NEWLY DIAGNOSED

Colorectal Cancer

WHAT'S NEXT?

Getting diagnosed with colorectal cancer is not a life sentence. The earlier it is caught, the more likely it is treatable. This booklet is designed to help you address any doubts and concerns about colorectal cancer and make decisions on the currently available treatments.

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FOREWORD

Dear Friend,

Patients who have just been advised by their doctor of a new diagnosis of cancer often feel that they have just received a death sentence. We want to change this perception. Many survivors have also shared with us that they felt like their whole world came crashing down on them after their doctor has confirmed the diagnosis. You became confused and lost. At Onco Life Centre, we recognize and validate your experience and feelings of shock. Onco Life Centre, together with our Industry Partners, would like to help you make your cancer treatment journey less painful and difficult by equipping you with tools in this Resource Guide. A map to direct you, so you can make informed decisions along the way, whether to turn left or right, move forward or staying put ….

Our wish is that by providing you with important medical information, you can be empowered and become sufficiently equipped to navigate through the challenges ahead. There is no doubt this may be one of the most challenging and arduous journey that you and your loved ones will ever be embarking on. But we CHOOSE to believe that there are always glimmers of hope for cure and if not cure, a sustained quality of life living with cancer.

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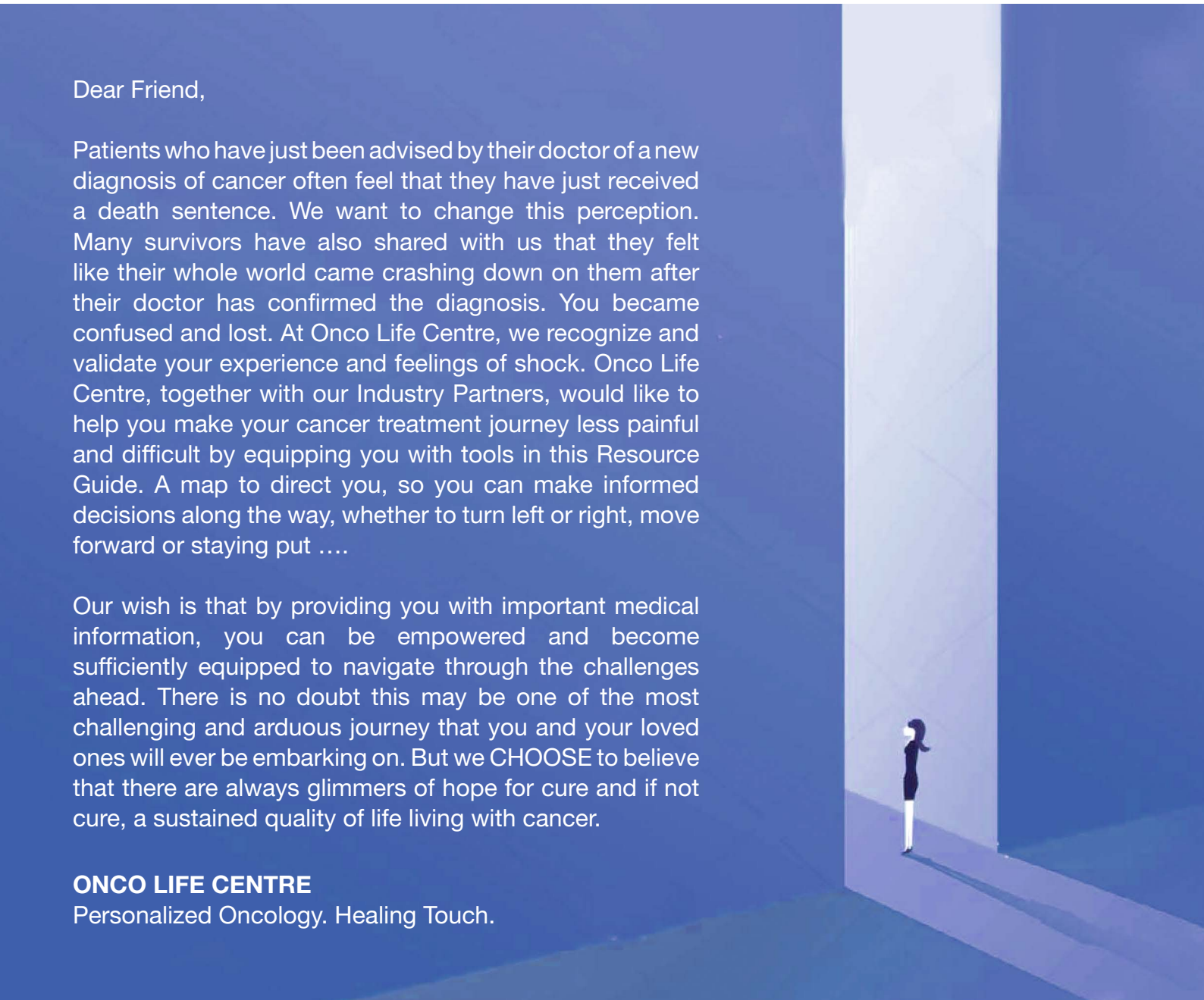
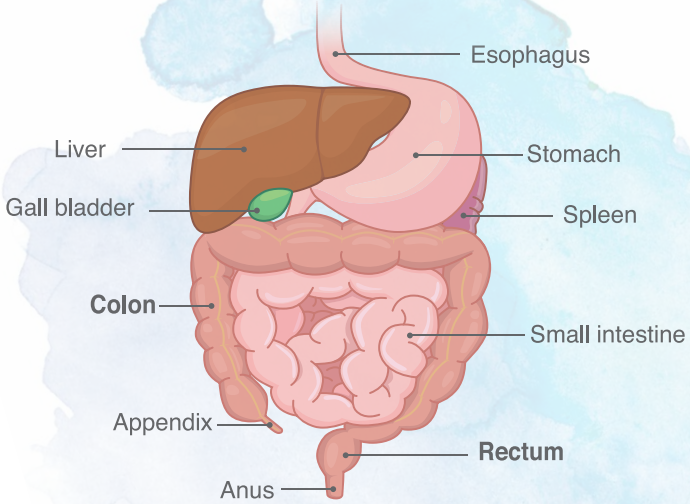


