

# Stomach Cancer

J A S C A P

JEET ASSOCIATION FOR SUPPORT TO CANCER PATIENTS, MUMBAI, INDIA.

## JASCAP

### JEET ASSOCIATION FOR SUPPORT TO CANCER PATIENTS

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JASCAP is a charitable trust that provides information on various aspects of cancer. This can help the patient and his family to understand the disease and its treatment and thus cope with it better.

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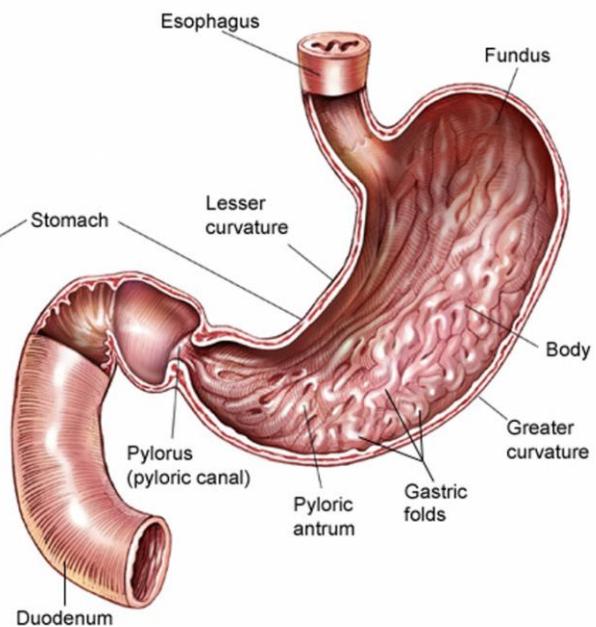
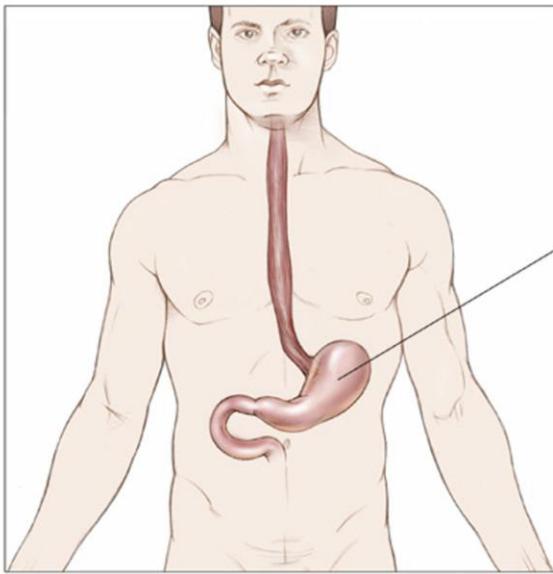
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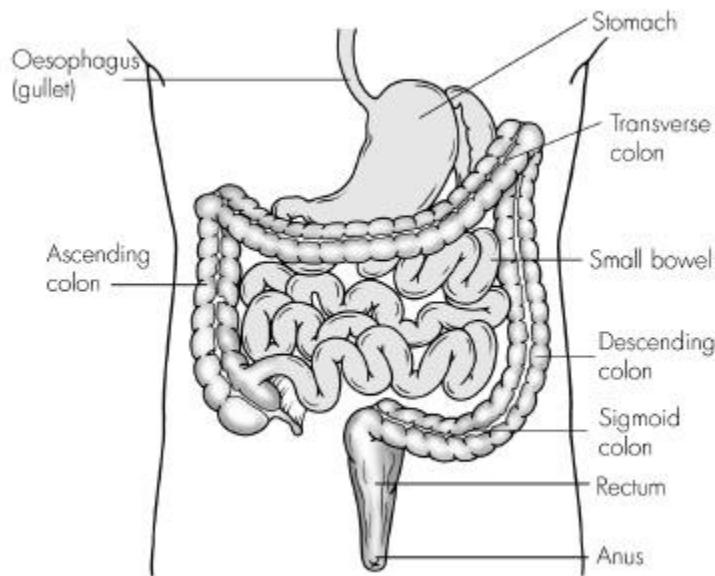
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# Stomach Cancer

## The stomach

The stomach is part of the digestive system, which is sometimes called the gastrointestinal tract. It is a muscular, bag-like organ which lies between the lower end of the gullet (oesophagus) and the beginning of the small bowel (small intestine). Once food has been swallowed it passes down the gullet and into the stomach.



The position of the stomach

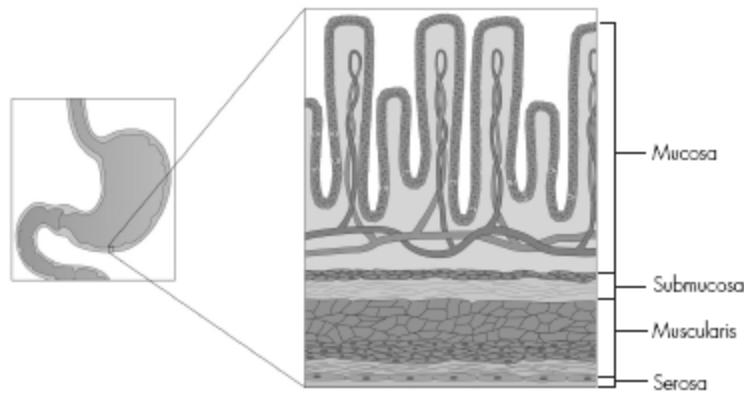
The wall of the stomach has four layers:

The inner lining (the **mucosa**) contains glands. The glands produce chemicals (enzymes and acid) which are released into the stomach and help to break down food so that when it leaves the stomach it is in a semi-solid form.

Underneath the mucosa is a layer called the **submucosa**.

Beneath that is a layer of muscle called the **muscularis**.

