



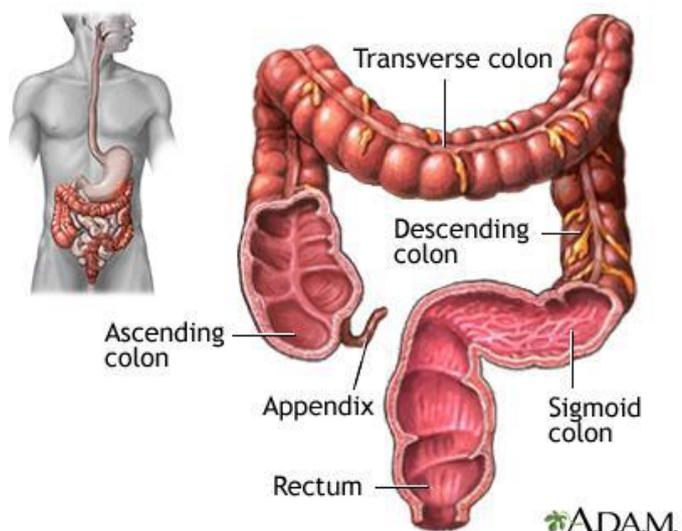
Research • Educate • Support

Fact Sheet
on
Colorectal Cancer

Introduction

Colorectal cancer is cancer that occurs in the colon and rectum. Sometimes it is called colon cancer, for short. The colon is also known as the large intestine or large bowel. The rectum is the passageway that connects the colon to the anus.

[Picture Credit: Anatomy Colon]



Colorectal Cancer

Cancers of the colon and rectum (colorectal cancer) start when the process of the normal replacement of lining cells goes awry. Mistakes in mucosal cell division occur frequently. For reasons that are poorly understood, sometimes mistakes occur that escape our editing systems. When this occurs, these cells begin to divide independently of the normal checks and balances that control growth. As these abnormal cells grow and divide, they can lead to growths within the colon called polyps. Polyps vary in type, but many are precancerous tumours that grow slowly over the course of years and do not spread. As polyps grow, additional genetic mutations further destabilize the cells and can make the cells more bizarre. When these precancerous tumours change direction (growing through the tube rather than into the middle of it) and invade other layers of the large intestine (such as the submucosa or muscular layer), the precancerous polyp has become cancerous. In most cases this process is slow, taking at least 8 to 10 years to develop from those early aberrant cells to a frank cancer.

Incidence of Colorectal Cancer in South Africa

According to the National Cancer Registry, the following cases of colorectal cancer were histologically diagnosed during 2014 (the most recent formal statistics available for South Africa):

Group - Males 2014	Actual No of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All males	1 944	1:79	5,28%
Asian males	152	1:39	16,30%
Black males	485	1:239	4,38%
Coloured males	289	1:48	6,87%
White males	1 017	1:32	4,94%

Group - Females 2014	Actual No of Cases	Estimated Lifetime Risk	Percentage of All Cancers
All females	1 620	1:134	4,29%
Asian females	88	1:91	7,40%
Black females	465	1:342	2,89%
Coloured females	232	1:79	5,67%
White females	835	1:49	5,09%

The frequency of histologically diagnosed cases of colorectal cancer in South Africa for 2014 was as follows (National Cancer Registry, 2014):

Group - Males 2014	0 – 19 Years	20 – 29 Years	30 – 39 Years	40 – 49 Years	50 – 59 Years	60 – 69 Years	70 – 79 Years	80+ Years
All males	2	36	89	198	418	570	436	175
Asian males	0	3	4	17	37	50	22	7
Black males	1	18	47	87	129	118	52	19
Coloured males	1	8	7	26	65	83	66	30
White males	0	6	28	63	183	314	287	115

Group - Females 2014	0 – 19 Years	20 – 29 Years	30 – 39 Years	40 – 49 Years	50 – 59 Years	60 – 69 Years	70 – 79 Years	80+ Years
All females	1	30	85	180	318	426	359	184
Asian females	0	0	4	6	18	25	22	8
Black females	0	23	45	67	124	96	51	22
Coloured females	0	1	13	28	42	66	52	24
White females	1	6	23	76	127	232	226	127

N.B. In the event that the totals in any of the above tables do not tally, this may be the result of uncertainties as to the age, race or sex of the individual. The totals for 'all males' and 'all females', however, always reflect the correct totals.

Signs and Symptoms of Colorectal Cancer

Sign and Symptoms of colorectal cancer may include:

- A change in bowel habits, including diarrhoea or constipation or a change in the consistency of stools
- Rectal bleeding or blood in stools
- Persistent abdominal discomfort, such as cramps, gas or pain
- A feeling that the bowel does not empty completely
- Weakness or fatigue

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- Unexplained weight loss

Many people with colorectal cancer experience no symptoms in the early stages of the disease. When appearing, symptoms will likely vary, depending on the cancer's size and location in the large intestine.

