause serious internal bleeding and other problems in some people. Most doctors think of the lower cancer risk as an added benefit for patients who take these drugs for other problems such as arthritis. But they do not recommend taking them just to reduce the risk of cancer.

For people at greatly increased risk

A small percentage of stomach cancers are caused by an inherited genetic condition called *hereditary diffuse gastric cancer syndrome*. Most people who have inherited the gene for this condition will get stomach cancer at some point in their lives. These cancers are usually not seen on tests like endoscopy, so people who have this gene often have surgery to remove the stomach before stomach cancer is found. If you have a strong family history of stomach cancer, discuss it with your doctor. If it looks like you might have this syndrome, you can get genetic counseling and testing to see if you have the gene that causes it. If you do, you may want to think about surgery.

Signs and symptoms of stomach cancer

The signs and symptoms of stomach cancer can include:

- No desire to eat (poor appetite)
- Weight loss (without trying)
- Pain or just vague discomfort in the belly
- A sense of fullness after eating a small meal
- Heartburn or indigestion
- Nausea
- Vomiting, with or without blood
- Swelling in the abdomen
- Low red blood cell counts (anemia) which can cause you to feel tired or short of breath with just walking

Of course, many of these can be caused by problems other than cancer. But if you have any of these problems and they get worse or don’t go away, you should see a doctor so the cause can be found and treated.

How is stomach cancer found?

If you have any of the symptoms of stomach cancer, you should see your doctor, who will examine you and may order some tests.

Medical history and physical exam

Your doctor will ask you questions about your health and symptoms and do a complete physical exam. The doctor will feel your belly (abdomen) to see if there are any abnormal changes.

If your doctor thinks you might have stomach cancer or another type of stomach problem, he or she will refer you to a gastroenterologist, a doctor who with special training in diseases of the digestive tract, who will examine you and do further testing.

Tests to look for stomach cancer and its spread

Upper endoscopy

In this test, drugs are used to make you sleepy and then a thin, flexible, lighted tube with a tiny video camera on the end (called an endoscope) is put down your throat and into the stomach. This allows the doctor to see the lining of the esophagus, stomach, and the first part of the small intestine. If anything does not look normal, a tissue sample (biopsy) can be taken out through the tube. These samples are sent to a lab, where they are looked at under a microscope to see if cancer is present and, if so, what type of cancer it is.

Upper GI (gastrointestinal) series

This is a type of x-ray test. You drink a chalky liquid that contains barium. The barium coats the lining of the esophagus, stomach, and first part of the small intestine and x-rays are taken. Because x-rays can’t pass through the coating of barium, anything that isn’t normal in the lining of these organs will be outlined. X-rays are then taken. Sometimes, after the barium is swallowed, a thin tube is passed into the stomach and air is pumped in. This makes the barium coating very thin so that even small areas of change will show up. This test is not used as often as endoscopy to look for stomach cancer.

Endoscopic ultrasound (EUS)

In an ultrasound, sound waves are used to make pictures of organs inside the body. Ultrasound can be done with a probe put down the throat into the stomach during endoscopy. It lets the doctor look at the layers of the stomach wall, as well as the nearby lymph nodes and other structures just outside the stomach.

EUS is most useful in seeing how far a cancer may have spread into the wall of the stomach, to structures just outside the stomach, and to nearby lymph nodes. It can also be used to help guide a biopsy needle to get a tissue sample.

Biopsy

The only way to tell for sure if something is really cancer is by removing a sample of tissue or cells and looking at it under a microscope to see if it contains cancer cells. This is called a biopsy. Biopsies for stomach cancer are most often done during endoscopy, but they can also be done during endoscopic ultrasound.

Biopsies may also be taken from places where the cancer might have spread, such as nearby lymph nodes, the liver, or other parts of the body.

CT scan (computed tomography)

This test uses a special x-ray machine that takes pictures from many angles. A computer then combines these pictures into images of slices of the part of your body being studied. CT scans are not good at finding early stomach cancers, but they can help find areas where it can spread such as the liver and nearby lymph nodes.

A CT scanner has been described as a large donut, with a narrow table that slides in and out of the middle “hole.” You will need to lie still on the table while the scan is being done. CT scans take longer than regular x-rays, and you might feel a bit confined by the ring while the pictures are being taken.

You may be asked to drink 1 or 2 pints of a contrast solution and/or have an IV (intravenous) line through which you get a contrast dye. This can cause some flushing (redness and warm feeling). Some people are allergic and get hives, or — rarely — reactions like trouble breathing and low blood pressure. Be sure to tell the doctor if you have any allergies or ever had a reaction to any dye used for x-rays.

CT scans can also be used to guide a biopsy needle into a place that might have cancer. The patient stays on the CT scanning table while a doctor moves a biopsy needle through the skin toward the tumor. A small piece of the tumor is removed and looked at under a microscope.

MRI scan (magnetic resonance imaging)

Like CT scans, MRIs give doctors cross-section pictures of the body. But MRIs use strong magnets instead of x-rays. Sometimes a contrast dye might be used. This is different than the one used for CT scans, so being allergic to one does not mean you are allergic to the other. Most doctors prefer to use CT scans to look at the stomach, but sometimes an MRI can give more information. MRIs are often used to look at the brain and spinal cord.