Overview of colorectal cancer

The colon absorbs water and salt from remaining food matter after it goes through the small intestine

The rectum stores waste matter that is left after going through the colon



What is colorectal cancer?[1,2]

- Cancer that develops in the large intestine
- Colon is the longest part of the large intestine while rectal refers to the final part of the large intestine (known as rectum)

How does colorectal cancer begin?[2]

- Most begin with a growth on the inner lining of the colon or rectum (called polyps)
- Some types of polyps can turn into cancer over time but not all polyps become cancerous

How does colorectal cancer spread?[2]

- Cancers that form in polyps grow from the innermost layer and can grow to outer layers of the colon
- Cancer cells then grow into blood vessels or lymph nodes (which function to carry away waste and fluid)
- Cancer cells spread to nearby lymph nodes or distant parts of the body

References: 1. ESMO. Colorectal cancer: Guide for patients. Available at: https://www.esmo.org/for-patients/patient-guides/colorectal-cancer. Accessed 6 August 2020. **2.** American Cancer Society. About colorectal cancer. Available at: https://www.cancer.org/content/dam/CRC/PDF/Public/8604.00.pdf. Accessed 21 August 2020.

Overview of colorectal cancer

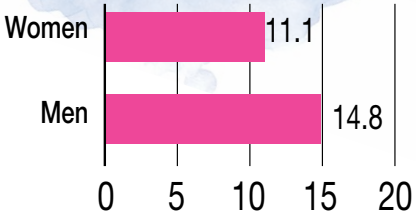
How common is colorectal cancer?[1,2]

Malaysian statistic 2012–2016

No. 1 most common cancer in men

No. 2 most common cancer in women

Average number of cases per 100,000 Malaysians



Most patients are >60 years old at time of diagnosis

Quick fact!