Risk Factors for Colorectal Cancer

Risk factors for colorectal cancer may include:

- Advancing age - national and international data indicate that the risk of developing colorectal cancer increases with advancing age. Most cases of colorectal cancer occur in people aged 50 or older.
- Family or personal history
 - A family history of inherited colorectal cancer syndromes, such as familial adenomatous polyposis (FAP) or hereditary non-polyposis colorectal cancer (HNPCC or Lynch syndrome)
 - A strong family history of colorectal cancer or polyps. This usually means first-degree relatives (parent, sibling, or child) who developed these conditions younger than age 60
 - A personal history of colorectal cancer or polyps
 - A personal history of chronic inflammatory bowel disease (for example, ulcerative colitis or Crohn's disease)

(Botma, *et al.*, 2012).

Lifestyle Factors that May Contribute to the Increased Risk for Colorectal Cancer:

Lifestyle factors that may contribute to the increased risk of colorectal cancer include:

- Lack of regular physical activity
- Being overweight including obesity
- Low fruit and vegetable intake
- A low-fibre and high-fat and high sugar diet
- Red meat consumption
- Consuming processed meats
- Alcohol consumption
- Tobacco use

Lifestyle Factors that Play an Important Role in Reducing the Risk for Colorectal Cancer

The following are of importance:

- Fibre – research suggests that fibre (found mostly in fruit, vegetables and whole grain products and cereals) is likely to reduce the risk for bowel cancer
- Fruit and vegetables – the large European Prospective Investigation into Cancer and Nutrition (EPIC) study has shown that people who eat a lot of fruit and vegetables have a lower risk for colorectal cancer

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- Meat – eating a lot of red meat, particularly processed meat, increases one’s risk for colorectal cancer
- Fish – eating more fish high in Omega-3 lowers one’s risk for colorectal cancer
- Calcium – calcium rich diets may lower the risk of colorectal cancer
- Alcohol – alcohol has been classified as a Group 1 carcinogen by the International Agency for Research on Cancer (IARC) and should be avoided to reduce the risk of colorectal cancer
- Tobacco - people who use tobacco products have an increased risk of colorectal cancer and cancer in general. Smoking is a well-known cause of lung cancer, but some of the cancer-causing substances in smoke dissolve into saliva and if swallowed, can cause digestive system cancers like colorectal cancer
- Processed meats (like sausages, luncheon meats inclusive of ham and even biltong) can increase the risk for colorectal cancer based on the use of nitrate and nitrites
- Cooking meats at very high temperatures (frying, broiling, or grilling) creates chemicals that increase cancer risk, namely Heterocyclic Amines (HCAs)
- Body weight – being overweight increases the risk of developing and dying from colorectal cancer. Obesity raises the risk of colorectal cancer in both men and women, but the link seems to be stronger in men
- Physical inactivity - increases the risk of developing colorectal cancer - increasing activity may help reduce the risk
- Radiation therapy for cancer - radiation therapy directed at the abdomen to treat previous cancers may increase the risk of colorectal cancer

Screening for Higher Risk Individuals

People with familial risk factors for colorectal cancer may need earlier (before age 50) or more frequent testing. Genetic testing in suspected familial cases may identify candidates for secondary prevention. Screening for high risk individuals is more likely to be done using colonoscopy.

Testing for occult blood in the stool (faeces)

When a health care provider tests stool with a faecal occult blood test they are often looking for the presence of microscopic occult blood in the faeces, which may be a sign of a growth, inflammation or bleeding in the digestive system.

Causes of Blood in Stool

Blood may appear in the stool in one or more of the following conditions:

- Benign (non-cancerous) or malignant (cancerous) growths or polyps of the colon
- Haemorrhoids (swollen blood vessels near the anus and lower rectum that can rupture, causing bleeding)
- Anal fissures (splits or cracks in the lining of the anal opening)
- Intestinal infections that cause inflammation
- Ulcers
- Ulcerative colitis
- Crohn's disease
- Diverticular disease, caused by outpouchings of the wall of the large intestine

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- Abnormalities of the blood vessels in the large intestine

Gastrointestinal bleeding may be microscopic (invisible to the eye) or may be easily seen as red blood or black tar-like bowel movements, called melaena stools indicating digested blood.

A Faecal Occult Blood Test - The faecal occult blood test requires the collection of 3 small stool samples. Usually the samples are a bit of stool collected on the end of an applicator. The stool samples should be taken one day apart, because colorectal cancers may bleed from time to time, rather than consistently.

Preparation before a Faecal Occult Blood Test - The faecal occult blood test results are largely affected by how one prepares for the test, so it is important to follow the instructions carefully.