MRI scans take longer than CT scans, often up to an hour. You may have to lie inside a narrow tube, which can upset some people. Special, open MRI machines can sometimes help with this, but the images they make may not be as clear. The MRI machine makes loud thumps and buzzes. Some places will give you headphones to block this noise out.

PET scan (positron emission tomography)

For this test, a special kind of radioactive sugar is put into your vein. Over time the sugar collects in places that have cancer. After about an hour, you are moved onto a table in the PET scanner. You lie on the table for about 30 minutes while a special camera creates pictures of the whole body.

Often a PET scan and CT scan are done at the same time. A combined PET/CT scan can be more helpful than a plain PET scan in looking for spread for stomach cancer.

Laparoscopy

This test may be done after cancer is found to help see if the cancer has spread in the belly. It is done in an operating room while you are in a deep sleep (under general anesthesia). A thin, flexible tube with a camera on the end is placed into your belly through a small cut (incision). It sends a picture of the organs inside of the abdomen to a video screen. The doctor can also take biopsy samples from any areas that don’t look normal. The doctor can use this test before surgery to see whether all of the cancer can be removed.

Lab tests

These may include a blood test called a complete blood count (CBC) to look for anemia (a low red blood cell count that may be caused by bleeding), blood chemistry tests to look for signs of cancer spread to the liver, and a fecal occult blood test, which looks for small amounts of blood in the stool.

If cancer is found, the doctor may want to do other tests, especially if you are going to have surgery. For instance, blood tests can be done to make sure your liver and kidneys are working well and your blood is clotting the way it should.

Staging of stomach cancer

The stage of a cancer describes how far the cancer has spread. This is very important because the treatment and the outlook for your recovery depend on the stage of the cancer.

There are really 2 types of stages for stomach cancer. The stage of a stomach cancer can be based either on the results of physical exams and tests (this is called the *clinical stage*), or on the results of these tests plus the results of surgery (called the *pathologic stage*). Pathologic staging is likely to be more accurate than clinical staging because it allows the surgeon to see the extent of the cancer.

After stage 0 (cancer that has not grown beyond the inner layer of cells that line the stomach), stages are labeled using Roman numerals I through IV (1-4). As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV (4), means a more advanced cancer. Ask your doctor to explain what the stage of your cancer means in your case.

Resectable or unresectable cancer

For practical reasons, doctors often divide stomach cancers into 2 groups. *Resectable* cancers are those the doctor thinks can be completely removed by surgery. *Unresectable* cancers are those that can't be completely removed. This might be because the tumor has grown into nearby organs or lymph nodes. Or it may have grown too close to major blood vessels, or has spread to distant parts of the body, or the person is not healthy enough for surgery. Earlier stage cancers are more likely to be resectable.

How is stomach cancer treated?

This information represents the views of the doctors and nurses serving on the American Cancer Society's Cancer Information Database Editorial Board. These views are based on their interpretation of studies published in medical journals, as well as their own professional experience.

The treatment information in this document is not official policy of the Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor.

Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.

About treatment

Once your cancer has been found and staged, there is a lot to think about before you and your doctors choose a treatment plan. You may feel that you must make a choice quickly, but it is important to give yourself time to absorb the information you have just learned.

Ask your cancer care team questions. You can find some good questions to ask in the section “What should you ask your doctor about stomach cancer?”

The main treatments for stomach cancer are:

- Surgery
- Chemotherapy
- Targeted therapy
- Radiation therapy

Often the best approach uses 2 or more of these treatment methods.

The choice of treatment depends on several things. The place and stage of the tumor are very important. But other factors to think about are your age, your overall health, and your personal wishes.

It is important that you understand the goal of your treatment. If a cure is not possible, treatment is aimed at relieving symptoms such as trouble eating, pain, or bleeding.

You will most likely have a team of special doctors involved in your care before plans for treating your stomach cancer are made. In most cases, a surgeon, a medical oncologist, and perhaps a radiation oncologist will work on a treatment plan before the start of your treatment. Many other specialists may be involved in your care as well.

If time permits, you may want to get a second opinion about your treatment options. A second opinion can provide you with more information and help you feel more sure about the treatment plan that you choose.

Surgery for stomach cancer

Surgery is often part of the treatment for stomach cancer if it can be done. Depending on the type and stage of your cancer, surgery might be used to remove the cancer and part or all of your stomach. The surgeon will try to leave behind as much normal stomach as possible. Sometimes other organs will need to be removed as well.

At this time, surgery (often along with other treatments) offers the only real chance to cure stomach cancer. If you have stage 0, I, II, or III cancer, and if you are healthy enough, your doctor will likely try to treat your cancer with surgery.

Even if the cancer is too widespread to be completely removed, an operation could help prevent bleeding from the tumor or keep the stomach from being blocked. This type of surgery is known as *palliative surgery*, meaning that it relieves or prevents symptoms but is not done to cure the cancer.

The 3 main types of surgery for stomach cancer

- **Endoscopic resection:** *Resection* refers to cutting out a tumor or part of an organ. In this operation, the cancer is removed through an endoscope (a long, flexible tube passed down the throat and into the stomach). This can be done only for some very early cancers where the chance of spread is very low.