Most colorectal cancers are adenocarcinomas – cancers cells that develop mucus to lubricate the insides of colon or rectum

References: 1. American Cancer Society. About colorectal cancer. Available at: https://www.cancer.org/content/dam/CRC/PDF/Public/8604.00.pdf. Accessed 21 August 2020. **2.** Ministry of Health. Malaysia National Cancer Registry Report 2012–2016. Available at: https://nci.moh.gov.my/index.php/ms/pengumuman/340-national-cancer-registry-report. Accessed 6 August 2020.

What causes colorectal cancer?[1,2]

Aging: The older a person gets, the higher the risk of getting colorectal cancer

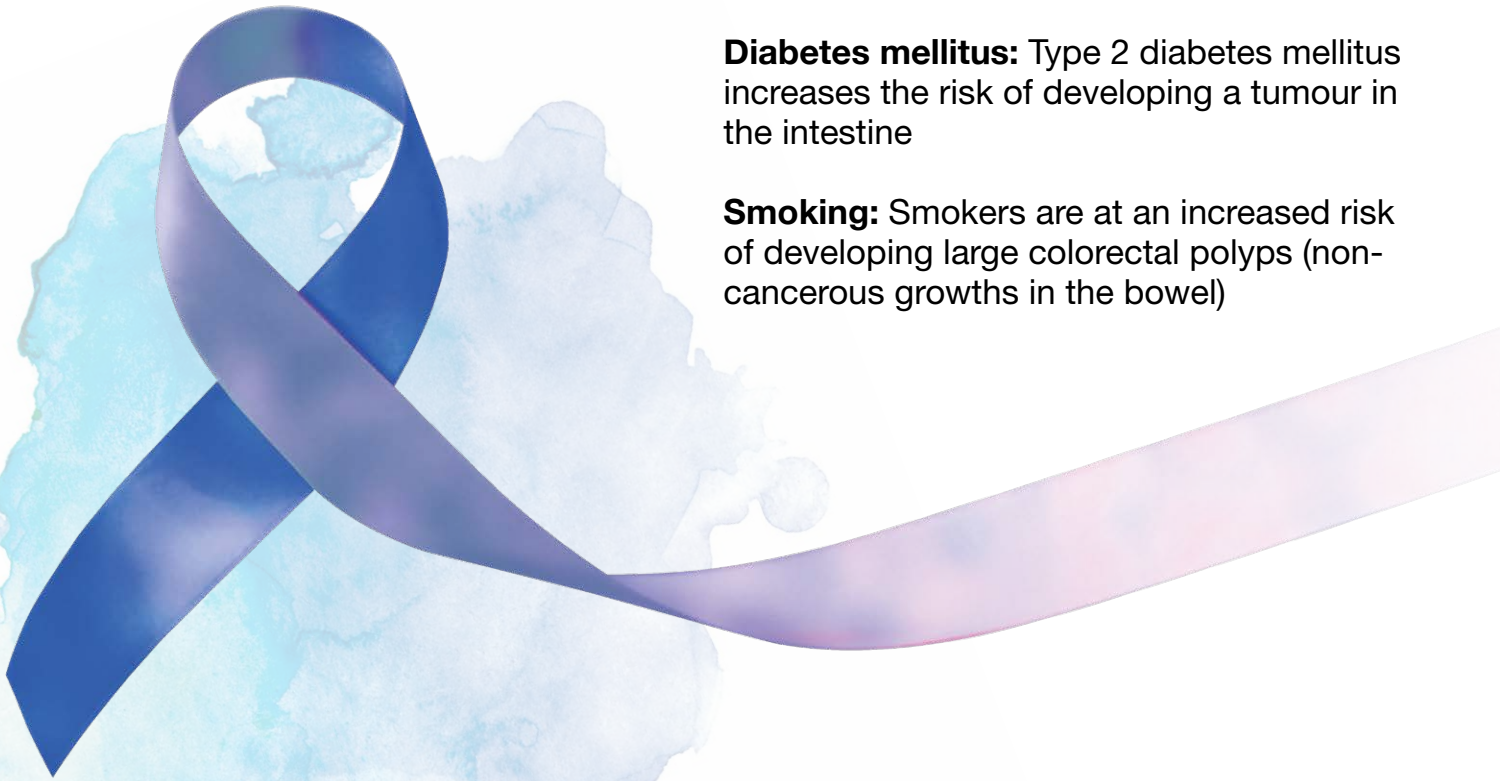
Diet: High consumption of red meat (beef, lamb or pork), processed meat, fat and alcoholic drink and low consumption of fibre

