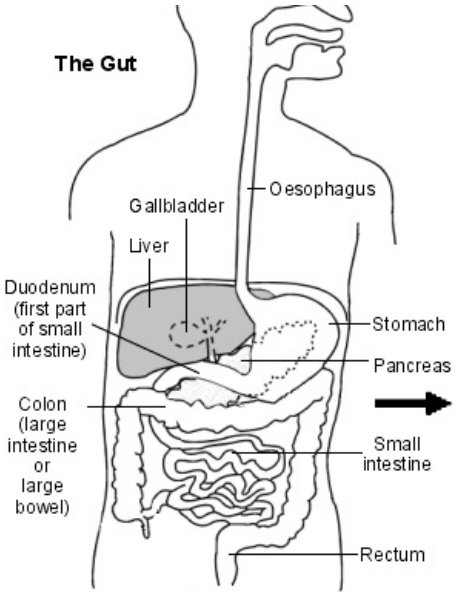
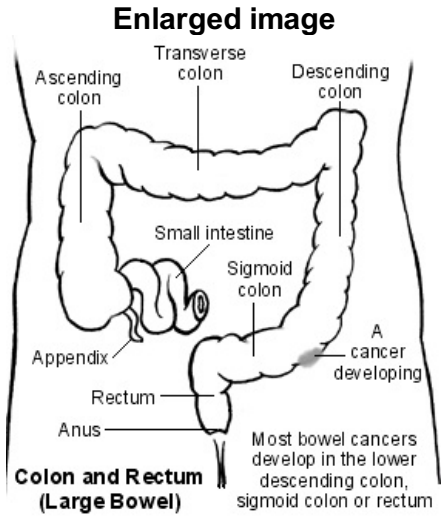
Colorectal (Bowel) Cancer

Colorectal cancer (also called cancer of the bowel or bowel cancer) is common in the UK. Most cases occur in people aged over 50. If colorectal cancer is diagnosed at an early stage, there is a good chance of a cure. In general, the more advanced the cancer (the more it has grown and spread), the less chance that treatment will be curative. However, treatment can often slow the progress of the cancer.

What does colorectal mean?

Colorectal is a word which means the colon and rectum. The colon and rectum are parts of the gut (gastrointestinal tract). The gut starts at the mouth and ends at the anus. When we eat or drink, the food and liquid travel down the oesophagus (gullet) into the stomach. The stomach churns up the food and then passes it into the small intestine.





The small intestine (sometimes called the small bowel) is several metres long and is where food is digested and absorbed. Undigested food, water and waste products are then passed into the large intestine (sometimes called the large bowel). The main part of the large intestine is called the colon, which is about 150 cm long. This is split into four sections: the ascending, transverse, descending and sigmoid colon. Some water and salts are absorbed into the body from the colon. The colon leads into the rectum (back passage), which is about 15 cm long. The rectum stores faeces (stools) before they are passed out from the anus.

What is cancer?

Cancer is a disease of the cells in the body. The body is made up from millions of tiny cells. There are many different types of cell in the body, and there are many different types of cancer which arise from different types of cell. What all types of cancer have in common is that the cancer cells are abnormal and multiply out of control.

A malignant tumour is a lump or growth of tissue made up from cancer cells which continue to multiply. Malignant tumours invade into nearby tissues and organs, which can cause damage. Malignant tumours may also spread to other parts of the body. This happens if some cells break off from the first (primary) tumour and are carried in the bloodstream or lymph channels to other parts of the body. These small groups of cells may then multiply to form secondary tumours (metastases) in one or more parts of the body. These secondary tumours may then grow, invade and damage nearby tissues and can spread again.

Some cancers are more serious than others, some are more easily treated than others (particularly if diagnosed at an early stage), some have a better outlook (prognosis) than others.

So, cancer is not just one condition. In each case it is important to know exactly what type of cancer has developed, how large it has become and whether it has spread. This will enable you to get reliable information on treatment options and outlook.

See separate leaflet called *'Cancer - What are Cancer and Tumours?'* for further details about cancer in general.

What is colorectal cancer?

Colorectal cancer is a cancer of the colon or rectum. It is sometimes called bowel cancer or cancer of the large intestine. It is one of the most common cancers in the UK. (In contrast, cancer of the small intestine is rare.) Colorectal cancer can affect any part of the colon or rectum. However, it most commonly develops in the lower part of the descending colon, the sigmoid colon, or rectum.

Colorectal cancer usually develops from a polyp which has formed on the lining of the colon or rectum (see below). Sometimes colorectal cancer begins from a cell within the lining of the colon or rectum which becomes cancerous.

(Some rare types of cancer arise from various other cells in the wall of the colon or rectum. For example, carcinoid, lymphoma, and sarcomas. These are not dealt with further in this leaflet.)