- **Subtotal (partial) gastrectomy:** With this approach only part of the stomach is removed, sometimes along with part of the esophagus or the first part of the small intestine. Nearby lymph nodes are also removed, sometimes along with other nearby organs. Eating is much easier after surgery when only part of the stomach removed. This may be an option if the cancer is only in the lower part of the stomach close to the intestines. It is also sometimes used for cancers that are only in the upper part of the stomach.

- **Total gastrectomy:** In this operation, the surgeon removes all of the stomach. The nearby lymph nodes are removed, and sometimes also the spleen and parts of the esophagus, intestines, pancreas, and other nearby organs. The end of the esophagus is then attached to part of the small intestine. People who have had a total gastrectomy can only eat a small amount of food at a time. Because of this, they must eat more often. This method is used if the cancer has spread throughout the stomach. It is also often used if the cancer is in the upper part of the stomach.

Most subtotal and total gastrectomies are done through a large incision (cut) in the skin of the abdomen. In some centers, these surgeries can also be done using a laparoscope, which allows the surgeon to remove the stomach through several smaller cuts in the abdomen.

Placement of a feeding tube

Some patients have trouble taking in enough food after surgery for stomach cancer. Further treatment like chemotherapy with radiation can make this problem worse. To help with this, a tube can be placed into the intestine at the time of gastrectomy. The end of this tube, called a *J tube*, stays outside of the skin on the abdomen. This allows liquid nutrition to be put straight into the intestine and can help prevent and treat malnutrition.

Taking out lymph nodes

In either a subtotal or total gastrectomy, the lymph nodes near the stomach are removed. Often,some of the apron like layer of fatty tissue in the abdomen (the omentum) is removed as well.

Palliative surgery for cancer that cannot be removed

For people with stomach cancer that cannot be removed (unresectable), surgery can often still be used to help control the cancer or to help prevent or relieve symptoms or problems.

Subtotal gastrectomy: For some people who are healthy enough for surgery, taking out the part of the stomach with the tumor can help treat problems such as bleeding, pain, or blockage in the stomach, even if it does not cure the cancer.

Gastric bypass (gastrojejunostomy): Tumors in the lower part of the stomach may grow large enough to block food from leaving the stomach. For people healthy enough for surgery, one option to help prevent or treat this is to bypass the lower part of the stomach. This is done by linking part of the small intestine (called the jejunum) to the upper part of the stomach, which allows food to leave the stomach through the new connection.

Endoscopic tumor ablation: In some cases, such as in people who are not healthy enough for surgery, an endoscope (a long, flexible tube passed down the throat) can be used to guide a laser beam to destroy parts of the tumor. This can be done to stop bleeding or help relieve a blockage without surgery.

Stent placement: Another option to keep a tumor from blocking the opening at the beginning or end of the stomach is to use an endoscope to place a stent (a hollow metal tube) in the opening. This helps keep it open and allows food to pass through it.

Feeding tube placement: Some people with stomach cancer are not able to eat or drink enough to get enough nutrition. A minor operation can be done to place a feeding tube through the skin of the abdomen and into the distal part of the stomach (known as a *G tube*) or into the small intestine (known as a *J tube*). Liquid nutrition can then be put directly into the tube.

Possible problems and side effects of surgery

Surgery for stomach cancer is complex and can lead to problems. These could include bleeding from the surgery, blood clots, and damage to the nearby organs. Rarely, the new connections between the ends of the stomach and esophagus or small intestine may not hold together and can leak. These problems are not common, but sometimes can be fatal. The risk of these surgeries are lowest when they are done by surgeons with a lot of experience in treating stomach cancer.

Other side effects may start after you have recovered from surgery. These could include nausea, heartburn, abdominal pain, and diarrhea (especially after eating), as well as shortages of some vitamins. The stomach is important in helping the body take in certain vitamins. If some parts of the stomach are removed, the doctor will prescribe vitamin

supplements. Some of these can only be taken as shots (injections). After stomach surgery, most people will need to change their diets, eating smaller meals more often.

It is very important that you talk to your doctor before surgery about what you are going to have. Some surgeons try to leave behind as much of the stomach as they can so that patients will have fewer problems later. But the tradeoff is that the cancer might be more likely to come back. Again, it's important that your surgeon be very skilled, have a lot of experience, and be able to do the most up-to-date operations.

To learn more about surgery for cancer, see our document *A Guide to Cancer Surgery.*

Chemotherapy for stomach cancer

Chemotherapy (chemo) is the use of drugs to kill cancer cells. Usually the drugs are given into a vein or taken by mouth as pills. Once the drugs enter the bloodstream, they go throughout the body. Chemo is useful in treating cancer that has spread beyond where it started.

Chemo can be given before surgery. It may shrink the tumor and make it easier to take it out and help patients live longer. For some stages of stomach cancer, this is one of the standard treatment options.

Chemo may also be given after surgery. It is used to kill any groups of cancer cells that may have been left behind but are too small to be seen. The goal is to keep the cancer from coming back. For stomach cancer, chemo is often given along with radiation after surgery.

Chemo may also be used as the main treatment for stomach cancer that has spread to distant organs. It may help relieve symptoms for some patients, especially those with spread to other parts of the body. It may also help some patients live longer.