The outer layer of the stomach is a strong membrane called the **serosa**.



Structure of the stomach wall

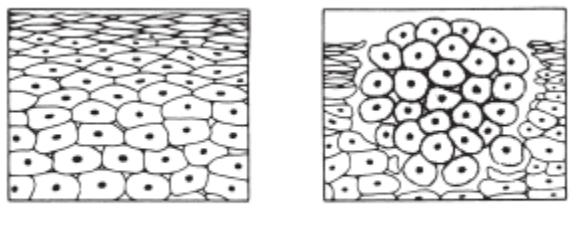
The stomach lining also produces a substance which helps to absorb vitamin B12. This is important for the development of red blood cells.

Close to the stomach are a number of lymph nodes.

## What is cancer?

The organs and tissues of the body are made up of tiny building blocks called cells. Cancer is a disease of these cells.

Cells in different parts of the body may look and work differently but most reproduce themselves in the same way. Cells are constantly becoming old and dying, and new cells are produced to replace them. Normally, cells divide in an orderly and controlled manner. If for some reason the process gets out of control, the cells carry on dividing, developing into a lump which is called a **tumour**.



Normal cells

Cells forming a tumour

Tumours can be either **benign** or **malignant**. Cancer is the name given to a malignant tumour. Doctors can tell if a tumour is benign or malignant by examining a small sample of cells under a microscope. This is called a **biopsy**.

In a benign tumour the cells do not spread to other parts of the body and so are not cancerous. However, if they continue to grow at the original site, they may cause a problem by pressing on the surrounding organs.

A malignant tumour consists of cancer cells that have the ability to spread beyond the original area. If the tumour is left untreated, it may spread into and destroy surrounding tissue. Sometimes cells break away from the original (primary) cancer. They may spread to other organs in the body through the bloodstream or lymphatic system.

The lymphatic system is part of the immune system - the body's natural defence against infection and disease. It is a complex system made up of organs, such as bone marrow, the thymus, the spleen, and lymph nodes. The lymph nodes (or glands) throughout the body are connected by a network of tiny lymphatic ducts.

When the cancer cells reach a new area they may go on dividing and form a new tumour. This is known as a **secondary cancer or metastasis**.

It is important to realise that cancer is not a single disease with a single type of treatment. There are more than 200 different kinds of cancer, each with its own name and treatment.

## **Types of cancer**

### **Carcinomas**

The majority of cancers, about 85% (85 in a 100), are carcinomas. They start in the epithelium, which is the covering (or lining) of organs and of the body (the skin). The common forms of breast, lung, prostate and bowel cancer are all carcinomas.

Carcinomas are named after the type of epithelial cell that they started in and the part of the body that is affected. There are four different types of epithelial cells:

- squamous cells - that line different parts of the body, such as the mouth, gullet (oesophagus), and the airways
- adeno cells - form the lining of all the glands in the body and can be found in organs such as the stomach, ovaries, kidneys and prostate
- transitional cells - are only found in the lining of the bladder and parts of the urinary system
- basal cells - that are found in one of the layers of the skin.

A cancer that starts in squamous cells is called a squamous cell carcinoma. A cancer that starts in glandular cells is called an adenocarcinoma. Cancers that start in transitional cells are transitional cell carcinomas, and those that start in basal cells are basal cell carcinomas.

### **Leukaemias and lymphomas**

These occur in the tissues where white blood cells (which fight infection in the body) are formed, i.e. the bone marrow and lymphatic system. Leukaemia and lymphoma are quite rare and make up about 6.5% (6.5 in 100) of all cancers.

## **Sarcomas**

Sarcomas are very rare. They are a group of cancers that form in the connective or supportive tissues of the body such as muscle, bone and fatty tissue. They account for less than 1% (1 in 100) of cancers.

Sarcomas are split into two main types:

- bone sarcomas - that are found in the bones
- soft tissue sarcomas - that develop in the other supportive tissues of the body.

## **Others forms of cancer**

Brain tumours and other very rare forms of cancer make up the remainder of cancers.

## **Types of stomach cancer**

Around 9200 people are diagnosed with stomach cancer in the UK each year. There are several different types of stomach cancer, some of which are very rare.

The most common types of stomach cancer start in the glandular cells of the stomach lining and are known as **adenocarcinomas**.

Other types of cancer that can affect the stomach are soft tissue sarcomas. These are rare cancers that usually start from the cells of the muscle layer of the stomach. The most common type of sarcoma to affect the stomach is a leiomyosarcoma.

Another type of sarcoma is a gastrointestinal stromal tumour (GIST). These cancers start in the tissues that support the organs of the digestive system. GISTs behave differently from other types of sarcoma and are treated very differently.

Another rare type of tumour that can affect the stomach is a lymphoma. Lymphomas are cancers of the lymphatic system. The main type to affect the stomach is a MALT lymphoma (also known as a MALToma).

The stomach can also be affected by a type of tumour known as a carcinoid tumour.

## **Causes of stomach cancer**

The exact causes of cancer of the stomach are still unknown, although research is being done to try to find the cause. Over the past 30 years the number of people who develop stomach cancer has fallen, especially in Western countries. Although the reason for this is unknown, it is thought to be related to changes in our diet, particularly the use of refrigeration, which has meant that people eat more fresh food and less smoked and pickled food.

Cancer of the stomach is more common in men, particularly in their 60s and 70s. Factors that can increase the risk of stomach cancer include:

pernicious anaemia, which affects the lining of the stomach and results in a lack of vitamin B12.

atrophic gastritis – a stomach disorder

helicobacter pylori (H pylori) – an infection that affects the stomach

a hereditary condition in which people have small growths (polyps) in their stomach

Barrett's oesophagus – a condition where abnormal cells develop in the lining of the lower end of the gullet or the place where the gullet joins the stomach (the gasto-oesophageal junction). It is not a cancer, but over a long period of time a small number of people with this condition may develop cancer of the gullet or stomach.

