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National Cancer
Centre Singapore

SingHealth



Colorectal Cancer

What is colorectal cancer?

Signs and symptoms

Treatment

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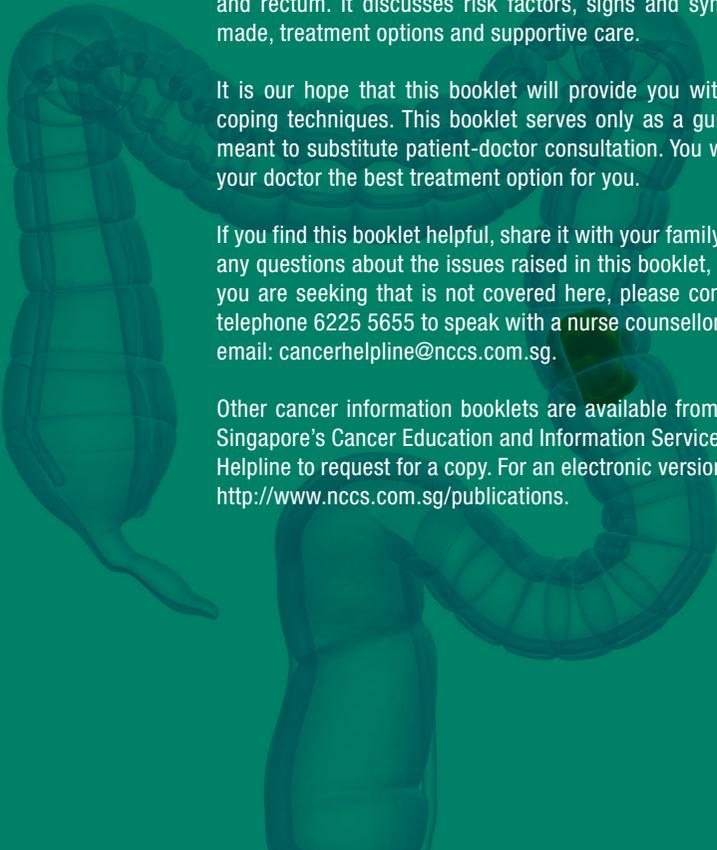
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Introduction

Colorectal cancer is the most common cancer in Singapore today. Close to 1,000 new cases are being diagnosed annually. Although colorectal cancer may occur at any age, about 90% of cases occur after the age of 50 years. For men, it is the most common type of cancer and for women it comes second after breast cancer (Source: Singapore Cancer Registry, Interim Annual Registry Report, Trends in Cancer Incidence in Singapore, 2008-2012).

Currently, more than half of the diagnosed patients will die from this disease. With the advent of more reliable detection methods, there is hope that the disease will be detected earlier and treated successfully.

This booklet has been developed to help you learn more about cancer of the colon and rectum. It discusses risk factors, signs and symptoms, how a diagnosis is made, treatment options and supportive care.

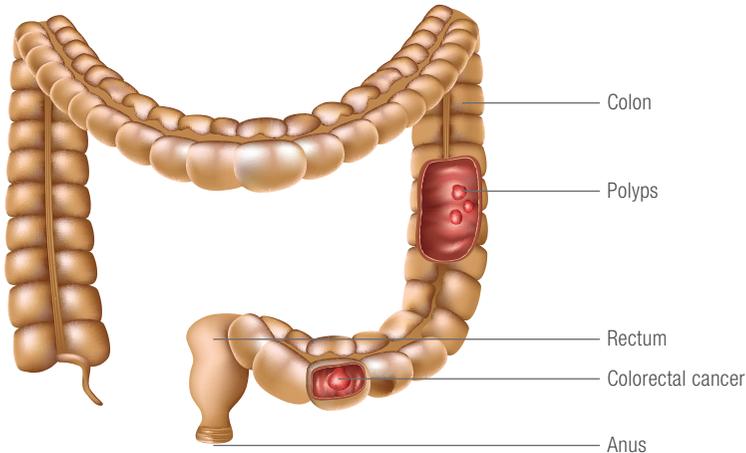
It is our hope that this booklet will provide you with pertinent information and coping techniques. This booklet serves only as a guide and its contents are not meant to substitute patient-doctor consultation. You will still need to discuss with your doctor the best treatment option for you.

If you find this booklet helpful, share it with your family and friends. And if you have any questions about the issues raised in this booklet, or if there is any information you are seeking that is not covered here, please contact the Cancer Helpline on telephone 6225 5655 to speak with a nurse counsellor. You can also reach them by email: cancerhelpline@nccs.com.sg.

Other cancer information booklets are available from the National Cancer Centre Singapore's Cancer Education and Information Service. You can contact the Cancer Helpline to request for a copy. For an electronic version of this booklet, please visit: <http://www.nccs.com.sg/publications>.

THE COLON AND RECTUM

The large intestine is the last part of the digestive tract. It is made up of the colon and rectum. The colon is the longest portion of the large intestine, also known as the large bowel. It is about 1.5 meters (5 feet) in length. The rectum is located at the end of the colon and is the last 15 cm (6 inches) of the large intestine which finally ends with the anus. The rectum is normally empty, except when stool is propelled by the upper colon into the rectum just prior to a bowel movement.



By the time food reaches the colon (about 3 to 8 hours after eating), the nutrients have been absorbed and the remainder is a liquid waste product. The colon's function is to change this liquid waste into solid stool. When the process is completed, the stool is ready to be excreted through the anal canal. The anal canal has two muscular 'valves', called the internal and external sphincters, through which the stool passes. The sphincters allow us to retain stool until we are ready to have a bowel movement, at which time the sphincters relax, releasing the stool.

WHAT IS COLORECTAL CANCER?

Normal cells grow, divide and replace themselves in an orderly manner. Cancer develops when these cells divide too rapidly and grow without any order. Tumours then begin to form. These tumours can be malignant (cancerous) or benign (non-cancerous).

