

Large bowel cancer

This fact sheet is about how cancer of the large bowel is diagnosed and treated.

We also have fact sheets in your language about chemotherapy, radiotherapy, surgery, side effects of cancer treatment, what you can do to help yourself, claiming benefits and end of life.

We hope this fact sheet answers your questions. If you have any more questions, you can ask your doctor or nurse at the hospital where you are having treatment.

If you would like to talk to our cancer support specialists about this information in your language, we have interpreters for non-English speakers. You can call the Macmillan Support Line free on **0808 808 00 00**, Monday–Friday, 9am–8pm. If you have problems hearing you can use textphone **0808 808 0121**, or Text Relay. Or you can go to our website **macmillan.org.uk**

This fact sheet is about:

- What is cancer?
- The bowel
- Risk factors and causes
- Symptoms
- How is bowel cancer diagnosed?
- Staging and grading
- Treatment
- Clinical trials
- Follow up
- Your feelings
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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 each part of the body are different but most mend and reproduce themselves in the same way. Normally, cells divide in an orderly way. But if the process gets out of control, the cells carry on dividing and develop into a lump called a tumour.

Not all tumours are cancer. Doctors can tell if a tumour is cancer by removing a small sample of tissue or cells from it. This is called a biopsy. The doctors examine the sample under a microscope to look for cancer cells.

In a benign (non-cancerous) tumour, the cells may grow but cannot spread anywhere else in the body. It usually only causes problems if it puts pressure on nearby organs.

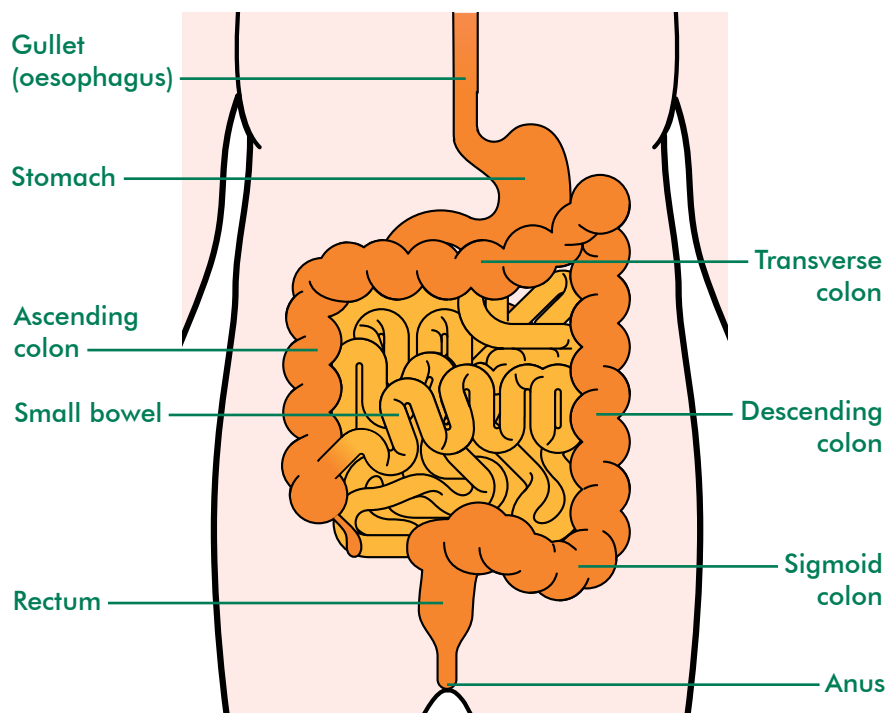
In a malignant (cancerous) tumour, the cells grow into nearby tissue. Sometimes, cancer cells spread from where the cancer first started (the primary site) to other parts of the body. They can travel through the blood or lymphatic system.

The lymphatic system helps to protect us from infection and disease. It's made up of fine tubes called lymphatic vessels. These connect to groups of bean-shaped lymph nodes (glands) all over the body.

When the cells reach another part of the body they begin to grow and form another tumour. This is called secondary cancer or a metastasis.

The bowel

The bowel is part of our digestive system. It has two parts: the small bowel and the large bowel. The large bowel is made up of the colon, rectum and anus.



The digestive system

When you swallow food it passes down the gullet (oesophagus) to the stomach, where digestion begins. It then passes through the small bowel, where essential nutrients are taken into the body.

The digested food then moves into the colon, where water is absorbed. The remaining waste matter, known as stools or faeces, is held in the rectum (back passage) until it's ready to be passed from the body through the anus as a bowel motion (stool).

The walls of the colon and rectum are made up of layers of body tissue. Most colon and rectal cancers start in the inner lining of the bowel and develop from small growths called polyps.