As the cancer cells multiply they form a tumour. The tumour invades deeper into the wall of the colon or rectum. Some cells may break off into the lymph channels or bloodstream. The cancer may then metastasise (spread) to lymph nodes nearby or to other areas of the body - most commonly, the liver and lungs.

Polyps and colorectal cancer

A bowel polyp (adenoma) is a small growth that sometimes forms on the inside lining of the colon or rectum. Most bowel polyps develop in older people. About 1 in 4 people over the age of 50 develop at least one bowel polyp. Polyps are benign (noncancerous) and usually cause no problems.

However, sometimes a benign polyp can turn cancerous. If one does turn cancerous, the change usually takes place after a number of years. Most colorectal cancers develop from a polyp that has been present for 5-15 years.

What causes colorectal cancer?

The exact reason why a cell becomes cancerous is unclear. It is thought that something damages or alters certain genes in the cell. This makes the cell abnormal and multiply out of control.

See separate leaflet called *'Cancer - What Causes Cancer?'* for more details.

Risk factors

Although colorectal cancer can develop for no apparent reason, there are certain risk factors which increase the chance that colorectal cancer will develop. Risk factors include:

- Ageing. Colorectal cancer is more common in older people. Eight out of ten people who are diagnosed with colorectal cancer are older than 60 years.
- If a close relative has had colorectal cancer (there is some genetic factor).
- If you have familial adenomatous polyposis or hereditary non-polyposis colorectal cancer. However, these are rare inherited disorders.
- If you have ulcerative colitis or Crohn's disease (conditions of the colon) for more than 8-10 years.
- Obesity.
- Lifestyle factors: little exercise, drinking a lot of alcohol.

Protective factors

There is a reduced risk of developing colorectal cancer in:

- Women who take hormone replacement therapy (HRT).
- People who eat a lot of fruit and vegetables.
- People on aspirin. Several recent research studies have found that taking aspirin each day reduces the risk of developing colorectal cancer. However, there are other risks of taking aspirin (for example, bleeding from the stomach). So, at the moment it is not recommended that people take aspirin only to lower their risk of developing colorectal cancer. This advice may change in the future when the results of other studies become available.

What are the symptoms of colorectal cancer?

When a colorectal cancer first develops and is small it usually causes no symptoms. As it grows, the symptoms that develop can vary, depending on the site of the tumour.

The most common colorectal / bowel cancer symptoms to first develop are:

- Bleeding from the tumour. You may see blood mixed up with your faeces (stools or motions). Sometimes the blood can make the faeces turn a very dark colour. The bleeding is not usually severe and in many cases it is not noticed, as it is just a small trickle which is mixed with the faeces. However, small amounts of bleeding that occur regularly can lead to anaemia which can make you tired and pale.
- Passing mucus with the faeces.
- A change from your usual bowel habit. This means you may pass faeces more or less often than usual, causing bouts of diarrhoea or constipation.
- A feeling of not fully emptying the rectum after passing faeces.
- Abdominal pains.

As the tumour grows in the colon or rectum, symptoms may become worse and can include:

- The same symptoms as above, but more severe.
- You may feel generally unwell, tired or lose weight.
- If the cancer becomes very large, it can cause a blockage (obstruction) of the colon. This causes severe abdominal pain and other symptoms such as vomiting.
- Sometimes the cancer makes a hole in the wall of the colon or rectum (perforation). If this occurs, the faeces can leak into the abdomen. This causes severe pain.

If the cancer spreads to other parts of the body, various other symptoms can develop. The symptoms depend on where it has spread to.

All the above symptoms can be due to other conditions, so tests are needed to confirm colorectal cancer.

How is colorectal cancer diagnosed and assessed?

Initial assessment

If a doctor suspects that you may have colorectal cancer, he or she will examine you. The examination will usually include a rectal examination. This is where a doctor inserts a gloved finger through your anus into your rectum to feel if there is a tumour in the lower part of the rectum. However, often the examination is normal, especially if the cancer is in its early stages. It is likely your doctor will refer you to a specialist. One or more of the following tests may be arranged:

- **Colonoscopy**. A colonoscopy is a test in which a long, thin, flexible telescope (a colonoscope) is passed through your anus into your rectum and colon. This enables the whole of your colon and rectum to be looked at in detail.
- **Flexible sigmoidoscopy**. This is similar to colonoscopy. The difference is that a shorter telescope is used which is inserted only into the rectum and sigmoid colon.
- **CT colonography**. This test uses X-rays to build up a series of images of your colon and rectum. A computer then organises these to create a detailed picture that may show polyps or anything else unusual on the surface of your colon or rectum.
- **Barium enema**. This X-ray test obtains pictures of your colon and rectum. The colon and rectum do not show up very well on ordinary X-ray pictures. However, if barium liquid is placed in the colon and rectum, their outline shows up clearly on X-ray pictures. This test is not done so much since colonoscopy became available.