## Symptoms of stomach cancer

The symptoms of stomach cancer may include any of the following:

- indigestion that does not go away
- losing your appetite
- difficulty in swallowing
- losing weight
- a bloated feeling after eating
- feeling sick (nausea) or being sick (vomiting)
- heartburn
- blood in the stools (bowel motion) or black stools
- tiredness due to anaemia (from bleeding from the wall of the stomach)

Many of the symptoms described above are common to conditions other than cancer of the stomach. Most people who see their doctor with these symptoms will not have cancer. However, it is important to have them checked so that further tests can be done if necessary.

## How stomach cancer is diagnosed

Usually you begin by seeing your family doctor (GP), who will examine you and arrange any tests or x-rays that may be necessary. Your GP will refer you to hospital for these tests and for specialist advice and treatment.

The doctor at the hospital will take your full medical history before doing a physical examination. You will probably have a blood test taken to check your general health. You may also be asked to bring a stool sample with you so that it can be tested for blood.

To examine the stomach in more detail, your doctor may arrange for you to have an endoscopy or a barium meal. Some people may have just one test while others may have both.

Endoscopy/ Endoscopic ultrasound  
Barium meal

### ***Endoscopy/ Endoscopic ultrasound***

This is the most common test used to diagnose cancer of the stomach. Before an endoscopy the stomach has to be empty, so you will be asked not to eat or drink anything for at least four hours beforehand. Most people are given a sedative before an endoscopy. The sedative is usually given as an injection into a vein in your arm. This will make you feel sleepy so you don't feel too uncomfortable during the test. A local anaesthetic may also be sprayed onto the back of your throat and the doctor or nurse passes an endoscope (a thin, flexible tube) down the gullet into the stomach.

The endoscope has a light and camera at the end. Photographs are taken of the lining of the stomach and a small sample of cells (biopsy) is taken for examination under a microscope.

Sometimes the endoscopy tube has an ultrasound probe at the end, which allows an ultrasound scan to be done of the stomach and surrounding structures. This is known as an endoscopic ultrasound.

An endoscopy can be uncomfortable but it is not painful. After a few hours the effects of the sedative should have worn off. You will then be able to go home. You should not drive for several hours afterwards and it is advisable to arrange for someone to either drive you home or travel home with you. Some people have a sore throat after their endoscopy. This is normal and should disappear after a few days.

### ***Barium meal***

This test will be done in the hospital x-ray department. You will be asked not to eat or drink anything for at least six hours before the test. You will then be given a white, chalky-tasting liquid to drink. This contains barium, which makes the gullet and stomach show up on an x-ray.

You'll be asked to lie on a couch, and the doctor will watch on the x-ray screen as the barium passes through your stomach. To get a clear picture, the room will be darkened during the test. The couch will be tipped in several different positions to allow the barium to flow through the stomach. A barium meal test usually takes less than an hour and may be slightly uncomfortable. The doctor, and often a nurse, will be in the room with you and will be able to answer any questions you may have.

Most people feel fine after the test, but it may be a good idea for a relative or friend to travel home with you. Sometimes the barium causes constipation so you may need to take a laxative for a couple of days. Your stools are likely to be very pale for a few days.

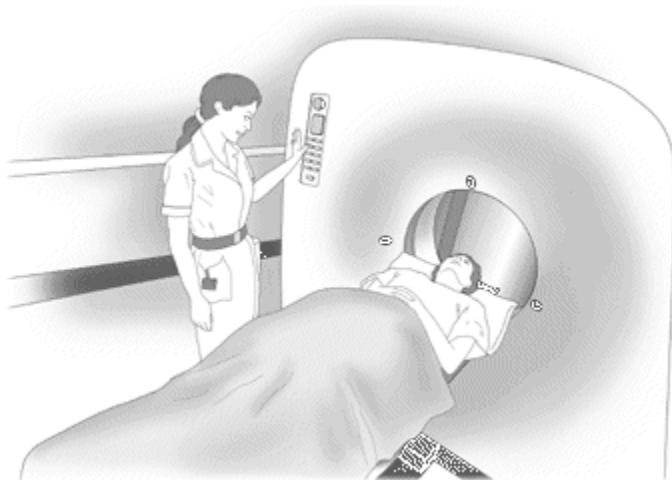
## Further tests for stomach cancer

If the tests show that you do have cancer of the stomach, your doctor may want to do some more tests to see if the cancer has spread outside the stomach or to other parts of the body.

CT (computerised tomography) scan  
Ultrasound scan

### ***CT (computerised tomography) scan***

A CT scanner takes a series of x-rays which build up a three-dimensional picture of the inside of the body. The scan is painless but takes longer than an x-ray (10–30 minutes). It may be used to find exactly where the tumour is, or to check for any spread of the disease.



A CT scan

Most people who have a CT scan are given a drink or injection to allow particular areas to be seen more clearly. For a few minutes this may make you feel hot all over. Before having the injection or drink, it is important to tell your doctor and the person doing the scan if you are allergic to iodine or have asthma. If you are allergic or have asthma you may need to have steroids on the day before and the day of the scan. You will probably be able to go home as soon as the scan is over.

### ***Ultrasound scan***

Ultrasound measures the size and position of a tumour and is done in the hospital scanning department. It is painless and only takes a few minutes.

Once you are lying comfortably on your back, a gel is spread onto your abdomen. A small device which produces sound waves is then passed over the area. The sound waves make up a picture of the stomach and liver, which can be seen on a computer screen.

## Staging and grading of stomach cancer

### Staging Grading

#### **Staging**

The stage of a cancer is a term used to describe its size and whether it has spread beyond its original site. Knowing the extent of the cancer helps the doctors to decide on the most appropriate treatment.