Colorectal cancer is a cancer that develops from the cells of the large intestine. It is the most common cancer in Singapore, affecting approximately 45 out of every 100,000 people here. Men and women are both at risk.

Polyps are benign growths that may arise from the inner lining of the colon or rectum. With time, some of these polyps change and become cancerous. Nearly all colon and rectal cancer begin as polyps. Nevertheless, there is evidence to suggest that some cancers can arise from normal mucosa (innermost lining of the colon or rectum) without prior polyp development.

WHAT CAUSES COLORECTAL CANCER?

The causes of colorectal cancer are still not fully understood. The most important factors are dietary and hereditary causes. Cigarette smoking has been confirmed as a possible contributing factor in 20% of cases.

Researchers are evaluating the benefits of lifestyle changes, including smoking cessation, use of dietary supplements, use of aspirin or similar products, decreased alcohol consumption, and increased physical activity, in preventing colorectal cancer. They have also discovered that changes in certain genes are responsible for inherited colorectal cancer. About 5% of the colorectal cancers have definite genetic inheritance while another 25% appears to run in the family. The bulk has no known genetic predisposition. Individuals in families with many cases of colorectal cancer may have a special blood test to see if they have the genetic change that increases the chance of developing this disease.

SIGNS AND SYMPTOMS

When an illness, whether malignant or benign, affects the colon or rectum, any number of symptoms may appear. Symptoms may include:

- persistent diarrhoea or constipation;
- blood in the stools (either bright red or very dark in colour);
- changes of stool calibre;
- general abdominal discomfort (bloating, fullness or cramps);
- a feeling that the bowel does not empty completely even after emptying the bowels;
- frequent gas in the abdomen;
- a mass or lump that can be felt in the abdomen;
- constant tiredness; and
- severe weight loss.

These symptoms can be caused by a number of problems and may not indicate the presence of cancer but if persistent, suggest that medical attention is necessary.

WHO IS AT RISK?

Colorectal cancer can occur at any age but it usually occurs after the age of 50. The risk doubles every ten years. The risk of colorectal cancer is increased when there is:

- a personal history of previous colorectal polyps or colorectal cancer;
- a personal history of inflammatory bowel disease such as ulcerative colitis;
- a close relative, such as a parent, child, brother or sister who had colorectal cancer; and/or
- a family history of familial adenomatous polyposis or hereditary non-polyposis colorectal cancer.

HOW DOES COLORECTAL CANCER SPREAD?

Cancer cells can grow deep into the wall of the colon or rectum and may extend into the fatty tissue that surrounds the colon and rectum. Colorectal cancer can also spread through the lymph channels to nearby lymph nodes. In some cases, these cancer cells spread through blood vessels to other parts of the body such as the liver.

The inner to the outer layers of the colon and rectum include:

- the mucosa (the innermost lining);
- the submucosa (connective tissue beneath the mucosa);
- the muscular propria (a thick layer of muscle which contracts to force the contents of the intestines along); and
- Subserosa / serosa (outermost lining).

HOW IS COLORECTAL CANCER DETECTED AND DIAGNOSED?

People who have any risk such as family history or age greater than 50 years should ask their doctor when to begin screening for colorectal cancer, what tests to do and how often. These tests are used to detect polyps, cancer or other abnormalities, even when a person does not have symptoms.

Before some of these tests, your colon must be completely empty. To clean out your bowels before the procedure, you may be instructed to have an enema or drink a large volume of liquid laxative prescribed by your doctor. This preparation is very important in ensuring the accuracy of the tests.

The doctor will conduct a physical examination and several other tests that may include the following:

Digital rectal examination

This is often part of a routine physical examination. The doctor checks the lower most area of the rectum by inserting a lubricated gloved finger into the rectum and gently feeling for abnormal growths. A rectal examination may be uncomfortable but it is not painful.

Faecal Immunochemical Test (FIT)

This test is very specific for human blood and is used to detect the presence of human blood in very small quantities in the stool as compared to faecal occult blood tests (FOBT).

Barium enema

A narrow tube is inserted into the rectum and a white, chalky solution (barium) is passed through the rectum into the colon. The barium, under x-ray, will outline the inner wall of the colon. Special x-rays are then taken, in which tumors or masses appear as dark shadows. Abnormal areas, cancerous or non-cancerous, will show up as bulges or craters. Before this test, you will be told to fast (no eating or drinking) for several hours. The doctor may further proceed to do a colonoscopy so that a biopsy of these suspicious areas can be done.

Flexible sigmoidoscopy

A narrow lighted tubular instrument called a sigmoidoscope is passed into the rectum. This instrument allows the doctor to look into the rectum and left-sided part of the colon. Samples of tissues from suspicious areas that are seen can be painlessly removed and sent for further testing. This is called a biopsy.

During a biopsy, a small piece of abnormal tissue is removed painlessly. The tissue is then sent to a pathologist who will examine the tissue under a microscope and confirm or exclude the presence of cancer cells in that tissue sample. Only through a biopsy can cancer be diagnosed. Blood tests alone cannot detect cancer.

This procedure takes only a few minutes and can be performed in a consultation room or clinic after a clearing enema. A positive test requires full preparation and a colonoscopy.

Colonoscopy

A long, thin flexible tube called a colonoscope with a built-in light source is passed through the rectum into the colon to remove polyps and take tissue for biopsy. The colonoscope is longer than a sigmoidoscope and it allows the doctor to view the entire colon. A biopsy of any suspicious area can also be taken. Colonoscopy is done as an outpatient procedure in a clinic or consultation room with or without sedation. Once cancer is confirmed, further tests such as a CT scan or ultrasound scan of the abdomen are performed to assess the liver and the abdomen.