Cancer of the large bowel is cancer of the colon and rectum. It's also called colorectal cancer.

Causes and risk factors

We don't know what causes bowel cancer in most people. There are some risk factors that can increase your chances of getting it.

- **Age** – The risk of developing bowel cancer increases with age.
- **Diet** – A diet containing a lot of red and processed meats and low in fruit and fresh vegetables can increase your risk. Eating fried or grilled meat might also increase your risk.
- **Lifestyle** – This includes getting little exercise and being overweight. It also includes smoking heavily and drinking more than the recommended amounts of alcohol over many years.
- **Family history** – People who have one or more family members with bowel cancer may have a higher risk of developing it. Only about 5% of (5 in every 100) large bowel cancers are thought to be caused by an inherited faulty gene. Talk to your doctor if you are worried about your family history.
- **Familial conditions** – Two rare conditions that can run in families, called familial adenomatous polyposis (FAP) and hereditary non-polyposis colon cancer (HNPCC), can increase the risk of developing bowel cancer.
- **Personal history of inflammatory bowel disease** – People who've had ulcerative colitis or Crohn's disease (diseases of the lining of the bowel) for a long time have an increased risk of developing bowel cancer.

Bowel cancer is not infectious and cannot be passed on to other people.

Symptoms

Symptoms of bowel cancer include:

- blood in, or on, the bowel motions – the blood may be bright red or dark in colour
- a change in your normal bowel habit (such as diarrhoea or constipation) for no obvious reason, lasting for longer than six weeks
- unexplained weight loss
- pain in the tummy (abdomen) or back passage
- a feeling of not having emptied your bowel properly after a bowel motion
- feeling tired and breathless – this can happen if the cancer is bleeding causing anaemia (a low number of red blood cells).

Sometimes the cancer can cause a blockage (obstruction) in the bowel. The symptoms of this are:

- being sick (vomiting)
- constipation
- pain in the abdomen
- a bloated feeling.

These symptoms can be caused by other conditions too, but it is important that you always have them checked by your GP.

How is bowel cancer diagnosed?

You usually begin by seeing your GP. They will feel your tummy (abdomen) and examine your back passage. This is called a rectal examination.

During a rectal examination, the doctor places a gloved finger into your back passage to feel for any lumps or swellings. This may be slightly uncomfortable, but it's not painful

You may have a blood test to check for anaemia. You may also have blood tests to check the health of your liver and kidneys.

If your GP is not sure what the problem is, or thinks that your symptoms could be caused by cancer, they will refer you to a hospital specialist. If your GP thinks you may have cancer, you should be seen at the hospital within 14 days.

At the hospital

These tests can be used to help diagnose bowel cancer. You may not need all of them.

Proctoscopy/sigmoidoscopy

A doctor or specialist nurse will look inside the lining of the large bowel and take samples of cells (biopsies). They will gently pass a thin tube into your back passage. The tube has a light and tiny camera on the end. A proctoscope is a short tube that goes just into the rectum. A sigmoidoscope is a longer tube that can be passed further up into the large bowel.

A proctoscopy or a sigmoidoscopy can be uncomfortable but it doesn't usually hurt.

Colonoscopy

To look inside the whole length of the large bowel, your doctor will do a colonoscopy. During the test, they will take photographs and biopsies of the cells.

The bowel has to be completely empty for this test. This means following a careful diet for the day before your test and taking a medicine (laxative) to clear the bowel. Your hospital will tell you what to do. A colonoscopy can be uncomfortable, but you will be given a sedative that will help to relax you.

Virtual colonoscopy (CT colonography)

A CT scanner takes a series of x-ray pictures of your bowel. A computer then puts the pictures together to give a three-dimensional picture of your bowel.

Your bowel has to be completely empty for the scan. You may be given an injection of a medicine that will help the muscles of your bowel to relax. You may also have an injection of a dye (contrast medium) at the same time. Your doctor will tell you if you are going to have this.

Further tests

If the biopsy shows that you have cancer, you may have other tests too. These aim to find out the size and position of the cancer, and to see whether it has spread. They may include:

- blood tests
- a chest x-ray
- a CT scan
- a CT/PET scan
- an MRI scan
- a barium enema
- an ultrasound scan.

Your doctor or nurse will explain which tests you need and what will happen.

Waiting for test results can be an anxious time for you. It may help to talk about your worries with a relative or friend. You could also speak to one of our cancer support specialists in your language on **0808 808 00 00**.

Staging and grading

Knowing the stage and grade of the cancer helps doctors decide on the right treatment for you.