A commonly used staging system is described below. You may find it helpful to refer to our diagram of the stomach wall when reading this booklet:

**Stage 1A** The cancer is contained within the inner lining of the stomach (mucosa) only.

**Stage 1B** The cancer has spread through the mucosal layer of the stomach either to the muscle layer, **OR** it is affecting up to six of the nearby lymph nodes.

**Stage 2** The cancer has spread through the mucosa and is affecting between seven and 15 lymph nodes nearby, **OR** it is affecting the muscle layer and up to six lymph nodes, **OR** it has spread to the outer layer of the stomach (serosa).

**Stage 3A** The cancer has spread to the muscle layer of the stomach and also to between seven and 15 lymph nodes nearby, **OR** it has spread to the outer layer of the stomach and is affecting up to six lymph nodes, **OR** it has spread to structures close to the stomach but not to any lymph nodes or any other parts of the body.

**Stage 3B** The cancer has spread to the serosa and it is also affecting between seven and 15 lymph nodes.

**Stage 4** The cancer has spread to organs close to the stomach and to at least one lymph node, **OR** to more than 15 lymph nodes, **OR** it has spread to other parts of the body such as the lungs. This is known as secondary cancer (or metastatic cancer).

If the cancer comes back after initial treatment it is known as **recurrent stomach cancer**.

#### **Grading**

The grade of a cancer gives an idea of how quickly it may develop. To find the grade of your cancer, your doctors will look at a sample of the cancer (a biopsy) under the microscope. The cancer will be graded as:

**Grade 1** (low grade) – the cancer cells tend to be slow growing, look quite similar to normal cells (are 'well differentiated') and are less likely to spread.

**Grade 2** (moderate grade) – the cells look more abnormal.

**Grade 3** (high grade) – the cancer cells tend to be more quickly growing, look very abnormal (are 'poorly differentiated') and are more likely to spread than low-grade cancers.

## Planning treatment for stomach cancer

The usual treatments for stomach cancer are surgery, the main treatment, and chemotherapy which is occasionally used either before or after surgery. Chemotherapy may also be used if surgery is not possible. Radiotherapy is rarely used.

- Multidisciplinary team
- Treatment choices
- Giving your consent
- Benefits and disadvantages of treatment

### ***Multidisciplinary team***

In most hospitals a team of specialists will decide the treatment that is best for you.

This multidisciplinary team (MDT) will include a surgeon who specialises in gastrointestinal cancers, an oncologist (cancer specialist) and may include a number of other healthcare professionals, such as a:

- nurse specialist
- dietitian
- physiotherapist
- occupational therapist
- psychologist or counsellor.

Together they will be able to advise you on the best plan of treatment, taking into account a number of factors. These include your age, general health, the type and size of the tumour, and whether it has spread beyond the stomach.

### ***Treatment choices***

If two treatments are equally effective for your type and stage of cancer, your doctors may offer you a choice of treatments. Sometimes people find it very hard to make a decision. Make sure that you have enough information about the different treatment options, what is involved and the side effects you might have, so that you can decide which is the right treatment for you.

Remember to ask questions about any aspects that you don't understand or feel worried about. You may find it helpful to discuss the benefits and disadvantages of each option with your cancer specialist.

If you have any questions about your treatment, don't be afraid to ask your doctor or nurse. It often helps to make a list of questions and to take a close friend or relative with you.

Some people find it reassuring to have another medical opinion to help them decide about their treatment. Most doctors will be pleased to refer you to another specialist for a second opinion if you feel this would be helpful.

### ***Giving your consent***

Before you have any treatment, your doctor will explain the aims of the treatment to you. They will usually ask you to sign a form saying that you give your permission (consent) for the hospital staff to give you the treatment. No medical treatment can be given without your consent, and before you are asked to sign the form you should be given full information about:

- the type and extent of the treatment you are advised to have
- the advantages and disadvantages of the treatment
- any other treatments that may be available
- any significant risks or side effects of the treatment.

If you do not understand what you have been told, let the staff know straight away so that they can explain again. Some cancer treatments are complex, so it is very common for people to need to hear explanations more than once. People often feel that the hospital staff are too busy to answer their questions, but it is important for you to understand how the treatment is likely to affect you and the staff should be willing to make time for you to ask questions.

You can always ask for more time to decide about the treatment, if you feel that you can't make a decision when it is first explained to you. You are also free to choose not to have the treatment, and the staff can explain what may happen if you do not have it.

### ***Benefits and disadvantages of treatment***

Many people are frightened at the thought of having cancer treatments, because of the potential side effects. Some people ask what would happen if they do not have any treatment.

Although the treatments can cause side effects, these can often be well controlled with medicines.

Treatment can be given for different reasons and the potential benefits will vary for each person.

## **Early-stage stomach cancer**

In people with early-stage stomach cancer, surgery is often done with the aim of curing the cancer. Occasionally, additional treatments are given to help reduce the risks of the cancer coming back.

## **Advanced stomach cancer**

If the cancer is at a more advanced stage, treatment may only be able to control it, giving an improvement in symptoms and a better quality of life. However, for some people the treatment will have no effect upon the cancer and they will get the side effects without any of the benefit.

If you have been offered treatment that is intended to cure your cancer, deciding whether to accept the treatment may not be difficult. However, if a cure is not possible and the treatment is being given to control the cancer for a period of time, it may be more difficult to decide what to do.

Making decisions about treatment in these circumstances is always difficult, and you may need to discuss in detail with your doctor whether you wish to have treatment. If you choose not to, you can still be given supportive (palliative) care, with medicines to control any symptoms.