Ultrasound

This non-invasive test uses images and sound waves to take a picture of the inside of the body. Unusual patterns in this image can indicate a mass or tumor. This test is used primarily to find out if the cancer has spread to other organs.

Virtual colonoscopy (CT Colonography)

This test creates a 3-dimensional image of the colon to reveal any abnormal masses. Images are taken seconds after the colon is inflated with carbon dioxide through a small rectal tube. Virtual colonoscopy has a sensitivity level of 90-95%. A higher dosage of radiation may be required to reduce the chances of missing out small polyps.

NEWER TESTS THAT ARE BEING EVALUATED

Faecal tumour DNA testing

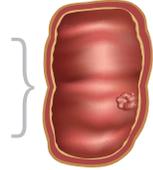
Screening stool for DNA markers are more accurate than faecal occult blood testing and could substantially improve screening outcomes. There is a strong reason for targeting changes in DNA that are exfoliated from cancerous tumours. Sensitive laboratory techniques allow very small amounts of DNA to be detected and measured.

STAGING OF COLORECTAL CANCER

Staging is a process that tells the doctor the extent of the cancer. Staging is usually based on the size of the tumor, whether it has spread to the lymph nodes or other parts of the body. The treatment and outlook for colorectal cancers depend, to a large extent, on their stage. There is more than one system for staging colorectal cancer e.g. the Dukes and TNM systems. Both systems describe the spread of the cancer in relation to the layers of the wall of the colon and rectum, organs next to it and other organs further away.

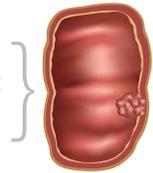
Stage 0 or Carcinoma in situ

Stage 0 cancer of the colon is very early cancer. The cancer is found only in the innermost lining of the colon or rectum.



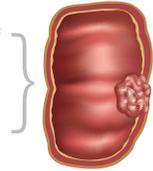
Stage I

The cancer has spread beyond the innermost lining of the colon or up to but not beyond the muscle layer. This stage is equivalent to Dukes A colorectal cancer.



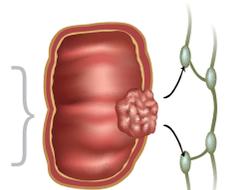
Stage II

Cancer has penetrated beyond the muscular layer with or without involvement of nearby tissue but it has not spread to the lymph nodes. Lymph nodes are small bean shaped structures that are found throughout the body. They produce and store cells that fight infection. Stage II colon cancer is sometimes called Dukes B colorectal cancer.



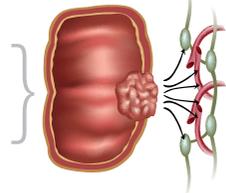
Stage III

Cancer has spread into the outer lining of the colon or to nearby lymph nodes but has not spread to other parts of the body. Stage III colon cancer is sometimes called Dukes C colorectal cancer.



Stage IV

Cancer has spread to other parts of the body. Stage IV colon cancer is sometimes called Dukes D colorectal cancer.



Recurrence

Recurrent disease means that the cancer has come back (recurred) after it has been treated. It may recur in the colon or rectum or in another part of the body.

More than half of the cases of colorectal cancer detected, as a result of some symptoms, are in Stage III. Therefore, surgery alone is not enough to treat the disease. Conversely, Stage I and II disease may be treated effectively by surgery alone.

TREATMENT

Once the diagnosis of cancer is established, surgery will be the treatment of choice for colorectal cancer.

Surgery

Surgery is the most effective treatment for colorectal cancer. However, each person is different and needs an individual treatment plan. Sometimes, chemotherapy or radiotherapy may be used before or after surgery. Having chemotherapy or radiotherapy as well as surgery does not always mean that the cancer is worse than someone who only had surgery. Treatment plans depend on the location, size, stage and grade of the cancer.

During surgery, the surgeon removes the section of the colon or rectum that is diseased. Nearby lymph glands will also be removed if the cancer has spread, as it usually spreads to the lymph glands first. The remaining ends of the intestine will be joined. If for some reason the colon cannot be joined, an artificial opening for the colon, called a colostomy, may be required. This opening allows waste to be removed from the body when the normal opening cannot be used or has to be removed. A colostomy may be temporary or permanent.

With advances in surgery, 90% of people with colorectal cancer do not need a permanent colostomy. Sometimes, if there is a risk of leakage at the site where the ends of the intestine are joined, the surgeon will create a temporary colostomy to allow time for the colon or rectum to heal. When the area has fully recovered, a second operation is done to close the colostomy. Many patients do not develop significant changes in bowel movement after the initial recovery of surgery.

Radiation therapy

Radiation or radiotherapy uses high-energy rays to kill cancer cells. The aim of radiotherapy is to destroy more cancer cells and spare as many normal cells as possible.

Radiation therapy is often used after surgery to destroy any remaining cancer cells and prevent the cancer from recurring. It is sometimes used to reduce the size of the colorectal cancer before surgery. It can also be used to control growth of tumour which is causing pain or destruction. Radiation therapy for colorectal cancer is usually given 5 days a week over 5 to 6 weeks. It is painless, similar to a routine x-ray. Each treatment takes only a few minutes.

Different people having radiation therapy react differently. The intensity of the side effects may also vary from person to person. Some patients experience tiredness, nausea and diarrhoea, or redness and tenderness of the skin. Hair loss affects only the radiated area. These effects are temporary and usually manageable.

Chemotherapy

The use of anti-cancer drugs to destroy cancer cells is called chemotherapy. These drugs stop cancer cells from growing and reproducing themselves. Chemotherapy is often used after surgery to prevent more cancer cells from growing.