Obesity: Being overweight or obese increases the risk of getting colorectal cancer

Sedentary lifestyle: People who are physically inactive are at higher risk of developing colorectal cancer

Diabetes mellitus: Type 2 diabetes mellitus increases the risk of developing a tumour in the intestine

Smoking: Smokers are at an increased risk of developing large colorectal polyps (non-cancerous growths in the bowel)



References: 1. ESMO. Colorectal cancer: Guide for patients. Available at: https://www.esmo.org/for-patients/patient-guides/colorectal-cancer. Accessed 6 August 2020. **2.** National Comprehensive Cancer Network (NCCN). Colon cancer. Available at: https://www.nccn.org/patients/guidelines/content/PDF/colon-patient.pdf. Accessed 9 September 2020.

What causes colorectal cancer?[1,2]

Previous history of colorectal polyps: Although polyps are non-cancerous, they can develop into cancer over time

Previous history of other types of cancers: Previous lymphoma, testicular cancer or endometrial cancer may increase the risk of developing colorectal cancer

Inflammatory bowel disease: This condition causes the large intestine to be inflamed over a long period of time

Family history: If a first-degree relative has colorectal cancer, it doubles the risk of developing colorectal cancer

Hereditary cancer syndromes

- A gene mutation in the DNA which is passed down from parents
- Most common type is called the Lynch syndrome, which affect 3 out of 5 in every 100 people with colon cancer
- Familial adenomatous polyposis (FAP) is a rare type, affecting 1 in every 100 people with colon cancers. It causes hundreds of polyps to form in the colon and rectum

Quick fact!

Colorectal cancer may not only be due to inherited gene, but also shared factors in the environment

References: 1. ESMO. Colorectal cancer: Guide for patients. Available at: https://www.esmo.org/for-patients/patient-guides/colorectal-cancer. Accessed 6 August 2020. **2.** National Comprehensive Cancer Network (NCCN). Colon cancer. Available at: https://www.nccn.org/patients/guidelines/content/PDF/colon-patient.pdf. Accessed 9 September 2020.

What are the signs and symptoms of colorectal cancer?

Early symptoms: Changes in bowel habits

- Constipation
- Diarrhoea
- Loose or watery stools
- Bloating or abdominal pain/cramps
- Changes in frequency of bowel movements
- Presence of blood in stool
- Feeling like you cannot completely empty your bowel

Symptoms affecting your entire body

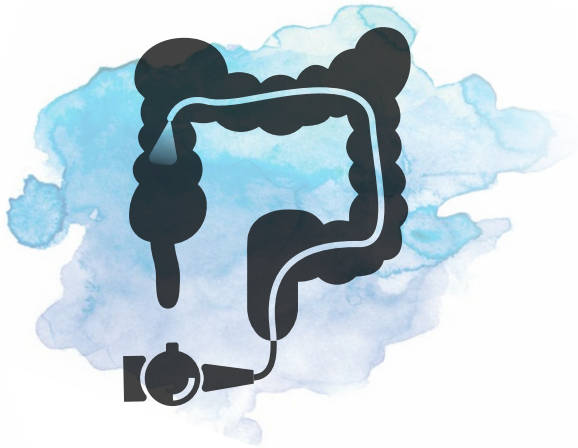
- Unexplained loss of appetite
- Unexplained weight loss
- Nausea and vomiting
- Anaemia
- Jaundice
- Fatigue/tiredness or weakness

Quick fact!