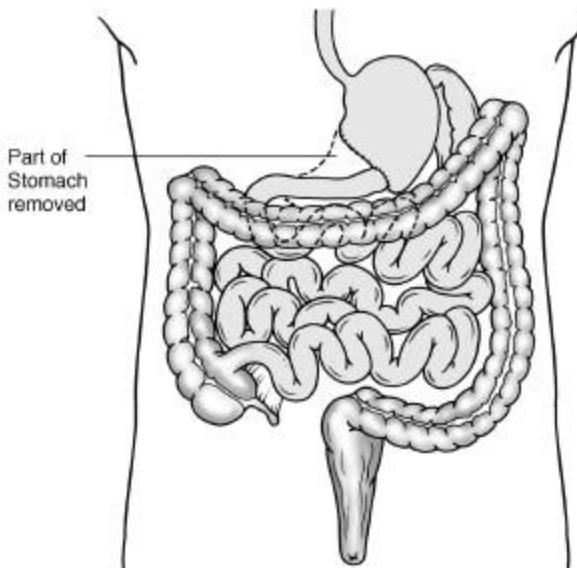
## **Surgery for stomach cancer**

Surgery is an important treatment for many stomach cancers. The results of surgery have improved in the last ten years, because nowadays the cancer is often found and treated earlier, and because better surgical methods have been developed.

- The operation
- Bypass surgery
- After your operation

### ***The operation***

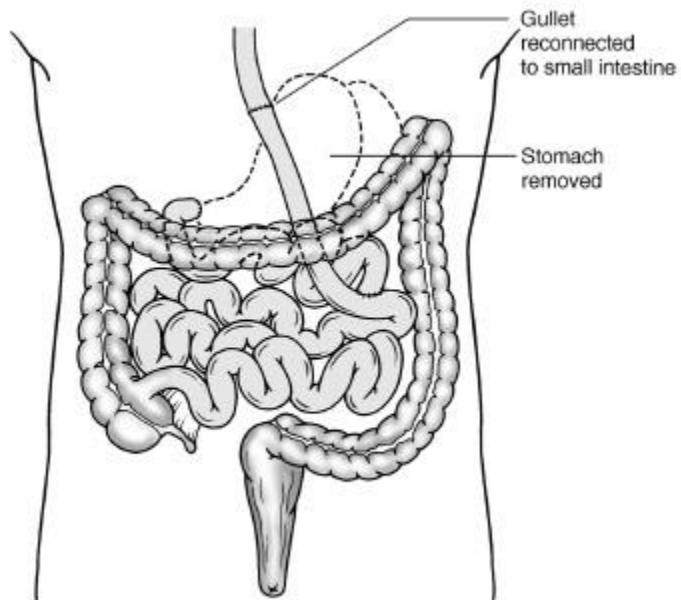
If the cancer is diagnosed at an early stage, a surgical operation may be all that is needed to cure it. This usually involves removing only a part of the stomach (a partial gastrectomy).



Partial gastrectomy

If all of the stomach is removed this is known as a total gastrectomy (see diagram below).

Often, the lymph nodes close to the stomach are removed at the same time to see if the cancer cells have spread into them. Depending on the extent of the cancer, some other organs in the area of the stomach may be removed during the operation. These may include the lower part of the gullet (oesophagus), the upper part of the small bowel (duodenum), the spleen or part of the pancreas.



Total gastrectomy

If the lower part of the gullet has been removed the gullet is reconnected directly to the small intestine.

Occasionally, before the surgeon decides to operate on your stomach, they may pass a small tube with a light at the end, through a cut in the wall of your abdomen. This is known as a laparoscopy. This is to help decide whether to remove all or part of the stomach. The laparoscopy is done under general anaesthetic and the area will feel sore for a few days afterwards.

### ***Bypass surgery***

Sometimes the cancer may block the passage of food from the stomach to the bowel. If this happens, the surgeon may make a connection between the stomach and the small intestine to allow food to bypass the blockage. This is known as bypass surgery and will not cure the cancer, but can relieve symptoms.

### ***After your operation***

After your operation you will be encouraged to start moving about as soon as possible. This is an essential part of your recovery. If you have to stay in bed the nurses will encourage you to do regular leg movements and deep breathing exercises. You will be seen by a physiotherapist who can help you to do the exercises.

### **Drips and drains**

A drip (intravenous infusion) will be used to maintain the body's fluids until you are able to eat and drink again.

You will also have a naso-gastric (NG) tube in place. This is a thin tube that passes down your nose into your stomach or small intestine and allows any fluids to be removed so that you don't feel sick. It is usually taken out within 48 hours.

Sometimes a small tube (catheter) is put into the bladder to drain your urine into a collecting bag. You may also have a drainage tube in your wound for a few days to make sure that the wound heals properly.

### **Drinking and eating**

After an anaesthetic, the movement of the bowel slows down, so it is important that you only drink small amounts until it is back to normal. After about 48 hours you will probably be ready to start taking small sips of water. This will be gradually increased after a couple of days until you are able to eat a light diet, usually four or five days after your operation.

### **Pain**

After your operation you may need to take painkilling drugs for a few days. These are usually very effective in controlling any pain. If you still have pain, it is important to let the

ward nurses know as soon as possible. Your painkillers can be changed until you find a type and dose that is effective.

### **Going home**

You will probably be ready to go home about two weeks after your operation, once your stitches have been removed. If you think you might have problems when you go home – for example, if you live alone or have several flights of stairs to climb – let the nurses or social worker know when you go into hospital, so that help can be arranged when you go home.

Some people take longer than others to recover from their operation. If you are having any problems you may find it helpful to talk to someone who is not directly involved with your illness.

The nurses at Cancerbackup are always happy to talk with you. They can also give you details of support groups in your area, where you can talk to other people who have had similar problems. You can contact the Cancer Counselling Trust to talk to a counsellor.

Before you leave hospital you will be given an appointment for a post-operative check-up at the outpatient clinic. This is a good time to talk to your doctor about any problems you may have after your operation.