Chemotherapy for colorectal cancer can be given by injection over several days or it may be given once a week over several weeks. It can also be given in the form of tablets. The type of treatment, type of drugs and the number of courses required depends on the type of cancer and how well the patient is responding to the drugs. Each treatment is followed by a rest period of a week to three weeks to allow the body to recover from side effects of the treatment. Continuous infusion pumps for intravenous chemotherapy are also being used in some cases. Each treatment plan is tailored according to the individual. It may be given before surgery to reduce the size of tumour. This in turn facilitates surgical removal of the tumour.

Adjuvant chemotherapy

This treatment helps or assists the main treatment. Adjuvant chemotherapy consists of post-operative treatment with anti-cancer drugs to kill any microscopic cancer cells that may remain after surgery.

There are side effects associated with chemotherapy. However, these are temporary and measures can be taken to prevent or reduce them. The patient may experience nausea and vomiting, diarrhoea, thinning of hair, low blood counts, fever and mouth ulcers. The severity of the side effects will differ from one person to another. You can discuss this with your doctor or nurse.

Drugs currently effective against colorectal cancer:

- 5-fluorouracil (also known as 5-FU)
- Irinotecan (also known as Camptosar or CPT-11)
- Capecitabine (also known as Xeloda)
- Oxaliplatin (Eloxatin)
- Leucovorin (on its own it has no anti-cancer activity; it is used together with 5-FU to enhance the effects of 5-FU)

Targeted Therapy

Targeted therapy is a form of cancer treatment that involve the use of drugs or other substances that block the growth and rate of cancer growth by interfering with specific molecules involved in the tumour growth and progression.

An example of targeted therapy for colorectal cancer is Bevacizumab (Avastin). Avastin binds to the vascular endothelial Growth Factor (VEGF) and prevents it from interacting with receptors on endothelial cells, blocking the growth of blood vessel for tumour.



MANAGING TREATMENT SIDE EFFECTS

Cancer treatments cause different reactions in different people and any reaction can vary from treatment to treatment. It may be helpful to remember that almost all side effects are only short-term and will gradually disappear once the treatment has stopped. Before you start your treatment, the staff will discuss with you any likely side effects of the particular treatment you are having. They can also give tips on how to deal with them and how they can be treated. Being aware of side effects in advance can help you cope with any problems that occur.

Chemotherapy side effects will depend on the specific drugs and the amount given. The main areas of your body that may be affected by chemotherapy are those where normal cells rapidly divide and grow, such as the lining of your mouth, the digestive system, your skin, hair and bone marrow (the spongy material that fills the bones and produces new blood cells).

Although the side effects of chemotherapy can be unpleasant, they need to be weighed against the benefits of the treatment. However, if you find that the treatment or its side effects are making you unwell, you should tell your doctor or chemotherapy nurse. There are medicines to help you, or changes can be made to your treatment to lessen any side effects.

External radiation therapy can destroy cancer cells; it can also have an effect on some of the surrounding normal cells. As radiotherapy affects people in different ways, it is difficult to predict exactly how you will react to your treatment. Most side effects of radiotherapy disappear gradually once the course of treatment is over.

SIDE EFFECTS

Infections

While chemotherapy is acting on the cancer cells in your body, it may also temporarily reduce the number of normal white blood cells which help fight infections. When these cells are reduced you are more likely to get an infection.

The following actions may be helpful:

- Avoid crowded places, where you may come into contact with infectious diseases, and to avoid anyone who already has an infection, such as a cold or flu while your level of white blood cells is low.
- Avoid injury to your skin. Use an electric shaver instead of a razor when you are shaving. Do not tear or cut the cuticles of your nails and be careful when handling knives.
- Clean your rectal area gently but thoroughly after each bowel movement.
- Use a moisturizing lotion or baby oil on your skin if it becomes dry and cracked.

It is important to contact your doctor or chemotherapy nurse immediately if you have any signs of infection, such as a high temperature (above 38°C or 100.5°F), or if you suddenly feel unwell (even with a normal temperature). During chemotherapy, your blood will be tested regularly and, if necessary, you will be given antibiotics to treat any infection.

Fatigue or Tiredness

Fatigue is experiencing an overwhelming lack of energy everyday which is not related to overworking and a person cannot recover from it even with a good night's sleep. It may be caused by a number of factors including the diagnosis of cancer, treatments, stress and other medical conditions.

Methods that may help you feel better:

- Get plenty of rest. Try to take small naps during the day.
- Try to keep to a regular daily routine that is reasonable.
- Do some form of physical activity or exercise. Start slow and work up to a program you are comfortable with.
- Drink lots of water during the day. Avoid caffeine.
- Eat a balanced diet with frequent small meals.
- Conserve energy. Learn to prioritize, pace yourself and ask others for help with chores and errands. Modify the way you do things and avoid stress.

Nausea and vomiting

Some of the chemotherapy drugs may make you feel sick and possibly vomit. There are very effective medication to prevent or greatly reduce nausea and vomiting. Let your doctor or nurse know if your anti-sickness drugs are not helping you, as there are several different types that can be used.

These other methods may help:

- Avoid large meals, instead eat small meals throughout the day.
- Avoid fried, fatty and sweet foods.
- Chew food well for easier digestion; eat and drink slowly.
- Suck on ice cubes, mint or sour candies. (If you have mouth sores, avoid sour candies)
- Eat food at room temperature.
- Try drinking peppermint or ginger tea.
- If nausea is a problem in the morning, eat dry foods like cereal, toast and crackers.
- Rest in a chair after eating. Do not lie flat until at least 2 hours after a meal.
- Use relaxation techniques. Breathe deeply and slowly when you feel nauseated.
- Distract yourself by watching television, talking to friends and family or listening to music.

Loss of appetite

Cancer treatments can make you lose the desire to eat. Here are some helpful hints:

- Eat small meals or snacks whenever you want, rather than focusing on eating 3 meals a day.
- Add variety to your diet. Try new foods and recipes.
- Take liquid nutritional products such as Enercal and Ensure which are high in calories and protein. Snack on nutrition bars.
- Take a walk before meals.
- Eat with family or friends. Social interactions during a meal may help improve appetite.