See separate leaflets called *'Barium Enema'*, *'Colonoscopy'* and *'Sigmoidoscopy'* for details.

Biopsy - to confirm the diagnosis

A biopsy is when a small sample of tissue is removed from a part of the body. The sample is then examined under the microscope to look for abnormal cells. If you have a colonoscopy or sigmoidoscopy, the doctor or nurse can take a biopsy of any abnormal tissue. This is done by passing a thin grabbing instrument down a side channel of the colonoscope or sigmoidoscope. It can take up to two weeks for the result of a biopsy.

Assessing the extent and spread

If you are confirmed to have colorectal cancer, further tests may be done to assess if it has spread. For example, a CT scan, an MRI scan, an ultrasound scan. (See separate leaflets called *'CT Scan'*, *'MRI Scan'* and *'Ultrasound Scan'* for details.) This assessment is called staging of the cancer. The aim of staging is to find out:

- How much the tumour in the colon or rectum has grown, and whether it has grown partially or fully through the wall of the colon or rectum.
- Whether the cancer has spread to local lymph nodes.
- Whether the cancer has spread to other areas of the body (metastasised).

By finding out the stage of the cancer, it helps doctors to advise on the best treatment options. It also gives a reasonable indication of outlook (prognosis). For colorectal cancer, it may not be possible to give an accurate staging until after an operation to remove the tumour. A common staging system for colorectal cancer is called the Dukes' classification:

- Duke A: the cancer is just in the inner lining of the colon or rectum.
- Duke B: the cancer has grown to the muscle layer in the wall of the colon or rectum.
- Duke C: the cancer has spread to at least one lymph node near the colon or rectum.
- Duke D: the cancer has spread to other parts of the body (metastases or secondary tumours). The most common site for colorectal cancer to spread to is the liver. Other places include the lungs and brain.

Other classifications are sometimes used. For example, the Tumour, Node, Metastasis (TNM) classification system is being increasingly used. See separate leaflet called *'Cancer - Staging and Grading Cancer'* for details.

What is the treatment for a bowel polyp?

If a polyp is found during a colonoscopy (or sigmoidoscopy) it can often be easily removed as described above.

- Most polyps do not contain cancer cells. However, removing the polyp prevents the risk that it may become cancerous sometime in the future.
- Some polyps contain cancer cells. If these cells are confined to within the polyp then the removal of the polyp is curative. If the cells look as if they had begun to spread to the wall of the colon or rectum then an operation may be needed to remove that section of colon or rectum.

What are the treatment options for colorectal cancer?

Treatment options that may be considered include surgery, chemotherapy and radiotherapy. The treatment advised for each case depends on various factors such as the stage of the cancer (how large the cancer is and whether it has spread), and your general health.

You should have a full discussion with a specialist who knows your case. They will be able to give the pros and cons, likely success rate, possible side-effects and other details about the various possible treatment options for your type of cancer.

You should also discuss with your specialist the aims of treatment. For example:

- Treatment may aim to cure the cancer. Some colorectal cancers can be cured, particularly if they are treated in the early stages of the disease. (Doctors tend to use the word remission rather than the word cured. Remission means there is no evidence of cancer following treatment. If you are in remission, you may be cured. However, in some cases a cancer returns months or years later. This is why some doctors are reluctant to use the word cured.)
- Treatment may aim to control the cancer. If a cure is not realistic, with treatment it is often possible to limit the growth or spread of the cancer so that it progresses less rapidly. This may keep you free of symptoms for some time.
- Treatment may aim to ease symptoms. If a cure is not possible, treatments may be used to reduce the size of a cancer, which may ease symptoms such as pain. If a cancer is advanced then you may require treatments such as nutritional supplements, painkillers or other techniques to help keep you free of pain and any other symptoms.

Surgery

It is often possible to remove the primary tumour surgically. Removing the tumour may be curative if the cancer is in an early stage. The common operation is to cut through the colon or rectum above and below the tumour. The affected section is then removed and, if possible, the two cut ends are sewn together.

- Sometimes a temporary colostomy is done to allow the joined ends to heal without faeces passing through. The colostomy is often reversed in a second operation a few months later when the joined ends of the colon or rectum are well healed.
- If the tumour is low down in the rectum, then the rectum and anus need to be removed. You would then need a permanent colostomy.

A colostomy is where an opening (hole) is made through the wall of the abdomen. A section of colon is then cut and the edges are attached to the opening in the abdominal wall. This is called a stoma and it allows faeces to pass out from the colon into a disposable bag which is stuck over the stoma.