## **Eating after stomach surgery**

When someone has had part of the stomach removed, the stomach cannot hold as much food as before. If all of the stomach has been removed, food is broken down in the small intestine instead of the stomach.

After any type of stomach surgery, eating and drinking can make you feel full quite quickly. So it is a good idea to have several small meals and snacks during the day, rather than a few larger meals. It's also best to have drinks separately from meals (or just drink a small amount with your meals).

You will probably lose some weight before your operation. It is important to go back to a balanced diet as soon as possible. This can help you to gain weight, and recover more quickly. You may not feel much like eating for some time after the operation, so don't be worried if it takes you a couple of months to get back to eating a balanced diet again. You may find that certain foods make you feel sick, or give you indigestion or diarrhoea, and you will begin to know which foods you should avoid. However, it is important to keep trying to build up your strength.

- Boosting your weight
- Advice about diet
- Vitamin B12 injections
- Dumping syndrome

### ***Boosting your weight***

If you are still losing weight you will need to increase your calorie and protein intake. A good way of doing this is by having nutritious, high-calorie drinks. There are several different types and they are available on prescription from your doctor or you can buy them at most chemists. You could carry 'nibbles' in your pocket or handbag at all times. Another way of improving your appetite is to have a glass of sherry (or another type of alcoholic drink) about half an hour before a meal – but check with your doctor first as some medicines should not be mixed with alcohol.

### ***Advice about diet***

It can be very helpful to talk to a dietitian before, or soon after, your operation. They can give advice and information about possible changes to your diet. Most hospitals have a dietitian available and the staff on the ward can arrange for them to visit you. Your GP may also be able to refer you to a community-based dietitian.

### ***Vitamin B12 injections***

After your operation your doctor may prescribe an injection of vitamin B12 for you every few months. This is because it is difficult to absorb this vitamin from food once all or part of your stomach has been removed.

You may find it helpful to read our booklets on diet and cancer and dietary problems after surgery.

### ***Dumping syndrome***

After an operation on your stomach you may have an effect called dumping syndrome. After meals, your stomach may empty quickly, which leads to a drop in blood sugar and fluid draining into your intestine. If this happens you will feel faint and weak, and you may sweat and look pale. The effect usually lasts between 30 minutes and two hours.

To avoid dumping syndrome that occurs soon after eating, it is helpful to eat foods that are high in starch. These include white bread, potatoes, rice and pasta.

You should avoid foods such as raw sugars, chocolate and sugary drinks, which are full of easily absorbed sugar.

If the dumping syndrome happens a few hours after eating, it can help to eat small, high-protein meals frequently (foods like meat, fish or cheese). Your doctor can also prescribe medicines to help this. In most people the dumping syndrome settles after a while, but let your doctor or dietitian know if it continues to be a problem.

## **Chemotherapy for stomach cancer**

Chemotherapy is the use of anti-cancer (cytotoxic) drugs to destroy cancer cells. The drugs work by disrupting the growth and division of these cells.

Even when the tumour itself and the local lymph nodes have been removed by surgery, there is a risk that tiny amounts of the cancer (micro-metastases) have been left behind or have spread. These are too small to be seen on a scan and can make the cancer come back later on.

- Early stomach cancer
- Locally-advanced stomach cancer
- Advanced stomach cancer
- How chemotherapy is given
- Side effects
- Fertility
- Early menopause
- Contraception

### ***Early stomach cancer***

Some research studies have suggested that giving chemotherapy after surgery (known as **adjuvant therapy**), might lower the risk of the cancer coming back and can help some people to live longer, but this has not been found in other studies. For this reason, chemotherapy is not a standard treatment in this situation.

Chemotherapy may also sometimes be given before the surgery. Giving the chemotherapy in this way may help to reduce the chances of the cancer coming back. A recent research trial (the 'MAGIC' study) showed that giving chemotherapy both before and after surgery helped make the surgery more successful and reduced the chance of the cancer coming back.

### ***Locally-advanced stomach cancer***

Occasionally, if the cancer has not spread beyond the stomach but it cannot be removed by surgery, doctors may use chemotherapy to try and shrink the cancer. Sometimes this makes it possible for the surgeon to remove the tumour. Chemotherapy given before surgery is called **neo-adjuvant therapy**.

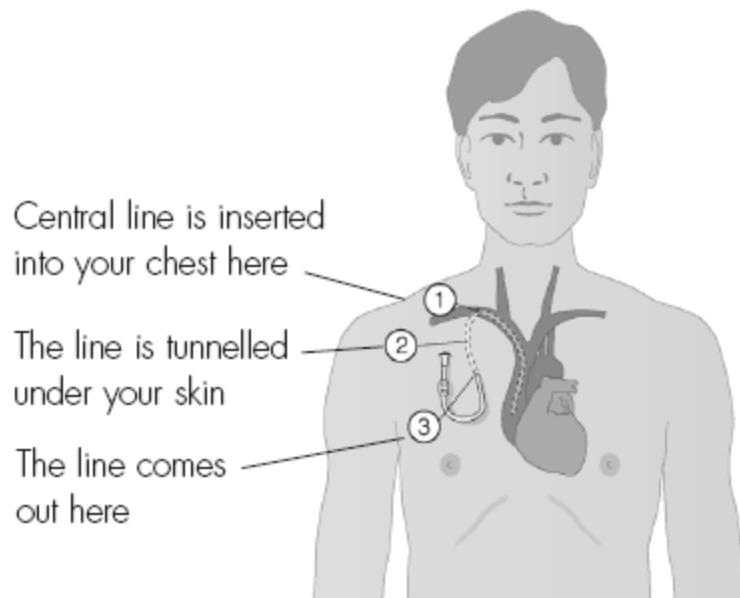
### ***Advanced stomach cancer***

Chemotherapy is also used when the cancer has spread beyond the stomach. In this situation, it can help to shrink and control the cancer for a period of time. This is known as **palliative treatment**.