Diarrhoea

Some of the chemotherapy drugs used to treat bowel 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 if you have diarrhoea as you may need to stop your treatment. If you have diarrhoea, your doctor can give you medicine to reduce this and slow down the bowel.

Some helpful tips:

- Eat smaller amounts of food but more often.
- Avoid high-fibre foods like fruits, vegetables and cereals.
- Avoid fried, greasy or spicy foods.
- Avoid drinks with caffeine such as tea, coffee and soda.
- Avoid milk and milk products.
- Drink plenty of fluids (2.5 litres to 3 litres a day) to replace what you lose through diarrhoea.
- Severe diarrhoea should be brought to your doctor's attention immediately.

Constipation

Sometimes treatment can cause difficulty in moving your bowels. Below are some suggestions that may help:

- Drink plenty of fluids (2.5 litres to 3 litres a day). Warm and hot drinks are especially good to help loosen the bowels.
- Eat high-fibre foods, such as whole wheat breads and cereals, fruits and vegetables.
- Exercise regularly.
- Stool softeners and enemas may be helpful but should not be used without first consulting your doctor.

Bruising and Bleeding

Chemotherapy can also temporarily reduce the number of platelets in the bone marrow. Platelets are needed to help your blood clot effectively. If they are reduced, you may bruise or bleed easily. Below are some tips to prevent it:

- Use a soft toothbrush to clean your teeth and do not brush vigorously.
- Clear your nose by blowing gently into a soft tissue.
- Do not take any medicine without first checking with your doctor or nurse. This includes aspirin or any other medicines you may buy without the need of a prescription.
- Take care not to injure yourself when using a knife, scissors, needle or tools.
- Be careful not to burn yourself when ironing or cooking. Use a padded glove when you reach into the oven.
- Avoid contact sports and other activities that might result in injury.

Hair loss

Most drugs used for colorectal cancer do not cause complete hair loss but some may make your hair thinner. If your hair does fall out, it will start to grow back again once treatment is over.

- Use mild or baby shampoo for hair washing.
- Comb with a soft hairbrush. Use a wide tooth comb when hair is wet.
- Do not dye or perm your hair as the chemicals can further damage the hair follicles.
- Dry wet hair naturally or use low heat of the hair dryer when blow drying hair.
- Wear a scarf or hat to protect your scalp from extreme temperature.

Mouth, gum and throat problems

Chemotherapy can cause the lining of the mouth to become very sore, and small ulcers may form. Soreness and ulceration of the lining of the mouth is known as mucositis and can be painful. The most common mouth infection is called thrush (also known as candidiasis, a fungal infection). Thrush usually appears as white patches, or a white coating, over the lining of the mouth and tongue. It is treated with anti-fungal medicines. Occasionally some bleeding or ulceration of the gums may develop. Damage to the cells lining of the mouth is usually temporary and most side effects will disappear once the treatment has finished and when the number of white blood cells has returned to normal.

Some helpful tips:

- See your dentist before starting chemotherapy to have your teeth cleaned and treat any gum disease, cavities or abscesses.
- Brush your teeth and gums gently after every meal using a soft toothbrush. Rinse your mouth after every meal
- Avoid mouthwashes that contain alcohol. Ask the pharmacist for assistance when buying off the shelf.
- Make your own mouthwash by mixing 1/4 teaspoon of salt, 1/4 teaspoon of baking soda into 250 mls of water.
- If you are wearing dentures, ensure they are not too tight causing gum friction and sores.
- Eat foods that are cool or at room temperature.
- Avoid salty, spicy, acidic or coarse foods.
- Drink through a straw to bypass mouth sores.
- Avoid alcohol and tobacco, both of which irritate tissues in the mouth.

Skin problems

Chemotherapy can sometimes cause your skin to become dry and flaky. The use of moisturizers can help. You may also find changes in the colour of your skin and nails. They may become darker. However, the discoloration is temporary and will return to normal after the completion of treatment.

The skin in the area that is being treated with radiation therapy may become red and sore. Many people find that this is mild, but for some people the skin can become very sore and painful. The nurses and radiographers will give you advice on how to look after your skin during treatment. If your skin gets very sore, soothing creams can be prescribed.

Inflammation of the bladder lining (cystitis)

Radiotherapy to the affected area may cause inflammation of the lining of the bladder. This can make you feel as though you want to pass urine often. You may also feel a burning sensation when you pass urine.

It helps to drink plenty of water and other fluids to make your urine less concentrated. Your doctor can prescribe medicine which can make passing urine more comfortable. These side effects generally continue for several weeks and then disappear gradually once the course of treatment is over. It is important to let your doctor know if they continue.

Numbness or tingling

Some chemotherapy drugs such as Oxaliplatin can affect the nerve endings and cause numbness or tingling sensation in the hands, feet, neck or throat. This is known as peripheral neuropathy. You may find difficulty in handling objects, walking properly, finding your balance, tingling in the ear or hearing loss. These symptoms should be reported to your doctor. Sometimes, lowering the dose of the drug that is causing the neuropathy can reduce this side effect. If the neuropathy continues to get worse it may even be necessary to stop the drug. In this situation your doctors will usually discuss with you whether another type of chemotherapy drug can be given instead.

Peripheral neuropathy may or may not start soon after the first dose of treatment and may also gradually develop. It should begin to improve once the treatment has finished. The type of peripheral neuropathy, and how much it affects the person, will depend on the drug given, the dose, how often it is given and whether it is given as tablets or capsules or into a vein. Other factors that can affect the peripheral neuropathy are whether other drugs or treatments that cause it (e.g. radiotherapy) are also being given and whether the person already has an existing condition that affects their nervous system. Sometimes these symptoms can be triggered by anything cold, such as cold drinks or the weather.