Early symptoms may involve changes in bowel habits. As the cancer spreads, symptoms may affect your whole body, such as tiredness or weight loss

Reference: Cancer Treatment Centers of America. Colorectal cancer symptoms. Available at: https://www.cancercenter.com/cancer-types/colorectal-cancer/symptoms. Accessed 22 August 2020.

How is colorectal cancer diagnosed?[1–3]



Clinical examination

- **Physical examination of the abdomen:** To check for liver enlargement or excess fluid in the abdomen
- **Rectal examination:** To detect abnormal swelling or traces of blood

Endoscopic procedures

- To check for abnormal areas of growths in the inner lining of the intestine by inserting a flexible tube with a light and camera attached to it
- To perform a biopsy (removal of tissue) of an abnormal area or remove any polyp

References: 1. ESMO. Colorectal cancer: Guide for patients. Available at: https://www.esmo.org/for-patients/patient-guides/colorectal-cancer. Accessed 6 August 2020. **2.** Cancer Treatment Centers of America. Diagnosing colorectal cancer. Available at: https://www.cancercenter.com/cancer-types/colorectal-cancer/diagnosis-and-detection. Accessed 28 August 2020. **3.** American Cancer Society. Tests to diagnose and stage colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/detection-diagnosis-staging/how-diagnosed.html. Accessed 11 September 2020.

How is colorectal cancer diagnosed?[1–3]

Radiological investigation

- **Imaging tests** use sound waves, x-rays, magnetic fields or radioactive substances to create pictures of the inside of your body
- Commonly used methods include CT scan, MRI scan, PET scan and ultrasound

Histopathological examination

- **Histopathological examination:** Tissue sample which is obtained through biopsy or surgery are examined in the laboratory under microscope. This is important to provide more information on the cancer, such as the type and origin of the cancer cell, and any abnormality of the cells

Laboratory investigations

- **Routine blood tests:** Blood count, liver and kidney function tests
- **Tumour markers test:** To detect tumour markers produced by tumours in the blood
- **Antigen test:** To detect the level of antigen produced specifically by colorectal cancer cells
- **Faecal blood test:** To check for presence of blood in the stool

Quick fact!

Individuals aged 50 or older should be screened for colorectal cancer every 1 or 2 years

CT, computed tomography; MRI, magnetic resonance imaging; PET, positron emission tomography

References: 1. ESMO. Colorectal cancer: Guide for patients. Available at: https://www.esmo.org/for-patients/patient-guides/colorectal-cancer. Accessed 6 August 2020. **2.** Cancer Treatment Centers of America. Diagnosing colorectal cancer. Available at: https://www.cancercenter.com/cancer-types/colorectal-cancer/diagnosis-and-detection. Accessed 28 August 2020. **3.** American Cancer Society. Tests to diagnose and stage colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/detection-diagnosis-staging/how-diagnosed.html. Accessed 11 September 2020.

What do I need to know to get optimal treatment?[1,2]

1 Staging of colorectal cancer

Once you've been diagnosed with colorectal cancer, your doctor will figure out if it has spread and if so, how far. This is called 'staging'. The stage of cancer describes how much cancer is in your body. The most often used staging system is the TNM staging

The extent/size of the **t**umour (T)	How far has the cancer grown into the wall of the colon/rectum?
The spread to nearby lymph **n**odes (N)	Has the cancer spread to nearby distant lymph nodes?
The spread (**m**etastasis) to distant sites (M)	The spread (metastasis) to distant sites (M)

2 Results from the examinations

Radiological investigations:
Confirm the presence, location and size of tumours

Histopathological examinations:
Confirm the type of colorectal cancer, any abnormal features of cancer cells and level of invasion within the body

References: 1. American Cancer Society. Colorectal cancer stages. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/detection-diagnosis-staging/staged.html. Accessed 7 August 2020. **2.** ESMO. Personalized medicine. Available at: https://www.esmo.org/for-patients/patient-guides/personalised-cancer-medicine. Accessed 7 August 2020.