### ***How chemotherapy is given***

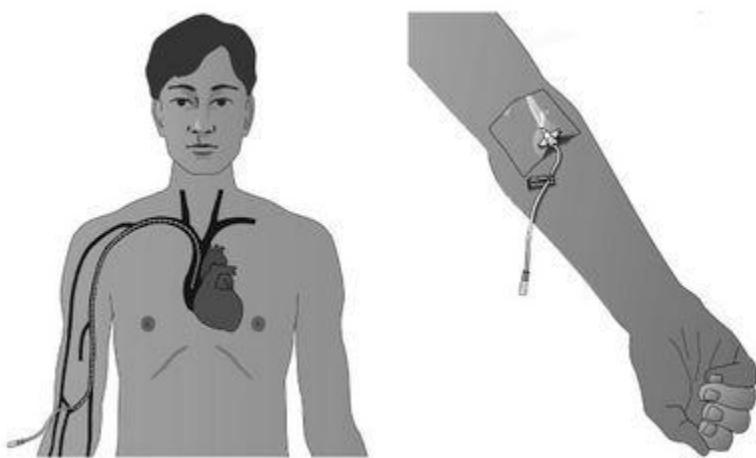
Chemotherapy drugs can be given as tablets, or by injection into a vein (intravenously). Intravenous chemotherapy is given as injections or drips (infusions) into a vein. The drugs can be given through a small tube (cannula) in your arm or through a plastic tube called a central line or PICC line.

The central line can be put into a vein in your chest under a general or local anaesthetic.



Position of a central line

Instead of a central line, a tube may be put into a vein in the bend of your arm: this is known as a PICC line (see below).



### **Chemotherapy pumps**

Some chemotherapy is given by using a small portable pump. This gives a continuous low dose of the chemotherapy drugs over a few weeks or months (known as a continuous infusion). If you are having this type of chemotherapy you will be given detailed information about how to use the pump by your doctors or nurses.

Chemotherapy is sometimes given to you as an outpatient, but at other times it will mean a short stay in hospital.

## **Side effects**

Chemotherapy can cause unpleasant side effects, but these can often be well controlled with medicines. The main side effects are described here, along with some ways of avoiding or reducing them.

### **Low resistance to infections**

While the drugs are acting on the cancer cells in your body, they also temporarily reduce the number of normal cells in your blood. When these cells are reduced, you are more likely to get an infection and you may tire easily.

During chemotherapy your blood will be tested regularly. If necessary, you will be given antibiotics to treat any infection. You may also be given injections of proteins called growth factors to stimulate the production of white blood cells by your bone marrow.

If your temperature goes above 38°C (100.5°F), or you suddenly feel ill, even with a normal temperature, contact your doctor or the hospital straight away.

### **Feeling sick**

Some of the drugs used to treat stomach cancer may make you feel sick (nauseous) and possibly make you vomit. There are now very effective anti-sickness drugs (anti-emetics) to prevent or greatly reduce nausea and vomiting. Your doctor will prescribe these for you.

### **Sore mouth**

Some chemotherapy drugs can make your mouth sore and cause small ulcers. Regular mouthwashes are important and your nurse will show you how to do these properly. If you don't feel like eating during your treatment, you could try replacing some meals with nutritious drinks or a soft diet. Our booklet on diet and cancer has some useful tips on coping with eating problems.

### **Anaemia**

If the level of red blood cells (haemoglobin) in your blood is low you will become very tired and lethargic. You may also be breathless. These are all symptoms of anaemia – a low level of haemoglobin in the blood. Anaemia can be very successfully treated by blood transfusions. You will feel more energetic and the breathlessness will be eased.

### **Bruising and bleeding**

Platelets are a type of cell that help to clot the blood. If the number of platelets in your blood is low you will bruise very easily, may develop blood spots in the skin (petechiae) or rashes (purpura), and may bleed heavily from even minor cuts and grazes. If you develop any unexplained bruising or bleeding, contact your doctor or the hospital immediately.

### **Hair loss**

Unfortunately, some of the drugs can make your hair fall out. Ask your doctor if the drugs you are taking are likely to cause hair loss or other specific side effects. You could also ask about the possibility of scalp cooling or cold cap treatment, which is a method of

trying to reduce hair loss from chemotherapy. People whose hair falls out often cover up by wearing wigs, hats or scarves. If your hair falls out as a result of chemotherapy, it should grow back over a period of 3–6 months. We have a booklet on hair loss, which you may find helpful.

### **Tiredness**

It is important to remember that chemotherapy affects different people in different ways. Some people find that they are able to lead a fairly normal life during their treatment, but many find that they become very tired and have to take things much more slowly. Just do as much as you feel like and try not to overdo it. We have information on coping with cancer-related fatigue.

### **Diarrhoea**

Some of the chemotherapy drugs used to treat stomach cancer can cause diarrhoea. This often starts several days after the treatment. If you are taking chemotherapy tablets or capsules at home, it is important that you let your doctor or nurse know that you have diarrhoea as your treatment may need to be stopped.

Although they may be hard to bear at the time, these side effects will disappear once treatment is over.

### **Fertility**

Your ability to become pregnant or father a child may be affected by taking some of the chemotherapy drugs used to treat stomach cancer. It is important to discuss fertility with your doctor or nurse before starting treatment.

### **Early menopause**

Some women may find that the chemotherapy treatment brings on an early menopause, and they may have signs of the menopause such as hot flushes and sweats. In many women, replacement hormones (HRT) can be given to replace those that are no longer being produced. You may find it helpful to talk this through with your doctor or a support organisation.

### **Contraception**

It is not advisable to become pregnant or father a child while taking any of the chemotherapy drugs used to treat stomach cancer, as they may harm the developing foetus. It is important to use effective contraception during your treatment and for a few months afterwards. You can discuss this with your doctor or nurse.