Preventing injuries:

- Be careful when grasping sharp or hot objects.
- Use handrails when going up and down stairs.
- Do not wear shoes with slippery soles and ensure your shoes have a good fit to prevent tripping.
- Avoid exposing your fingers and toes to very hot or cold temperatures.
- Be careful not to injure your fingers and toes.

For more information on treatment side effects, please call the Cancer Helpline on Tel: 6225 5655 to speak with any oncology nurse counsellor or email: cancerhelpline@nccs.com.sg

FOLLOW UP AND SURVEILLANCE

After surgery, you will be given regular appointments for review. It is a good time to ask questions regarding your condition as most of the test results are ready. Discuss with your doctor about your treatment. You will require regular blood tests, scans and scopes at regular intervals. Surveillance is life-long in most cases.

MAKING DECISIONS

When a person is diagnosed with cancer, life changes and these changes can be difficult to handle. Relationships can be strained. Patients and their family members may become depressed and angry. These are normal reactions for people dealing with changes in their lives. Give yourself time to think about your treatment options.

It helps to plan the best treatment for the patient. At the National Cancer Centre Singapore, a panel of cancer specialists carries out Tumour Board discussions on difficult cases. This explains why for some complex cases, treatment recommendations may vary from those of private doctors, surgeons or oncologists.

Discuss your concerns with your doctor, nurses, family and friends, the social worker or speak with the nurse counsellors at the Cancer Helpline on Tel: 6225 5655. Talking things over can help you to work out the course of action that is right for you.

QUESTIONS YOU CAN ASK YOUR DOCTOR

A. About tests

- What are these tests for?
- What will these investigations involve?
- Will the results of this test make any difference to the treatment provided?
- What are the results of the tests I have already had?

B. About treatment

- What treatments are available for my type of cancer?
- What is the aim of the treatment?
- Is it for a cure?
- Is it for temporary control?
- Is it to reduce symptoms?
- What are the benefits of treatment?
- What will happen if I choose not to have any treatment?
- What are the risks and side effects of treatment?
- Can these be controlled or prevented?
- Will there be any changes to my normal activities - work, exercise, sexual activity, etc?
- Will I receive treatment as an outpatient or be admitted to hospital?
- How is the treatment given and how does it work?
- Can I take any herbal medicine when I am on chemotherapy or radiotherapy?

C. Follow-up

- How often do I need to come back for check-ups?
- Whom should I contact if I want to change my appointment?



CANCER SUPPORT SERVICES

Cancer brings with it many uncertainties. While patients rely on doctors for treatment, many do not know how to manage the illness and live with it. Relationship with family members can begin to strain when the demand of patient care increases or prolongs. Coping or overcoming cancer is easier for both patient and family when there are helpful information and support services.

Cancer support groups offer mutual support and information to people with cancer. It helps to talk with others who have gone through the same experience. Support groups can also offer many practical suggestions and ways of coping. It helps when patients discuss their concerns with others who have cancer.

Relatives and friends can be very supportive too. Having a supportive family is always a plus for patients. Often after hearing their diagnosis, patients feel frightened not only for themselves but also for their family. Patients may be concerned about whether other members of the family will also develop cancer. An open and honest approach usually helps everyone cope better. It can provide opportunities for bonding, healing, and for family relationships to become more cohesive.

National Cancer Centre Singapore Cancer Genetic Service Clinic

This clinic at NCCS is for anyone who has a high risk of developing certain cancers based on family history or other risk factors. Cancers of the same or related types can sometimes affect individuals in several generations of a family. This can be due to the passing of an altered gene from one generation to the next. Sometimes such a gene can be identified by a blood test. If so, screening tests for early detection of cancer might benefit those individuals in whom testing revealed the carriage of the altered gene. Individuals from such a family can be reassured and spared expensive genetic investigations or associated anxiety.

What to expect at the Cancer Genetic Service Clinic?

The clinic provides the following:

- In-depth assessment of your personal health history.
- A detailed family history of at least 3 generations will be taken of both your father's and mother's side. This would include first and second degree relatives.
- Be prepared to spend up to an hour at the clinic, as a comprehensive interview will be conducted to obtain complete information about your personal and family history. A second visit is sometimes necessary to complete history taking.
- Blood tests, as appropriate.
- Discussion of a regular surveillance program tailored to the individual.
- Stratification of cancer risk, and evidence-based chemoprevention strategies.

To obtain an appointment for consultation, please call the National Cancer Centre Singapore's Appointment/Scheduling Unit on Tel: 6436 8088.

Psychosocial Oncology Department

The patient support groups that the department runs model on therapeutic group work, emphasising on coping and the change process. Group work facilitation is an essential service in cancer management. Many cancer centres all over the world have planned and implemented support and therapeutic groups for both cancer patients and their families.

Therapeutic group work programmes are designed to:

- build awareness of significant events and its impact on coping;
- create awareness and recognition of one's choices in coping;
- build internal resources in coping; and
- promote congruency within oneself.

A. STEER Program

This comprehensive programme offers organized activities to guide patients and families through healthy living, strengthening family bonds and building resilience in coping with cancer.

B. Mandarin and Malay Support Groups

For newly diagnosed and existing patients, their families and caregivers to meet and share their personal experiences. Experienced counsellors facilitate the sessions and help members explore what caring entails and how caregivers and patients can support each other through the cancer journey.

C. Psycho-Educational Programmes on managing distressing symptoms

D. EnReach Retreat

A 3 days / 2 nights residential programme for cancer patients and their families. Highlights include talks on diet and nutrition, complementary and alternative medicine, and legal issues. There is also a 3 part series support group sessions and enrichment programmes for children and youths.

E. Revival Connection

A support group for persons with recurrent cancer.