Doctors give chemo in cycles, with each treatment followed by a rest period to allow the body time to recover. Each cycle usually lasts for a few weeks.

A number of chemo drugs can be used to treat stomach cancer. Based on the situation, these drugs may be used alone or combined with other drugs.

Side effects of chemo

While chemo drugs kill cancer cells, they also damage some normal cells, and this causes side effects. The side effects depend on the type of drugs used, the amount given, and the length of treatment. The following are some of the most common short-term side effects:

- Nausea and vomiting
- Loss of appetite

- Hair loss
- Diarrhea
- Mouth sores
- A higher risk of infection (from a shortage of white blood cells)
- Bruising or bleeding after minor cuts or bumps (from a shortage of blood platelets)
- Feeling very tired (from a shortage of red blood cells)

Most of these side effects go away when treatment is over. For instance, hair will usually grow back after treatment ends.

Certain chemo drugs can cause specific side effects like nerve damage (neuropathy) or heart damage. You should be told about each drug you are getting and you should talk to your doctor about side effects before you start treatment.

If you do have side effects, talk with your cancer care team because there are often ways to lessen these problems. For example, you can be given drugs to prevent or reduce nausea and vomiting.

To learn more about chemotherapy, see the “Chemotherapy” section of our website, or our document *A Guide to Chemotherapy*.

Targeted therapies for stomach cancer

Chemotherapy (chemo) drugs target cells that divide quickly, which is why they often work against cancer cells. But there are other aspects of cancer cells that make them different from normal cells. In recent years, researchers have developed new drugs to try to target these differences. These drugs tend to have different side effects than standard chemo drugs.

Trastuzumab

A drug called trastuzumab (Herceptin®) can help some patients with stomach cancer. Trastuzumab targets a certain protein called HER2. If the stomach cancer cells have too much HER2 protein, giving this drug with chemo can help some patients with advanced stomach cancer live longer than giving chemo alone. Not all stomach cancers have too much HER2 protein, so your cancer has to be tested to see if this drug can help.

Trastuzumab is put into a vein (injected). For stomach cancer it is given once every 2 or 3 weeks along with chemo. The best length of time to give it is not yet known.

The side effects of trastuzumab tend to be fairly mild. They can include fever and chills, weakness, nausea, vomiting, cough, diarrhea, and headache. These side effects happen less often after the first dose. Rarely, this drug can lead to heart damage.

Ramucirumab

Ramucirumab (Cyramza™) is a targeted therapy drug that works by helping to stop new blood vessels from being formed. This can help prevent the growth and spread of cancers like stomach cancer.

This drug is used only for advanced stomach cancer. It is given into a vein, every 2 weeks.

Common side effects tend to be mild and include high blood pressure, diarrhea, and headache. This drug can have more serious side effects, too, like bleeding and blood clots.

Other targeted therapy drugs are being tested against stomach cancer. Some of these are discussed in more detail in the section “What’s new in stomach cancer research?” And you can read more about targeted therapy in our document *Targeted Therapy*.

Radiation treatment for stomach cancer

Radiation treatment is the use of high-energy rays (such as x-rays) to kill cancer cells or shrink tumors.

Before surgery, radiation can be used along with chemo to try to shrink some tumors to make surgery easier. After surgery, radiation can be used to kill very small areas of cancer that cannot be seen and removed during surgery. Radiation, especially when combined with chemotherapy (chemo), might delay or prevent the cancer from coming back after surgery and may help people to live longer. Radiation can also be used to slow the growth and ease symptoms of advanced stomach cancer such as pain, bleeding, and trouble eating.

Radiation coming from a machine outside the body (called external radiation) is the type most often used to treat stomach cancer. Treatment is much like getting an x-ray, but it is much stronger. The process itself is painless. Each treatment lasts only a few minutes, although the setup time — getting you into place for treatment — usually takes longer. Treatments are most often given 5 days a week over several weeks or months.

Side effects of radiation treatment

Side effects from radiation treatment for stomach cancer can include:

- Mild skin problems at the place being treated

- Nausea and vomiting
- Diarrhea
- Fatigue (feeling very tired, even after resting)
- Low blood cell counts

These often go away over time after treatment is finished. Radiation may also make the side effects of chemo worse. Talk with your doctor about these side effects since there are often ways to relieve them.

Radiation might also damage nearby organs that are exposed to the beams. This could lead to problems such as heart or lung damage, or even an increased risk of another cancer later on.

To learn more about radiation treatment, see the “Radiation Therapy” section of our website, or our document *Understanding Radiation Therapy: A Guide for Patients and Families*.

Clinical trials for stomach cancer

You may have had to make a lot of decisions since you’ve been told you have cancer. One of the most important decisions you will make is deciding which treatment is best for you. You may have heard about clinical trials being done for your type of cancer. Or maybe someone on your health care team has mentioned a clinical trial to you.

Clinical trials are carefully controlled research studies that are done with patients who volunteer for them. They are done to get a closer look at promising new treatments or procedures.