Condoms should be used during sex within the first 48 hours after chemotherapy to protect your partner from any of the drug that may be present in semen or vaginal fluid.

## **Radiotherapy for stomach cancer**

Radiotherapy is not usually used to treat cancer of the stomach. This is because the stomach is so close to other major organs that it is difficult to give effective treatment without damaging the other organs. The doses that would be necessary to try to cure the cancer would cause many side effects.

In the situation where the cancer has spread beyond the stomach and is causing pain, a small dose of radiotherapy may be very helpful to relieve pain.

In some situations chemotherapy and radiotherapy may be given at the same time. This is known as chemo-radiotherapy and it is sometimes given after surgery. Chemo-radiotherapy in the treatment of stomach cancer is still being researched in clinical trials.

## Follow-up after treatment for stomach cancer

After your treatment has finished, you will be asked to go back to the hospital for regular check-ups. To begin with, these may be every three months or so and will include a physical examination and possibly scans or x-rays. Over time the appointments will gradually become less frequent but will probably continue for several years. If you have any problems, or notice any new symptoms in between these times, let your doctor know as soon as possible.

Our booklet on adjusting to life after cancer treatment gives useful advice on how to keep healthy and adjust to life after cancer.

## What you can do

One of the hardest things to cope with can be the feeling that the cancer and its treatment have taken over your life and that you have lost control. This is a common feeling and is partly true, but over time people usually find things they can do that help them to cope.

There may be times when you feel too tired and helpless even to think about what could help. It is not unusual to feel like this when you have cancer. You'll have good and bad days, and it's important for you and your family to realise this.

If you are overwhelmed by these feelings let your doctor or nurse know. It may be that you have depression, and this is very treatable so they should be able to help.

For some people it is important to try to live life as normally as possible. Staying in contact with friends and trying to carry on with your usual activities can reassure you that life has not changed too much.

An experience of cancer may help some people decide on new priorities in their lives. This may mean spending more time with their family, going on the holiday they have long dreamed about, or taking up a new hobby. Just thinking about these things and making plans can help you realise that you still have choices.

### ***Information***

Understanding the cancer and its treatment helps many people to cope. It means that they can discuss plans for treatment, tests and check-ups with their doctors and nurses, and play a real part in the decisions that are made. Being involved in these choices builds confidence and can help give you back control of your life.

### ***Finding ways to cope***

Some people may decide to improve their general health by eating a more healthy diet or by getting fitter. Finding a complementary therapy which helps you to relax can be a very positive way of becoming involved in your illness. You may find our booklet on complementary therapies useful.

## **Research - clinical trials for stomach cancer**

Cancer research trials are carried out to try to find new and better treatments for cancer. Trials that are carried out on patients are known as clinical trials.

Clinical trials may be carried out to:

- test new treatments, such as new chemotherapy drugs, gene therapy or cancer vaccines
- look at new combinations of existing treatments, or change the way they are given, in order to make them more effective or to reduce side effects
- compare the effectiveness of drugs used to control symptoms
- find out how cancer treatments work
- see which treatments are the most cost-effective.

Trials are the only reliable way to find out if a different operation, type of chemotherapy, radiotherapy, or other treatment is better than what is already available.

### ***Taking part in a trial***

You may be asked to take part in a treatment research trial. There can be many benefits in doing this. Trials help to improve knowledge about cancer and develop new treatments. You will also be carefully monitored during and after the study. Usually, several hospitals around the country take part in these trials. It is important to bear in mind that some treatments that look promising at first are often later found not to be as good as existing treatments, or to have side effects that outweigh the benefits.

### ***Blood and tumour samples***

Many blood samples and bone marrow or tumour biopsies may be taken to find out what is wrong with you. Most of these are needed to make the right diagnosis. You may be asked for your permission to use some of your samples for research into cancer. Some samples may be frozen and stored for future use, when new research techniques become available.

The research may be carried out at the hospital where you are treated, or it may be at another hospital. This type of research takes a long time, so you are unlikely to hear the results. The samples will, however, be used to increase knowledge about the causes of cancer and its treatment. This research will, hopefully, improve the outlook for future patients.

## JASCAP resources

### **Talking about your cancer**

Practical advice and guidance for cancer patients to help them communicate with family, friends, carers and health professionals about emotional and practical issues arising from a diagnosis of cancer and cancer treatment.

### **Talking to children about cancer**

Practical advice and guidance to help parents with cancer talk to their children about their cancer.

### **Talking to someone with cancer**

Practical advice and guidance for friends, carers and family members to help them talk to their friend or relative with cancer, and provide emotional and practical support.

***Note: JASCAP has booklets on each of these subjects.***

## Questions you might like to ask your doctor or surgeon

You can fill this in before you see the doctor or surgeon, and then use it to remind yourself of the questions you want to ask, and the answers you receive.

1. \_\_\_\_\_

Answer \_\_\_\_\_

2. \_\_\_\_\_

Answer \_\_\_\_\_

3. \_\_\_\_\_

Answer \_\_\_\_\_

4. \_\_\_\_\_

Answer \_\_\_\_\_

5. \_\_\_\_\_

Answer \_\_\_\_\_

## **JASCAP : We need your help**

We hope that you found this booklet useful.

To help other patients and their families we need and intend to extend our Patient Information Services in many ways.

Our Trust depends on voluntary donations. Please send your donation by Cheque or D/D payable in Mumbai in favour of "JASCAP".

### **Note for Reader**

This JASCAP booklet is not designed to provide medical advice or professional services and is intended to be for educational use only. The information provided through JASCAP is not a substitute for professional care and should not be used for diagnosing or treating a health problem or a disease. If you have, or suspect you may have, a health problem you should consult your doctor.

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