For more information and participation in these programmes, please call the Programme Coordinator on Tel: 6436 8117 or the Cancer Helpline on Tel: 6225 5655.

Volunteer Service & Befrienders

Patient Befrienders are cancer survivors and caregivers who have volunteered to offer information and assistance on:

- personal recount of their battle with cancer;
- how to cope with first time diagnosis or recurrence;
- overall management of the illness;
- how to cope with side effects from treatment; and
- emotional and practical support.

They offer patients a unique opportunity to confide in someone 'who has been there'. This programme allows patient befrienders and patients to foster an immediate sense of bonding and understanding through the mutual experience of their illness to lessen the anxieties of the patients and their families.

If you are interested to speak with a befriender, ask your doctor or nurse if this service is available in their hospital. If you are a patient of the National Cancer Centre Singapore, you can call 6436 8117 for more information.

Singapore Cancer Society Stoma Club

This is a support group organized with the aim to reach out and help new osteomates to cope and adjust to a new lifestyle. Monthly meetings are held at the Singapore Cancer Society. For enquiries, please call 6221 9578.

Colorectal Support Group

This is a self-help group for people undergoing chemotherapy, radiotherapy or surgery. The support group is facilitated by welfare staff and cancer survivors. It is open to both cancer patients and their family. These sessions allow the patient an opportunity to interact with ex-patients and to ask questions concerning their illness, treatment and side effects. The group offers interactive sessions aimed at easing the stress of a cancer diagnosis.

For more information and to make an appointment, please call the coordinator at Tel: 6499 9133.

Medical Social Services

The Medical Social Service Department at the hospital provides quality patient care to enhance emotional support, financial aid, home care, transportation or rehabilitation. You will need a doctor's referral to the medical social worker.

Cancer Helpline

Everyone has different needs when it comes to cancer. You may want to talk to someone about what you are going through. The Cancer Helpline at the National Cancer Centre Singapore provides a listening ear. Their aim is to help you through the cancer experience. Trained nurse counsellors operate this service. They provide information, emotional and psychological support, counselling and linkage to health, welfare and cancer support services for people affected by cancer.

Each contact with the nurse counsellor is private, confidential and anonymous. They do not give medical advice and treatment recommendations but can assist in clarifying your doubts and putting into perspective the information you may have received from your own treating doctor. There are some things only your doctor can tell you, as he or she knows your condition best. However, the nurse counsellors can discuss with you issues on coping with your condition and help you find ways to manage your daily activities the best way possible. To speak to the nurse counsellors, please call: 6225 5655.



WHAT THE FUTURE HOLDS

Recovery

After surgery, you may feel tired and have some discomfort from the operation site. This is a normal reaction as the body repairs itself. This discomfort may last for a few months but that does not mean that the cancer has returned.

Try to keep in good general health and stay as fit and active as possible. Eat a low residue diet with lots of fluids in the first 2 weeks after surgery. Thereafter, you may slowly return to a normal diet. Enjoy a balanced diet and live as normal a life as you can. Perform activities and exercises within your own limits and do not over exert yourself. Those who are working can generally return to work after they have recovered from surgery. Some individuals can return to work as early as 4 weeks after surgery. For others, it may take a while longer.

If you feel well enough when you are receiving chemotherapy or radiotherapy, you can probably return to work. Some people prefer to return to work between treatments while some defer returning to work until they have completed all treatment. Do discuss the possibilities with your doctor and employer.

What is the outlook for colorectal cancer?

About 2 out of 3 people with colorectal cancer can be cured if the disease is discovered early and treated promptly. Screening is the detection of colorectal cancer in its early stage or the precursor of the cancer e.g. polyp when there are no symptoms. By the time symptoms develop, many of the patients with cancer diagnosed are already in Stage III.

The earlier the person receives treatment, the greater the chance for cure. Improvement in surgical techniques means that the surgeon can now operate on people who were once considered too old for surgery or when the cancer was thought to be too advanced.

TREATMENT AND SUPPORT UNITS AT NCCS

Department of Radiation Oncology (Basement 2)

- For enquiries : 6436 8058
- For appointments : 6436 8181

Department of Radiation Oncology (Block 2, Basement 1, SGH)

- For enquiries : 6321 4210 / 6326 5147
- For appointments : 6321 4211

Ambulatory Treatment Unit (ATU) (Level 3)

- Jasmine Suite : 6436 8134
- Morning Glory Suite : 6436 8160
- Reception Counter : 6436 8100
- Appointment Scheduling Unit : 6436 8088
- General Enquiries : 6436 8000
- Dept of Psychosocial Oncology : 6436 8126
- Outpatient Pharmacy Helpdesk : 6436 8091
- Cancer Helpline : 6225 5655

PAIN MANAGEMENT AND PALLIATIVE CARE

Assisi Hospice
820 Thomson Road
Singapore 574623
Tel: 6347 6446
Fax: 6253 5312
Email: assisi@assisihospice.org.sg
Website: www.assisihospice.org

Agape Methodist Hospice
70 Baker Road
#05-03
Singapore 309936
Tel: 6478 4766
Fax: 6478 4765
Email: admin@amh.mws.org.sg
Website: www.mws.org.sg

Bright Vision Hospital
5 Lorong Napiri
Singapore 547530
Tel: 6248 5755
Fax: 6881 3872
Email: enquiries@bvh.org.sg
Website: www.bvh.org.sg

Dover Park Hospice
10 Jalan Tan Tock Seng
Singapore 308436
Tel: 6500 7272
Fax: 6258 9007
Email: info@doverpark.org.sg
Website: www.doverpark.org.sg

HCA Hospice Care
12 Jalan Tan Tock Seng
Singapore 308437
Tel: 6251 2561
Fax: 6352 2030 (Home Care)
Email:
info@hcahospicecare.org.sg (General Enquiries)
homecare@hcahospicecare.org.sg (Home Care Service)
daycare@hcahospicecare.org.sg (Day Care Centre)
volunteer@hcahospicecare.org.sg (Volunteers)
socialworker@hcahospicecare.org.sg (Social Worker)
Website: www.hca.org.sg