If you would like to take part in a clinical trial, you should start by asking your doctor if your clinic or hospital conducts clinical trials. You can also call our clinical trials matching service for a list of clinical trials that meet your medical needs. You can reach this service at 1-800-303-5691 or on our website at www.cancer.org/clinicaltrials. You can also get a list of current clinical trials by calling the National Cancer Institute’s Cancer Information Service toll-free at 1-800-4-CANCER (1-800-422-6237) or by visiting the NCI clinical trials website at www.cancer.gov/clinicaltrials.

There are requirements you must meet to take part in any clinical trial. If you do qualify for a clinical trial, it is up to you whether or not to enter (enroll in) it.

Clinical trials are one way to get state-of-the art cancer treatment. In some cases they may be the only way to get access to newer treatments. They are also the only way for doctors to learn better methods to treat cancer. Still, they are not right for everyone.

You can get a lot more information on clinical trials, in our document called *Clinical Trials: What You Need to Know*.

Complementary and alternative therapies for stomach cancer

When you have cancer you are likely to hear about ways to treat your cancer or relieve symptoms that your doctor hasn't mentioned. Everyone from friends and family to Internet groups and websites might offer ideas for what might help you. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

What are complementary and alternative therapies?

It can be confusing because not everyone uses these terms the same way, and they are used to refer to many different methods. We use *complementary* to refer to treatments that are used *along with* your regular medical care. *Alternative* treatments are used *instead of* a doctor's medical treatment.

Complementary methods: Most complementary treatment methods are not offered as cures for cancer. Mainly, they are used to help you feel better. Some examples of methods that are used along with regular treatment are meditation to reduce stress, acupuncture to help relieve pain, or peppermint tea to relieve nausea. Some complementary methods are known to help, while others have not been tested. Some have been proven not to be helpful, and a few are even harmful.

Alternative treatments: Alternative treatments may be offered as cancer cures. These treatments have not been proven safe and effective in clinical trials. Some of these methods may be harmful, or have life-threatening side effects. But the biggest danger in most cases is that you may lose the chance to be helped by standard medical treatment. Delays or interruptions in your medical treatments may give the cancer more time to grow and make it less likely that treatment will help.

Finding out more

It is easy to see why people with cancer think about alternative methods. You want to do all you can to fight the cancer, and the idea of a treatment with few or no side effects sounds great. Sometimes medical treatments like chemotherapy can be hard to take, or they may no longer be working. But the truth is that most of these alternative methods have not been tested and proven to work in treating cancer.

As you think about your options, here are 3 important steps you can take:

- Look for “red flags” that suggest fraud. Does the method promise to cure all or most cancers? Are you told not to have regular medical treatments? Is the treatment a “secret” that requires you to visit certain providers or travel to another country?
- Talk to your doctor or nurse about any method you are thinking of using.
- Contact us at 1-800-227-2345 or see the “Complementary and Alternative Medicine” section of our website to learn more about complementary and alternative methods in general and to find out about the specific methods you are looking at.

The choice is yours

Decisions about how to treat or manage your cancer are always yours to make. If you want to use a non-standard treatment, learn all you can about the method and talk to your doctor about it. With good information and the support of your health care team, you may be able to safely use the methods that can help you while avoiding those that could be harmful.

What are some questions I can ask my doctor about stomach cancer?

As you cope with cancer and cancer treatment, you need to have honest, open talks with your doctor. You should feel free to ask any question that’s on your mind, no matter how small it might seem. Here are some questions you might want to ask. Be sure to add your own questions as you think of them. Nurses, social workers, and other members of your health care team may also be able to answer many of your questions.

- Would you please write down the exact type of stomach cancer I have?
- Where in my stomach is the cancer?
- What is the stage of my cancer? What does that mean in my case?
- Do I need any other tests?
- Will I need to see other doctors?
- How much experience do you have treating this type of cancer?
- What treatment choices do I have?
- What do you suggest and why?
- How long will treatment last? What will it involve? Where will it be done?

- What is the goal of this treatment (to cure the cancer, slow its growth, ease symptoms, *etc*.)?
- What risks or side effects are there to the treatment you suggest? How long are they likely to last?
- Are there any clinical trials I should think about now?
- How could treatment affect my daily life? Will it affect the way I eat?
- What is my expected survival rate, based on my cancer as you see it?
- What are the chances of the cancer coming back after treatment?
- What would my options be if the treatment doesn't work or if the cancer recurs?
- What should I do to get ready for treatment?
- What type of follow-up will I need after treatment?

Along with these sample questions, be sure to write down some of your own. For instance, you might want more information about recovery times, or you might want to ask about getting a second opinion.

Moving on after treatment for stomach cancer

For some people with stomach cancer, treatment may remove or destroy the cancer. Finishing treatment can be both stressful and exciting. You may be relieved to be done with treatment but find it hard not to worry about cancer coming back. (When cancer returns, it is called *recurrence*.) This is a very common concern among those who have had cancer.

It may take a while before your fears lessen. But it may help to know that many people who have had cancer have learned to live with this uncertainty and are leading full lives. Our document *Living with Uncertainty: The Fear of Cancer Recurrence* gives more details about this.

In other people, the cancer may never go away completely. These people may get regular treatments with chemotherapy, radiation, or other treatments to try to help keep the cancer in check. Learning to live with cancer that does not go away can be hard and very stressful. Our document *When Cancer Doesn't Go Away*, talks more about this.