What do I need to know to get optimal treatment?[1–3]

Molecular profiling

Background

- Cancer develops when genes that are responsible for cell growth behave abnormally/changed (mutated)
- In colon cancer, a number of mutated genes have been found – namely KRAS, BRAF and NRAS
- High levels of gene changes (microsatellite instability) and chromosomal instability are linked to Lynch syndrome

What is it?

Molecular profiling is a gene test that allows the entire set of genes expressed in a cell to be revealed

How does it help?

- Molecular profile helps to classify colorectal tumours and determine the optimal treatment
- For example, RAS mutations (either KRAS or NRAS) will determine whether two specific drugs might be effective or not

1 Staging
2 Examination results
3 Molecular profiling

Key aspects that your doctor will consider when deciding an optimal treatment for you

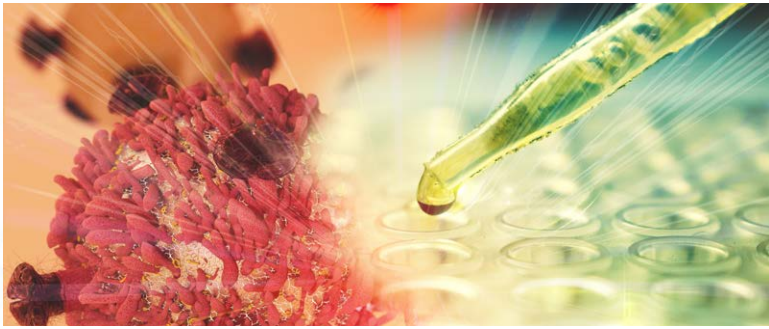
Quick fact!

- Molecular profiling/gene test plays an important role in personalized medicine. It helps to determine the best treatment according to molecular characteristics of the patient's tumour
- Gene test also helps to diagnose hereditary cancer syndromes and is used for screening and monitoring of cancers

References: 1. American Cancer Society. Colorectal cancer stages. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/detection-diagnosis-staging/staged.html. Accessed 7 August 2020. **2.** ESMO. Colorectal cancer: Guide for patients. Available at: https://www.esmo.org/for-patients/patient-guides/colorectal-cancer. Accessed 6 August 2020. **3.** ESMO. Personalized medicine. Available at: https://www.esmo.org/for-patients/patient-guides/personalised-cancer-medicine. Accessed 7 August 2020.

What are the treatment options?[1–5]

STAGE 0	STAGE I	STAGE II	STAGE III	STAGE IV (metastatic)
Surgery				
	Adjuvant chemotherapy Chemotherapy Radiotherapy Chemoradiotherapy			
				Biological targeted therapy Immunotherapy



References: 1. ESMO. Colorectal cancer: Guide for patients. Available at: https://www.esmo.org/for-patients/patient-guides/colorectal-cancer. Accessed 6 August 2020. **2.** Centers Treatment Centers of America. Colorectal cancer treatments. Available at: https://www.cancercenter.com/cancer-types/colorectal-cancer/treatments. Accessed 28 August 2020. **3.** American Cancer Society. Radiation therapy for colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/treating/radiation-therapy.html. Accessed 11 September 2020. **4.** American Cancer Society. Targeted therapy for colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/treating/targeted-therapy.html. Accessed 11 September 2020. **5.** American Cancer Society. Immunotherapy for colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/treating/immunotherapy.html. Accessed 11 September 2020.