Even if the cancer is advanced and a cure is not possible, surgery may still have a place to ease symptoms. For example, a stent can be inserted to ease a blocked colon. A stent is a thin metal tube which is placed through a narrowed or blocked section of colon. It can then be opened wide and remains in the colon to prevent a further blockage.

Chemotherapy and radiotherapy

One or other of these treatments may be advised depending on the site and stage of the cancer.

- Chemotherapy is a treatment of cancer by using anti-cancer medicines which kill cancer cells or stop them from multiplying. Chemotherapy is increasingly being used for people with colorectal cancer. See separate leaflet called *'Chemotherapy'* for details.
- Radiotherapy is a treatment which uses high-energy beams of radiation which are focused on cancerous tissue. This kills cancer cells, or stops cancer cells from multiplying. It is most commonly used for colorectal cancer when the tumour is in the rectum. See separate leaflet called *'Radiotherapy'* for details.

When chemotherapy or radiotherapy is used in addition to surgery it is known as adjuvant chemotherapy or adjuvant radiotherapy. For example, following surgery you may be given a course of chemotherapy or radiotherapy. This aims to kill any cancer cells which may have spread away from the primary tumour site. Sometimes, adjuvant chemotherapy or radiotherapy is given before surgery, to shrink a tumour so that the operation to remove the tumour is easier for a surgeon to do and is more likely to be successful.

What is the prognosis (outlook)?

There has been a substantial improvement in the prognosis of people with colorectal cancer over the past decade. Without treatment, a colorectal cancer is likely to get larger and spread to other parts of the body. However, in many cases it grows slowly and may remain confined to the lining of the colon or rectum for some months before growing through the wall of the colon or rectum, or spreading. You have a good chance of a cure if you are diagnosed and treated when the cancer is in this early stage.

Figures published in 2009 from the National Cancer Intelligence Network showed that people diagnosed at an early stage (stage A) have more than a 9 in 10 chance of surviving the disease. At present, only about 1 in 7 people with colorectal cancer are diagnosed at stage A, as the disease does not often cause symptoms at this early stage. But, screening (see below) may greatly increase the number of people diagnosed at stage A.

If the cancer is diagnosed when it has grown through the wall of the colon or rectum, or spread to other parts of the body, there is less chance of a cure. However, treatment can often slow down the progression of the cancer.

The treatment of cancer is a developing area of medicine. New treatments continue to be developed and the information on outlook above is very general. Your specialist can give more accurate information about your particular outlook, and how well your type and stage of cancer are likely to respond to treatment.

Screening for colorectal cancer

A screening test aims to detect a disease before it has caused symptoms and when treatment is likely to be curative.

A simple screening test for colorectal cancer, which tests for traces of blood in the faeces, has recently been introduced in the UK. This colorectal / bowel cancer screening test is to be offered to all people of certain older ages. In addition, some younger people may be offered screening if they have a higher-than-average risk of developing colorectal cancer. There is a separate leaflet called *'Screening for Colorectal (Bowel) Cancer'* which gives details of the screening programme.

Further help and information

Bowel Cancer UK
7 Rickett Street, London, SW6 1RU
Tel: 08708 50 60 50 (Bowel Cancer Advisory Service) Web: www.bowelcanceruk.org.uk
Is dedicated to raising awareness, improving the quality of life of those affected and, ultimately, reducing deaths from bowel cancer.

Beating Bowel Cancer

Harlequin House, 7 High Street, Teddington TW11 8EE
Tel: 08450 719 300 Tel (Nurse helpline): 08450 719 301 Web: www.beatingbowelcancer.org
A national charity working to raise awareness of symptoms, promote early diagnosis and encourage open access to treatment choice for those affected by bowel cancer.

Bowel Cancer Wales

Sherwood, Llandraw Woods, Maesycoed, Pontypridd R.C.T; CF37 1EX
Tel: 01443 408813 Web: www.bowelcancerwales.com
Aims to raise awareness of the disease and raise funds to research bowel cancer in Wales.

Macmillan Cancer Support

Tel: 0808 800 1234 Web: www.macmillan.org.uk
They provide information and support to anyone affected by cancer.

CancerHelp UK

Web: http://cancerhelp.cancerresearchuk.org/ provides facts about cancer, including treatment choices.

NHS Bowel Cancer Screening Programme

England - Helpline: 0800 707 60 60 Web: www.cancerscreening.nhs.uk/bowel/index.html *Scotland* - Helpline: 0800 012 1833 Web: www.bowelscreening.scot.nhs.uk *Wales* - Helpline: 0800 294 3370 Web: www.wales.nhs.uk/sites3/home.cfm?orgid=747 *Northern Ireland* - watch out for news at www.cancerni.net

Further reading & references

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Original Author: Dr Tim Kenny	Current Version: Dr Colin Tidy	Peer Reviewer: Dr Hannah Gronow
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