Stool samples should NOT be collected from individuals:

- with haemorrhoids
- during or within 3 days either side of a menstrual period

As certain foods can alter the test results, a special diet is often recommended for 48 to 72 hours before the test. The following foods should be avoided during that time:

- Beets
- Broccoli
- Spanspek (also cantaloupe, canteloupe, cantaloup, mushmelon, muskmelon, rockmelon, sweet melon, Persian melon)
- Carrots
- Cauliflower
- Cucumbers
- Fish
- Grapefruit
- Horseradish
- Mushrooms
- Poultry
- Radishes
- Red meat (especially 'rare' prepared)
- Turnips
- Vitamin C-enriched foods or beverages

Stoma Care

Being diagnosed with cancer and having treatment takes time to come to terms with. It can also be difficult to cope with the physical effects of treatment. If a patient had a colostomy or ileostomy operation as part of treatment, the end of the bowel is brought out into an opening on the abdomen. The opening is referred to as a stoma. Some people have a temporary colostomy (an artificial opening into the colon) made during their treatment for bowel cancer. The colostomy may be closed a few months later when the bowel has fully healed.

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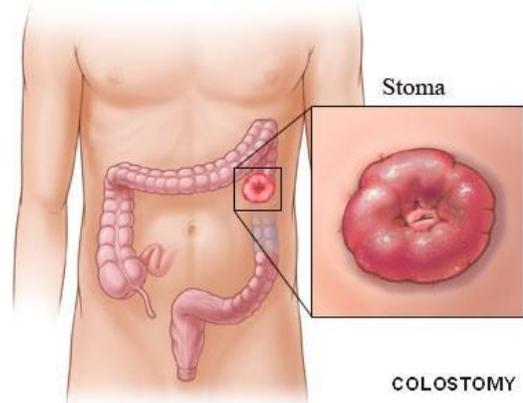
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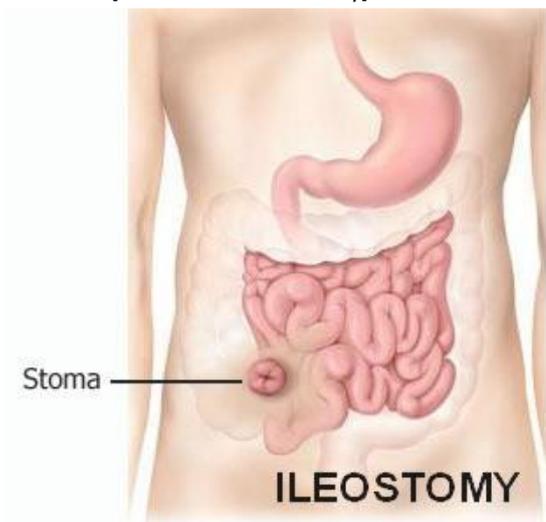
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Some people have a permanent colostomy or ileostomy (artificial opening into the ileum or small bowel). It can take a while to get used to dealing with a stoma. There is a lot of advice and support available in the form of a specially trained nurse referred to as a stoma nurse.

[Picture Credit: Colostomy]



[Picture Credit: Ileostomy]



Basic Care of a Colostomy or Ileostomy

The colostomy bag is designed to stick onto the abdomen where it collects the faeces and flatus from the stoma. It is waterproof so one can wear it while showering or bathing. Most colostomy bags have several special features including a filter. This filter works by releasing wind so the bag does not inflate (which is called 'ballooning'). The filter also has a deodorising action to make sure that there is no smell, which is one of the things that people worry about the most.

Emptying and Changing a Stoma Bag

It is good to establish a routine for changing a stoma bag. Keep this routine as simple as possible. As the stoma is more active at certain times of the day, like shortly after meals, bags should be changed at time when it is relatively inactive, like first thing in the morning.

Stoma bag needs to be changed regularly – usually between one and three times a day depending on the amount of faeces. If using a drainable bag, it is recommended to empty the bag before removing it. Then seal the bag inside a disposal bag and place in the dustbin. Do not flush it down the toilet, as it will cause a blockage.

Taking Care of the Skin Around the Stoma is very important

Adhesive plate - The adhesive plate must fit snugly around the stoma. If the hole in the adhesive plate is larger than the stoma, the skin will become exposed to the harmful effects of the faeces and become irritated. Also, if the adhesive plate is cut too small, it may cause damage to the stoma. Check regularly to ensure the adhesive plate has a snug fit around the stoma.

Watch out for irritants - Leakage on to the skin, excessive removal of the adhesive plate and harsh skin cleansers can all cause irritation of the skin.

Bleeding - It is common to experience a small amount of bleeding around the stoma when cleaning it – no cause of alarm. If bleeding comes from inside the stoma, a doctor is to be contacted immediately.