Follow-up care

If you have finished treatment, your doctors will still want to watch you closely. During these visits, they will ask about symptoms and examine you. Lab tests, imaging tests, and endoscopy may be done depending on your symptoms. Follow-up is needed to watch for treatment side effects and to check for cancer that has come back or spread.

Almost any cancer treatment can have side effects. Some may last for a few weeks or months, but others can last the rest of your life. Please tell your cancer care team about any symptoms or side effects that bother you so they can help you manage them. Use this time to ask your health care team questions and discuss any concerns you might have.

Having surgery for stomach cancer will likely mean that your eating habits will need to change to some extent. You probably won't be able to eat large amounts of food at one time. Your health care team may suggest that you meet with a nutritionist, who can help you adjust to changes in your eating habits.

People who have had surgery — especially if they had the upper part of their stomach removed — will likely need to have their vitamin blood levels tested and may need to get vitamin supplements, which may include B12 shots (injections). Surgery for stomach cancer often causes problems with your body absorbing vitamin B12, so it can't be taken as a pill.

It is also important to keep health insurance. While you hope your cancer won't come back, it could happen. If it does, you don't want to have to worry about paying for treatment.

Should your cancer come back, our document *When Your Cancer Comes Back: Cancer Recurrence* helps you manage and cope with this phase of your treatment.

Seeing a new doctor

At some point after your cancer is found and treated, you may find yourself in the office of a new doctor. It is important that you be able to give your new doctor the exact details of your diagnosis and treatment. Gathering these details soon after treatment may be easier than trying to get them at some point in the future. Make sure you have this information handy and always keep copies for yourself:

- A copy of your pathology report from any biopsies or surgeries
- If you had surgery, a copy of your operative report
- If you stayed in the hospital, a copy of the discharge summary the doctor wrote when you were sent home
- If you had radiation treatment, a copy of the treatment summary

- If you had chemotherapy or targeted therapies, a list of your drugs, drug doses, and when you took them
- Copies of your x-rays and imaging tests (these can often be placed on a DVD)

Lifestyle changes after stomach cancer

You can't change the fact that you have had cancer. What you can change is how you live the rest of your life — making choices to help you stay healthy and feel as well as you can. This can be a time to look at your life in new ways. Maybe you are thinking about how to improve your health over the long term. Some people even start during cancer treatment.

Make healthier choices

For many people, a finding out they have cancer helps them focus on their health in ways they may not have thought much about in the past. Are there things you could do that might make you healthier? Maybe you could try to eat better or get more exercise. Maybe you could cut down on alcohol, or give up tobacco. Even things like keeping your stress level under control may help. Now is a good time to think about making changes that can have positive effects for the rest of your life. You will feel better and you will also be healthier.

Start by working on those things that worry you most. Get help with those that are harder for you. For instance, if you are thinking about quitting smoking and need help, call the American Cancer Society for information and support.

Eating better

Eating right can be hard for anyone, but it can get even tougher during and after stomach cancer treatment. Treatment may change your sense of taste. It might affect how you eat and absorb nutrients. Nausea can be a problem. You may not feel like eating and lose weight when you don't want to. All of these things can be very frustrating.

During treatment: If treatment caused weight changes or eating or taste problems, do the best you can and keep in mind that these problems may get better over time. Eat what appeals to you. Eat what you can, when you can. You might find it helps to eat small portions every 2 to 3 hours until you feel better. You may also want to ask your cancer team about seeing a dietitian, an expert in nutrition who can give you ideas on how to deal with these treatment side effects.

After treatment: If part or all of your stomach has been removed, you might need to eat smaller amounts of food more often. Your doctor or nutritionist may also suggest that you stay upright for some time after eating.

Some patients have problems with nausea, diarrhea, sweating, and flushing after eating. When part or all of the stomach is removed, the food that is swallowed quickly passes into the intestine, leading to these symptoms after eating. These symptoms often get better over time.

Some people may need supplements to help make sure they get the nutrition they need. Some people may even need a feeding tube put into the small intestine. This is done through a small cut in the skin over the belly during a minor operation. A tube allows liquid “food” to be put straight into the small intestine to help prevent weight loss and improve nutrition. Less often, the tube may be placed into the lower part of the stomach instead.

One of the best things you can do after treatment is to put healthy eating habits into place. You may be surprised at the long-term benefits of some simple changes. Getting to and staying at a healthy weight, eating a healthy diet, and limiting your alcohol intake may lower your risk for a number of types of cancer, as well as having many other health benefits.

Rest, fatigue, and exercise

Feeling tired (fatigue) is a very common problem during and after cancer treatment. This is not a normal type of tiredness but a bone-weary exhaustion that doesn’t get better with rest. For some people, fatigue lasts a long time after treatment and can keep them from staying active. But exercise can actually help reduce fatigue and the sense of depression that sometimes comes with feeling so tired.

If you were very ill or weren’t able to do much during treatment, it is normal that your fitness, staying power, and muscle strength declined. You need to find an exercise plan that fits your own needs. Talk with your health care team before starting. Get their input on your exercise plans. Then try to get an exercise buddy so that you’re not doing it alone.

If you are very tired, though, you will need to balance activity with rest. It is OK to rest when you need to. To learn more about fatigue, please see our documents *Fatigue in People With Cancer* and *Anemia in People With Cancer*.