Staging

Bowel cancer is divided into four stages:

- **Stage 1** – The cancer has not spread beyond the original tumour.
- **Stage 2** – Tumours may have grown through the bowel wall and into nearby tissues, but have not spread to nearby lymph nodes.
- **Stage 3** – Tumour cells can be found in nearby lymph nodes.
- **Stage 4** – The tumour has spread to other parts of the body.

Grading

Grading shows how the cancer cells look under the microscope compared with normal bowel cells.

- **Grade 1 (low-grade)** – The cancer cells look similar to normal cells and grow very slowly.
- **Grade 2 (moderate-grade)** – The cancer cells look more abnormal and are slightly faster growing.
- **Grade 3 (high-grade)** – The cancer cells look very different from normal cells and tend to grow quickly.

Treatment

Deciding on the best treatment isn't always easy. Your doctor will need to think about a lot of things. The most important of these are:

- the stage and grade of the cancer
- your general health
- the likely side effects of treatment
- your views about the possible side effects.

Although your doctors may have a good idea about which treatments you will need, you may need to have an operation before they can decide.

It's important to talk about any treatment with your doctor, so that you understand what it means. It's a good idea to take someone with you who can speak both your language and English. Interpreters may be available if you need one, but try to let the hospital know before if you would like one to be there. You will have to sign a consent form to show that you understand and agree to the treatment. You will not be given a treatment unless you have agreed to it.

Colon cancer and rectal cancer are treated in different ways.

Surgery

The type of surgery you have depends on the stage of the cancer and where it is in the bowel. Your doctor will talk to you about this.

Surgery for colon cancer

Total colectomy – removes the whole colon.

Hemi-colectomy – removes half of the colon. This may be the left or right side, depending on where the cancer is.

Sigmoid colectomy – removes the sigmoid colon.

During the surgery, the piece of bowel that contains the cancer is removed and the two open ends are then joined together. If the bowel can't be joined together, you may need a stoma. This is an opening of the bowel on the tummy wall. It may be temporary or permanent. Your doctor and specialist nurse will talk to you about this before you have any surgery. There is more information about stomas in the section below.

The lymph nodes near the colon are also removed. This is because the cancer would spread to them first.

Surgery for rectal cancer

Total mesorectal excision (TME) – removes the whole rectum as well as the fatty tissue that surrounds it. This tissue contains the lymph nodes.

The TME operation can be done in different ways. It depends on where the cancer is in the rectum.

- **Low anterior resection** – is used for cancers in the upper and middle parts of the rectum (close to the colon). The piece of bowel that contains the cancer is removed and the two ends are joined together. If the bowel can't be joined together you will need a stoma (see the section below about stomas).
- **Abdomino-perineal resection** – is usually used for cancers in the lower end of the rectum. After this operation you will need a permanent stoma.

Surgery for early stage bowel cancer

An operation called a **local resection** or **transanal resection** can sometimes remove small, very early-stage bowel cancers. Surgical instruments are passed through the anus into the rectum or colon to remove the cancer.

You may need to have a second operation to remove more of the bowel if the tumour is high-grade. There are different ways to remove the cancer depending on where it is in the bowel. Your doctor will explain the operation to you.

Surgery for advanced bowel cancer

If the cancer is too large to be removed, it may press on the bowel and make it narrower. Sometimes doctors can insert a thin metal tube (a stent) into the bowel to keep it open. They will insert the stent using a colonoscope. You will have a mild sedative to help you relax and you may need to stay in hospital for a short time afterwards.

You can sometimes have surgery to remove the cancer when it has spread to just one area of the body, such as the liver or lungs.

Laparoscopic (keyhole) surgery

This operation uses four or five small cuts in the abdomen rather than one bigger incision. A laparoscope (a thin tube containing a light and camera) is passed into the abdomen through one of the cuts and the cancer is removed. Recovery from this operation is usually quicker. This type of surgery is used by some hospitals. Your surgeon will discuss with you if this is appropriate for you.

Stomas

If the ends of the bowel cannot be joined together, the upper end can be brought out onto the skin of the abdominal wall. This is called a stoma. There are two types of stoma: an ileostomy, which is usually temporary; or a colostomy, which is often permanent. You wear a bag over the stoma to collect the stool (bowel motions).

A temporary stoma allows the newly joined bowel to heal. You will have another operation to rejoin the bowel a few months later. This is called a stoma reversal. Permanent stomas (usually colostomies) are created when it has not been possible to reconnect the bowel.

A stoma nurse will give you more advice and information.

Chemotherapy

Chemotherapy is a treatment that uses anti-cancer (cytotoxic) drugs to destroy cancer cells. You don't usually need it for stage 1 bowel cancers.