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(Coloplast).
[Picture Credit: Colostomy Bag]

Diagnosis of Colorectal Cancer

Diagnosis of Colorectal Cancer may include:

- Obtaining a history from the patient
- A Physical examination
- A digital rectal examination
- The patient may then be referred for further examination - if the diagnosis uncertain or if symptoms suggest colorectal cancer.

Possible further examination

Two tests may also be used to confirm a diagnosis of bowel cancer:

Sigmoidoscopy - a device called a sigmoidoscope is used, which is a thin, flexible tube attached to a small camera and light.

known as a biopsy

A sigmoidoscopy is not usually painful, but can feel uncomfortable; most people go home after the examination has been completed



[Picture Credit: Sigmoidoscope]



Colonoscopy – it is similar to a sigmoidoscopy except a longer tube, called a colonoscope, is used to examine the entire large bowel

[Picture Credit: Colonoscope]

Staging of Colorectal Cancer

Cancer staging is the process of determining the extent to which a cancer has developed by spreading. It also

assists in planning of treatment.

Where Colorectal Cancer May Spread To

Should colorectal cancer spread in the body, it may spread as indicated in the table below:

Cancer Type:	Main Sites of Metastasis (Spread)
Bladder	Bone, liver, lung
Breast	Bone, brain, liver, lung
Colon	Liver, lung
Colorectal	Liver, lung, peritoneum (lining of abdomen)
Lung	Adrenal gland, bone, brain, liver, other lung
Melanoma	Bone, brain, liver, lung, skin, muscle
Ovary	Liver, lung, peritoneum (lining of abdomen)
Pancreas	Liver lung, peritoneum (lining of abdomen)
Prostate	Adrenal gland, bone, liver, lung

(National Cancer Institute).

Treatment for Colorectal Cancer

Most people with early colorectal cancer may have surgery.

Surgery - In many people with early bowel cancer the surgeon is able to cut away all of the cancer without any further treatment required.

There are different types of surgery for colorectal cancer. Which type of surgery is best will depend on where the cancer is, its type and size, and whether it has spread (metastasised) or not. If the cancer is removed from the bowel lining it is called a local resection.

Radiotherapy - Radiotherapy is not often used to treat cancer of the large bowel. It might be used before or after surgery for rectal cancer. It may include:

- External beam radiation therapy – radiation therapy from an external source
- Internal radiation therapy (also known as brachytherapy) where radioactive material is put into the rectum, and positioned close to the tumour. It is left in place for a predetermined period of time.

Chemotherapy - Chemotherapy uses anti-cancer (cytotoxic) drugs to destroy cancer cells. It works by disrupting the growth of cancer cells. As it circulates in the blood, it can reach cancer cells almost anywhere in the body and kill them. Chemotherapy may be given before surgery for rectal cancer. Chemotherapy may also given as a treatment for colorectal cancer that has spread (metastasised).

Biological Therapy - biological therapies are drugs that help the body to control the growth of cancer cells.

Immunotherapy - Current immunotherapies for colorectal cancer fall into several broad categories: checkpoint inhibitors and immune modulators, monoclonal antibodies, therapeutic vaccines, adoptive cell therapy, oncolytic virus therapy, adjuvant immunotherapies, and cytokines. Most of

these therapies are still in early-phase clinical testing for colorectal cancer, but their successful use in other types of cancers suggests that they may ultimately prove useful for colorectal cancer as well.

Treatment for Advanced Colorectal Cancer

Advanced colorectal cancer means the cancer has spread to other parts of the body from where it started in the bowel (colon) or back passage (rectum). The cancer may be advanced when it is first diagnosed, or the cancer may recur some time after original treatment.

Chemotherapy and radiotherapy may be used to shrink a cancer and control symptoms. Surgery can be used in some situations to treat advanced colorectal cancer.

Specialised surgical treatments may be used to destroy bowel cancer that has spread to the liver (liver secondaries). These treatments may include hepatic artery chemoembolisation, radiofrequency ablation, cryotherapy, microwave ablation and laser therapy.

About Clinical Trials

Clinical trials are research studies that involve people. They are conducted under controlled conditions. Only about 10% of all drugs started in human clinical trials become an approved drug.

Clinical trials include:

- Trials to test effectiveness of new treatments
- Trials to test new ways of using current treatments
- Tests new interventions that may lower the risk of developing certain types of cancers
- Tests to find new ways of screening for cancer

The [South African National Clinical Trials Register](#) provides the public with updated information on clinical trials on human participants being conducted in South Africa. The Register provides information on the purpose of the clinical trial; who can participate, where the trial is located, and contact details.

For additional information, please visit: www.sanctr.gov.za/

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Colostomy Bag

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Ileostomy

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