What are the treatment options?[1–5]

Treatment option	Function(s)
Surgery	• To remove bowel segment where tumour is located, reattach healthy ends of the intestine and remove nearby lymph nodes • You may receive chemotherapy and/or radiotherapy before and/or after surgery
Chemotherapy	• To kill or harm tumour cells (inoperable tumour may become operable after chemotherapy) • Given orally or through a vein, either in single therapy or in combination with other drugs. These drugs travel through the bloodstream and reach most parts of the body • Given in cycles, followed by a rest period to give you time to recover from the effects of the drugs. Each cycle is usually 2–3 weeks long. The schedule varies depending on the drug used • Adjuvant chemotherapy may be given to prevent cancer from returning after the initial surgery or shrink tumours before they are surgically removed
Radiotherapy	• Uses high-energy rays (x-ray) to destroy cancer cells. More often used to treat rectal cancer than colon cancer • Either used alone or in combination with chemotherapy • How long and how often will depend on the reason the radiation is being given • May be given over a course of a few days or several weeks
Chemoradiotherapy	Combination use of chemotherapy and radiotherapy
Biological targeted therapy	• Therapeutic drug that is specifically targeted to prevent the growth of cancer cells • It is used to treat cancers that have spread to other parts of the body or cannot be surgically removed • May work for some people with (or without) a specific gene mutation • Usually prescribed with chemotherapy and are drugs given by IV infusion, either once a week or every other week. Compared with chemotherapy, targeted therapy is less likely to harm normal cells • *Anti-VEGF drugs* are used to stop tumour from forming new blood vessels (a process known as angiogenesis) from getting nutrients they need to grow. These drugs stop VEGF from working and when combined with chemotherapy, they may help to prolong lives of those with advanced colon or rectal cancers • *Anti EGFR drugs* are used to prevent tumour cells from growing. They are usually prescribed to those who do not have mutations of the KRAS, BRAS or BRAF genes • *Kinase inhibitors:* Kinases are proteins located on the surface of cancer cells that control cell signaling. Kinase inhibitors block these proteins to stop cancer cells from growing
Immunotherapy	• Drugs are called checkpoint inhibitors • Used for people whose colorectal cancer cells have tested positive for specific gene changes • Used to treat cancer that cannot be removed with surgery, cancer that has returned after treatment or has spread to other parts of the body • *PD-1 inhibitors* block a protein called PD-1 on immune cells and boost the immune response against cancer cells • *CTLA-4 inhibitors* block CTLA-4 on T cells to boost the immune response against cancer cells

VEGF, vascular endothelial growth factor; EGFR, epidermal growth factor receptor

References: 1. ESMO. Colorectal cancer: Guide for patients. Available at: https://www.esmo.org/for-patients/patient-guides/colorectal-cancer. Accessed 6 August 2020. **2.** Centers Treatment Centers of America. Colorectal cancer treatments. Available at: https://www.cancercenter.com/cancer-types/colorectal-cancer/treatments. Accessed 28 August 2020. **3.** American Cancer Society. Radiation therapy for colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/treating/radiation-therapy.html. Accessed 11 September 2020. **4.** American Cancer Society. Targeted therapy for colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/treating/targeted-therapy.html. Accessed 11 September 2020. **5.** American Cancer Society. Immunotherapy for colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/treating/immunotherapy.html. Accessed 11 September 2020.

What are the treatment options?[1–5]

Examples of chemotherapy	Examples of biological targeted therapy	Examples of immunotherapy
• Fluoropyrimidines (5-fluorouracil [5-FU], capecitabine or terafur-uracil [UFT]) • Leucovorin (LV) • Oxaliplatin • Irinotecan	• Panitumumab (anti-EGFR) • Cetuximab (anti-EGFR) • Bevacizumab (anti-VEGF) • Aflibercept (anti-VEGF) • Ramucirumab (anti-VEGF) • Regorafenib (multi-kinase inhibitor)	• Ipilimumab (CTLA-4 inhibitor) • Nivolumab (PD-1 inhibitor) • Pembrolizumab (PD-1 inhibitor)

Quick fact!