Metta Hospice Care
32 Simei Street 1
Metta Building (Level 5)
Singapore 529950
Tel: 6580 4695
Fax: 6787 7542
Email: hhospice@metta.org.sg
Website: www.metta.org.sg

Singapore Cancer Society Multi-Service Centre
9 Bishan Place, Junction 8 Office Tower, #06-05
Singapore 579837
Tel: 6499 9133
Fax: 6499 9140
Email: enquiry@singaporecancersociety.org.sg
Website: www.singaporecancersociety.org.sg

St Joseph's Home & Hospice
921 Jurong Road
Singapore 649694
Tel: 6268 0482
Fax: 6268 4787
E-mail: stjoseph@stjh.org.sg
Website: www.stjh.org.sg

INTERNET RESOURCES

National Cancer Centre Singapore (NCCS)
www.nccs.com.sg

American Cancer Society:
www.cancer.org/cancer/colonandrectumcancer/index

Macmillan Cancer Support
Cancer Care and Support Charity
www.macmillan.org.uk

National Cancer Institute, USA
www.cancer.gov

Cleveland Clinic Foundation:
Center for Colon Cancer and Polyps
<http://cms.clevelandclinic.org/digestivedisease>

Colon Cancer Alliance (CCA)
www.ccalliance.org

GLOSSARY

Benign - Not cancerous.

Carcinogen - Any substance that can cause cancer.

Chemoprevention - The use of natural or synthetic substance to reverse, prevent or suppress the carcinogenic process.

Colorectal cancer - A cancer that starts on the inside wall of the colon or rectum.

Colorectal Surgeon - A surgeon who specialises in bowel surgery.

Familial Adenomatous Polyposis - An inherited condition in which multiple polyps develop in the intestine and rectum. People with this condition have a high risk of developing colorectal cancer.

Fibre - A generic term for non-digestible carbohydrate substances found in plants. It is also called “bulk” or “roughage”. Foods high in dietary fibre are fruits, green leafy vegetables such as lettuce, spinach, celery and cabbage, root vegetables such as carrots, turnips and potatoes, whole grain cereals and breads.

Haemorrhoids - Swollen blood vessels in the area of the anus.

Lymph nodes - Small, bean-shaped glands scattered throughout the body along the lymphatic system. These nodes filter bacteria or cancer cells that travel through the lymphatic system.

Lymphatic system - The lymph nodes, bone marrow, spleen and thymus gland. This system produces and stores infection-fighting cells which circulate through the body in the lymph fluid.

Malignant - Cancerous

Magnetic Resonance Imaging (MRI) - Magnetic fields are used instead of x-ray to detect tumours and look out for any spread to the lymph nodes.

Mucosa - A thin layer of tissue that covers or lines various parts of the body such as the mouth, digestive tract, respiratory passages and the urinary tract.

Oncology - A branch of medicine concerned with the treatment of cancer

Osteomate - A person with colostomy, ileostomy or urostomy

Precursor - A substance from which another substance is formed

Polyp - An abnormal growth projecting from the inner lining of the colon or rectum

Ultrasound - use of high frequency sound waves (not x-rays) to reflect the different structures in the body. These are transformed into electronic signals to create images on a screen.

HOW YOU CAN HELP US HELP OTHERS

The Cancer Education Department is an integral part of the National Cancer Centre Singapore support services for everyone in Singapore. The two arms of Cancer Education Department are:

- Cancer Education and Information Service (CEIS)
- Patient Education and Support Programmes

CEIS provides the vital link for anyone affected by cancer. It is probably the first stop for someone who wants to know more about the disease. We offer telephone information, support, counselling and linkage to health professionals, volunteers or cancer support groups and organisations. Trained nurses handle the telephone counselling. They can share their skills and discuss options available to help the callers cope with a diagnosis of cancer.

Also available free to the public is a wide selection of publications regarding specific types of cancer, cancer prevention and cancer treatment.

Patient Education and Support Programmes offer a comprehensive range of educational and therapeutic programmes at different phases of the patients' cancer journey. These are done through support and self-help groups, retreats, orientation programmes and befriending services. Family support programmes on the other hand provide support to caregivers and children of cancer patients.

We are just a telephone call away, and we offer help when help is needed most. However, what we have currently achieved would not have been possible without the support and encouragement from our kind donors. Funding is key to ensure that we can meet the demand for our services.

If you wish to make a contribution to these initiatives, you can mail us a crossed cheque payable to "Community Cancer Fund". On the back of the cheque, please provide:

- Your name & NRIC no.
- Email address & your contact number.

Details are needed for tax exemption. Please mail the cheque to:

Community Cancer Fund

Division of Community Outreach & Philanthropy
National Cancer Centre Singapore,
11, Hospital Drive,
Singapore 169610



For enquiries, please call 6236 9440. Alternatively, you can email us at donate@nccs.com.sg.

No amount is too small. If each of us can do our little bit, we can go a long way in helping the cancer sufferers.

Thank you in advance for your act of kindness.

For more information on cancer, please call the
Cancer Helpline at Tel: 6225 5655
or email cancerhelpline@nccs.com.sg

MONDAYS - FRIDAYS : 8.30am to 5.30pm

SATURDAYS, SUNDAYS : CLOSED
& PUBLIC HOLIDAYS

THIS IS A PUBLIC EDUCATION INITIATIVE BY:

Cancer Education & Information Service

Division of Community Outreach & Philanthropy

National Cancer Centre Singapore

11 Hospital Drive

Singapore 169610

Tel: 6225 5655 Fax: 6324 5664

Website: www.nccs.com.sg