Exercise can improve your physical and emotional health.

- It improves your cardiovascular (heart and circulation) fitness.
- Along with a good diet, it will help you get to and stay at a healthy weight.
- It makes your muscles stronger.
- It reduces fatigue and helps you have more energy.
- It can help lower anxiety and depression.

- It can make you feel happier.
- It can help you feel better about yourself.

Long term, we know getting regular physical activity plays a role in helping to lower the risk of some cancers, as well as having other health benefits.

Can I lower my risk of the cancer growing or coming back?

Most people want to know if there are certain changes they can make to reduce their risk of their cancer growing or coming back. At this time, not enough is known about stomach cancer to say for sure if there are things you can do that will be helpful. This doesn't mean that nothing will help – it's just that for the most part this is an area that hasn't been well studied.

Tobacco use has clearly been linked to stomach cancer, so not smoking might help reduce your risk. We don't know for certain if this will help, but we do know that it can help improve your overall health. If you want to quit smoking and need help, call the American Cancer Society at 1-800-227-2345. You can also learn more in our *Guide to Quitting Smoking.*

Eating a diet rich in fruits and vegetables and staying at a healthy weight are also linked with a lower risk of stomach cancer, but again we don't know if these types of changes affect the risk of cancer growing or coming back. We do know that they can have positive effects on your health that can extend beyond your risk of cancer.

How might having stomach cancer affect your emotional health?

During and after treatment, you may find yourself overcome with many different feelings. This happens to a lot of people.

You may find yourself thinking about death and dying. Or maybe you're more aware of the effect of your cancer on your family, friends, and career. Money may be a concern as the medical bills pile up. Other issues may also cause concern — for instance, as you get better and need fewer doctor visits, you might see your health care team less often. This can be hard for some people.

This is a good time to look for emotional and social support. You need people you can turn to. Support can come in many forms: family, friends, cancer support groups, church or spiritual groups, online support communities, or private counselors.

The cancer journey can feel very lonely. You don't need to go it alone. Your friends and family may feel shut out if you decide not include them. Let them in — and let in anyone else who you feel may help. If you aren't sure who can help, call your American Cancer

Society at 1-800-227-2345 and we can put you in touch with a group or resource that may work for you. You may also want to read our booklet *Distress in People with Cancer*.

If treatment for stomach cancer stops working

When a person has had many different treatments and the cancer has not been cured, over time the cancer tends to resist all treatment. At this time you may have to weigh the possible benefits of a new treatment against the downsides, like treatment side effects and clinic visits.

This is likely to be the hardest time in your battle with cancer — when you have tried everything within reason and it's just not working anymore. Your doctor may offer you new treatment, but you will need to talk about whether the treatment is likely to improve your health or change your outlook for survival.

No matter what you decide to do, it is important for you to feel as good as possible. Make sure you are asking for and getting treatment for pain, nausea, or any other problems you may have. This type of treatment is called *palliative treatment*. It helps relieve symptoms but is not meant to cure the cancer. You can learn more about the physical and emotional changes, as well as plans and preparations for yourself and your family, in our document *Nearing the End of Life.*

At some point you may want to think about hospice care. Most of the time it is given at home. Your cancer may be causing symptoms or problems that need to be treated. Hospice focuses on your comfort. You should know that having hospice care doesn't mean you can't have treatment for the problems caused by your cancer or other health issues. It just means that the purpose of your care is to help you live life as fully as possible and to feel as well as you can. You can learn more about this in our document *Hospice Care*.

Staying hopeful is important, too. Your hope for a cure may not be as bright, but there is still hope for good times with family and friends — times that are filled with joy and meaning. Pausing at this time in your cancer treatment gives you a chance to focus on the most important things in your life. Now is the time to do some things you've always wanted to do and to stop doing the things you no longer want to do. Though the cancer may be beyond your control, there are still choices you can make.

What's new in stomach cancer research?

There is always research going on in the area of stomach cancer. Scientists are looking for causes and ways to prevent this cancer, and doctors are looking for better treatments.

Prevention

Chemoprevention is the use of natural or man-made chemicals to lower the risk of cancer. The approaches below might be useful in helping prevent stomach cancer:

Antibiotics: Doctors are looking at whether using antibiotics to treat people who have chronic *H. pylori* infections will help prevent stomach cancer.

Aspirin and similar drugs: Some (but not all) studies have found that people who take non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin or ibuprofen might have a lower risk of stomach cancer. More research is needed to better define this possible link. In the meantime, doctors generally don't advise taking these medicines just to try to lower your risk of cancer, as they can cause serious side effects in some people.

Staging

Sentinel lymph node mapping

This technique has been used to help see how far cancers like melanoma and breast cancer have spread, but doctors are now studying its use in stomach cancer as well. First, the doctor injects a blue dye and a radioactive substance into the cancer. The dye will go into the lymph nodes where the cancer would first spread. These nodes can be removed and looked at for cancer. If no cancer is seen, then it is not likely to have reached other lymph nodes, so they don't need to be removed. If cancer is found, then all the lymph nodes will be removed. For stomach cancer, this approach is still in the clinical trial stage. It is not yet ready for widespread use.