For stage 2 bowel cancers, the risk of the cancer coming back is low so you may not need chemotherapy. Giving chemotherapy after surgery is known as **adjuvant treatment**. It aims to reduce the risk of the cancer coming back.

People with stage 3 bowel cancer are usually offered chemotherapy.

Chemotherapy is sometimes given before an operation. This is called **neo-adjuvant chemotherapy**. It aims to make the cancer smaller, to make it easier to remove. You may be able to avoid having a permanent stoma after this treatment.

Chemoradiotherapy

This is a combination of chemotherapy and radiotherapy. It is sometimes called chemoradiation.

The chemotherapy drugs can make the cancer cells more sensitive to radiotherapy. Combining the treatments may be more effective than having either chemotherapy or radiotherapy alone.

Giving chemotherapy and radiotherapy together can make the side effects of the treatment worse. Your doctor or specialist nurse can give you more information about chemoradiotherapy and the possible side effects of this treatment.

Advanced bowel cancers

Chemotherapy may also be given when the cancer has spread to another part of the body (secondary or advanced cancer). This aims to shrink the cancers and reduce symptoms. It can sometimes help you live longer.

We have more information in your language about how chemotherapy is given and some of the side effects you may have.

Targeted (biological) therapies

Targeted therapies work on the difference between cancer cells and normal cells and try to stop cancer cells growing.

There are several different types. The main ones used to treat bowel cancer are cetuximab (Erbix[®]), bevacizumab (Avastin[®]), panitumab (Vectibix[®]) and aflibercept (Zaltrap[®]).

They can be used to treat colorectal cancers that have spread outside the bowel. Not all bowel cancers respond to cetuximab or panitumumab.

Radiotherapy

Radiotherapy treats cancer by using high-energy x-rays to destroy the cancer cells, while doing as little harm as possible to normal cells.

It can be used to relieve the symptoms of colon cancer, although this is rare.

Radiotherapy for rectal cancer

Before surgery

You may have radiotherapy before surgery to make a rectal cancer smaller and easier to remove. It also reduces the chance of the cancer coming back.

You may have a short course of radiotherapy over a week before your surgery. Or you may have it as a longer course lasting up to six weeks. The longer treatment is usually given with chemotherapy (chemoradiotherapy), which can help make the radiotherapy work better.

After the course of radiotherapy, you will have to wait a few weeks for the side effects to settle down before you can have the operation.

After surgery

If you didn't have radiotherapy before surgery, you may have it afterwards. This could be if:

- the cancer was difficult to remove
- some cancer cells may be left behind
- the cancer had spread through the bowel wall or into nearby lymph nodes.

You may be given this type of radiotherapy every weekday for 4–5 weeks.

Advanced rectal cancer

If the cancer has spread or come back (particularly in the pelvic area), after your first treatment, you may have radiotherapy to make it smaller. It can also relieve symptoms such as pain.

We have more information in your language about how radiotherapy is planned and given, and some of the side effects you may have.

Clinical trials

Cancer research trials are carried out to try to find new and better treatments for cancer. Trials that are carried out on patients are called clinical trials. Many hospitals now take part in these trials. Speak to your doctor about current bowel cancer research.

Follow up

After your treatment has finished, you'll have regular check-ups and blood tests. You may also have CT scans and colonoscopies. These may continue for several years, but will become less and less frequent.

Your feelings

You may feel overwhelmed when you are told you have cancer and have many different emotions. These can include anger, resentment, guilt, anxiety and fear. These are all normal reactions and are part of the process many people go through in trying to come to terms with their illness. There is no right or wrong way to feel. You'll cope with things in your own way.

More information in your language

- Breast cancer fact sheet
- Chemotherapy fact sheet
- Claiming benefits fact sheet
- Lung cancer fact sheet
- Prostate cancer fact sheet
- Radiotherapy fact sheet
- Side effects of cancer treatment fact sheet
- Surgery fact sheet
- What you can do to help yourself fact sheet

This fact sheet has been written, revised and edited by Macmillan Cancer Support's Cancer Information Development team. It has been approved by our medical editor, Dr Tim Iveson, Consultant Clinical Oncologist.

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We have used information from many reliable sources to write this fact sheet. These include:

- *Improving Outcomes in Colorectal Cancer: The Manual Update*. June 2004. National Institute for Health and Clinical Excellence (NICE).
- *Management of Colorectal Cancer: A National Clinical Guideline*. March 2003. Scottish Intercollegiate Guidelines Network (SIGN).
- *Computerised tomographic colonoscopy (virtual colonoscopy) – guidance*. June 2005. NICE.
- *Cetuximab for the First-line Treatment of Metastatic Colorectal Cancer*. August 2009. NICE.

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