Treatment plan is individually optimized for every patient. It is determined by a multidisciplinary team and will largely take into account if the tumour is operable or not

VEGF, vascular endothelial growth factor; EGFR, epidermal growth factor receptor

References: 1. ESMO. Colorectal cancer: Guide for patients. Available at: https://www.esmo.org/for-patients/patient-guides/colorectal-cancer. Accessed 6 August 2020. **2.** Centers Treatment Centers of America. Colorectal cancer treatments. Available at: https://www.cancercenter.com/cancer-types/colorectal-cancer/treatments. Accessed 28 August 2020. **3.** American Cancer Society. Radiation therapy for colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/treating/radiation-therapy.html. Accessed 11 September 2020. **4.** American Cancer Society. Targeted therapy for colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/treating/targeted-therapy.html. Accessed 11 September 2020. **5.** American Cancer Society. Immunotherapy for colorectal cancer. Available at: https://www.cancer.org/cancer/colon-rectal-cancer/treating/immunotherapy.html. Accessed 11 September 2020.

What happens after treatment?[1,2]

1 Go for regular and timely follow-up

- Be prepared that follow-up visits will last for many years. Do not miss any follow-up visit
- Follow-up visits are good time to talk about your side effects. Talk to your doctor about any changes or concerns

2 Discuss with your doctor about cancer recurrence

- The extent of recurrence will determine the type of treatment
- If cancer returns in local or distant organ: You will be treated with treatment planned for advanced disease
- If cancer returns in the form of metastasis in the liver: Surgical resection and advanced stage treatment will be considered

You will discuss the most suitable choice of treatment with your doctor before deciding on the best treatment

What happens after treatment?[1,2]

3 Get the support you need

- Let your doctor know if you need psychological support. Remember, a good support system helps in your treatment journey
- Be open and honest about your feelings when talking to your friends and family

4 Return to normal life

- Re-evaluate priorities and goals in life
- Talk openly to your friends and family about your feelings and concerns
- Find balance in the work environment. Talk to your colleagues about your return to work
- Find new hobbies and interests and enjoy them with your friends and family

References: 1. ESMO. Patient guide on survivorship. Available at: https://www.esmo.org/content/download/117593/2061518/1?fileName=ESMO-Patient-Guide-Survivorship.pdf. Accessed 10 August 2020. **2.** American Cancer Society. After colorectal cancer treatment. Available at: https://www.cancer.org/content/dam/CRC/PDF/Public/8608.00.pdf. Accessed 22 August 2020.

Onco Life Centre Psychosocial Oncology Program

Cancer can bring significant changes in the lives of those affected by cancer and their families. Cancer treatment can be challenging, and it is natural that some cancer patients may feel insecure, unattractive or discouraged. Their challenges may also extend into personal areas relating to their relationships and career. And in some cases, their caregivers or partners may experience more distress than the patients themselves. The Psychosocial Oncology Program at Onco Life Centre is part of our multi-dimensional approach to address these crucial issues. We impart education, support and evidence based coping strategies to our patients in a secure environment with systematic monitoring by our professional team. We believe that together, we can empower our patients to face their challenges and walk their journey positively.

Sometimes, just talking to someone about your situation can give you the strength that you need to spur recovery. Psycho-oncology is considered to be an oncology sub-specialty which acts in two psychological dimensions. The patients and their families psychological reactions to cancer throughout all the stages of the disease. Here are some aspects which the Onco Life Centre Psychosocial Oncology Program covers

- Educational sessions
- Cancer Support Group
- Counseling
- Emotional Support
- Mindfulness Meditation
- Nutritional Counseling
- Physiotherapy and Exercise Programs
- Grooming workshops

By addressing the whole person rather than just the cancer, our oncologists and allied health team focus on creating wellness in patients and their families. Our psycho-oncology team consists of highly qualified clinical psychologists and counselors who will be providing this service free-of-charge to our patients and their families.

Our patients discover that mindfulness meditation help them regain energy and a feeling of control and calmness. Mindfulness relaxation uses breathing methods, guided imagery, and other practices to relax the body and mind and help reduce stress.

This material is intended for patient education and to be provided by a healthcare professional as deemed relevant for educational purposes.

Onco Life Centre gratefully acknowledges the support from Amgen Malaysia in making available this e-booklet for colorectal cancer patients and their caregivers.

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