Treatment

Chemotherapy

Clinical trials are being done to test new chemotherapy (chemo) drugs or new ways to combine drugs. Other studies are looking at the best ways to combine drugs with other treatments like radiation. A good deal of effort is aimed at improving the results of surgery by adding chemo and/or radiation either before or after surgery. Clinical trials of these approaches are going on.

New ways of giving chemo are also being studied. For instance, some doctors are looking at putting chemo drugs right into the abdomen to see if it might work better with fewer side effects.

Targeted therapies

Chemo drugs affect cells that divide quickly, which is why they often work against cancer cells and normal cells, too. But there are other aspects of cancer cells that make them different from normal cells. In recent years, researchers have developed some new targeted drugs aimed at these differences. Targeted drugs sometimes work when standard chemo drugs don't. They also tend to have less severe side effects than chemo drugs. These drugs are now being studied for use against a number of cancers, including stomach cancer. Most of this research is focused on combining targeted agents with chemo or with each other.

Immunotherapy

Immunotherapy is an approach that uses drugs to help the body's immune system fight the cancer. Treatments that boost the patient's immune system are being tested in clinical trials.

You can learn more about immunotherapy in our document *Immunotherapy*.

If you want to search for clinical trials in your area, contact the American Cancer Society at 1-800-227-2345 or go to www.cancer.org/clinicaltrials.

More information about stomach cancer

From your American Cancer Society

Here is more information you might find helpful. You also can order free copies of our documents from our toll-free number, 1-800-227-2345, or read them on our website, www.cancer.org.

Living with cancer

Coping With Cancer in Everyday Life (also in Spanish)

Guide to Controlling Cancer Pain (also in Spanish)

Talking With Your Doctor (also in Spanish)

Distress in People With Cancer

Living With Uncertainty: The Fear of Cancer Recurrence

Understanding cancer treatments

A Guide to Cancer Surgery (also in Spanish)

A Guide to Chemotherapy (also in Spanish)

Understanding Radiation Therapy: A Guide for Patients and Families (also in Spanish)

Targeted Therapy

Immunotherapy

Cancer treatment side effects

Caring for the Patient With Cancer at Home: A Guide for Patients and Families (also in Spanish)

Nausea and Vomiting

Anemia in People With Cancer

Fatigue in People With Cancer

Peripheral Neuropathy Caused By Chemotherapy

Other health information

Nutrition for the Person With Cancer During Treatment: A Guide for Patients and Families (also in Spanish)

Clinical Trials: What You Need to Know

Health Professionals Associated With Cancer Care

Family communication and caregiver concerns

After Diagnosis: A Guide for Patients and Families (also in Spanish)

Talking With Friends and Relatives About Your Cancer (also in Spanish)

Helping Children When a Family Member Has Cancer: Dealing With Diagnosis (also in Spanish)

What It Takes to Be a Caregiver

Insurance and financial issues

In Treatment: Financial Guidance for Cancer Survivors and Their Families (also in Spanish)

Health Insurance and Financial Assistance for the Cancer Patient (also in Spanish)

Books

Your American Cancer Society also has books that you might find helpful. Call us at 1-800-227-2345 or visit our bookstore online to find out about costs or to place an order.

National organizations and Web sites*

Along with the American Cancer Society, other sources of information and support include:

National Cancer Institute
Toll-free number 1-800-4-CANCER (1-800-422-6237)
Website: www.cancer.gov

> Offers free, accurate, up-to-date information about cancer to patients, their families, and the general public; also helps people find clinical trials in their area

National Coalition for Cancer Survivorship (NCCS)
Toll-free number: 1-888-650-9127
Toll-free number: 1-877-NCCS-YES (1-877-622-7937) (for Cancer Survivor Toolbox orders)
Website: www.canceradvocacy.org

> Offers information on work, health insurance, and more. The Cancer Survival Toolbox is a free, self-learning audio program to help cancer survivors and caregivers develop practical tools needed to deal with the diagnosis, treatment and challenges of cancer. Listen online or order CDs. Also in Spanish and Chinese.

Job Accommodation Network
Toll-free number: 1-800-526-7234
TTY: 1-877-781-9403
Website: www.askjan.org

> A free consulting service of the US Department of Labor that gives information on the Americans with Disabilities Act, your rights, how to talk to an employer, and how to help keep your job (and insurance) during treatment

Cancer Legal Resource Center (CLRC)
Toll-free number: 1-866-843-2572 (1-866-THE-CLRC)

TTY: 213-736-8310
Website: www.cancerlegalresourcecenter.org

> A non-profit program that gives free and confidential information and resources on cancer-related legal issues to cancer survivors, their families, friends, employers, health care professionals, and others coping with cancer

Patient Advocate Foundation
Toll-free number: 1-800-532-5274
Website: www.patientadvocate.org

> Helps mediate between the patient and insurer, employer, or creditors to resolve insurance, job, or debt problems related to their cancer. Helps people get access to care and keep job and financial stability.

**Inclusion on this list does not imply endorsement by the American Cancer Society.*

No matter who you are, we can help. Contact us anytime, day or night, for information and support. Call us at **1-800-227-2345** or visit www.cancer.org.

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For additional assistance please contact your American Cancer Society
1-800-227-2345 or www.cancer.org