

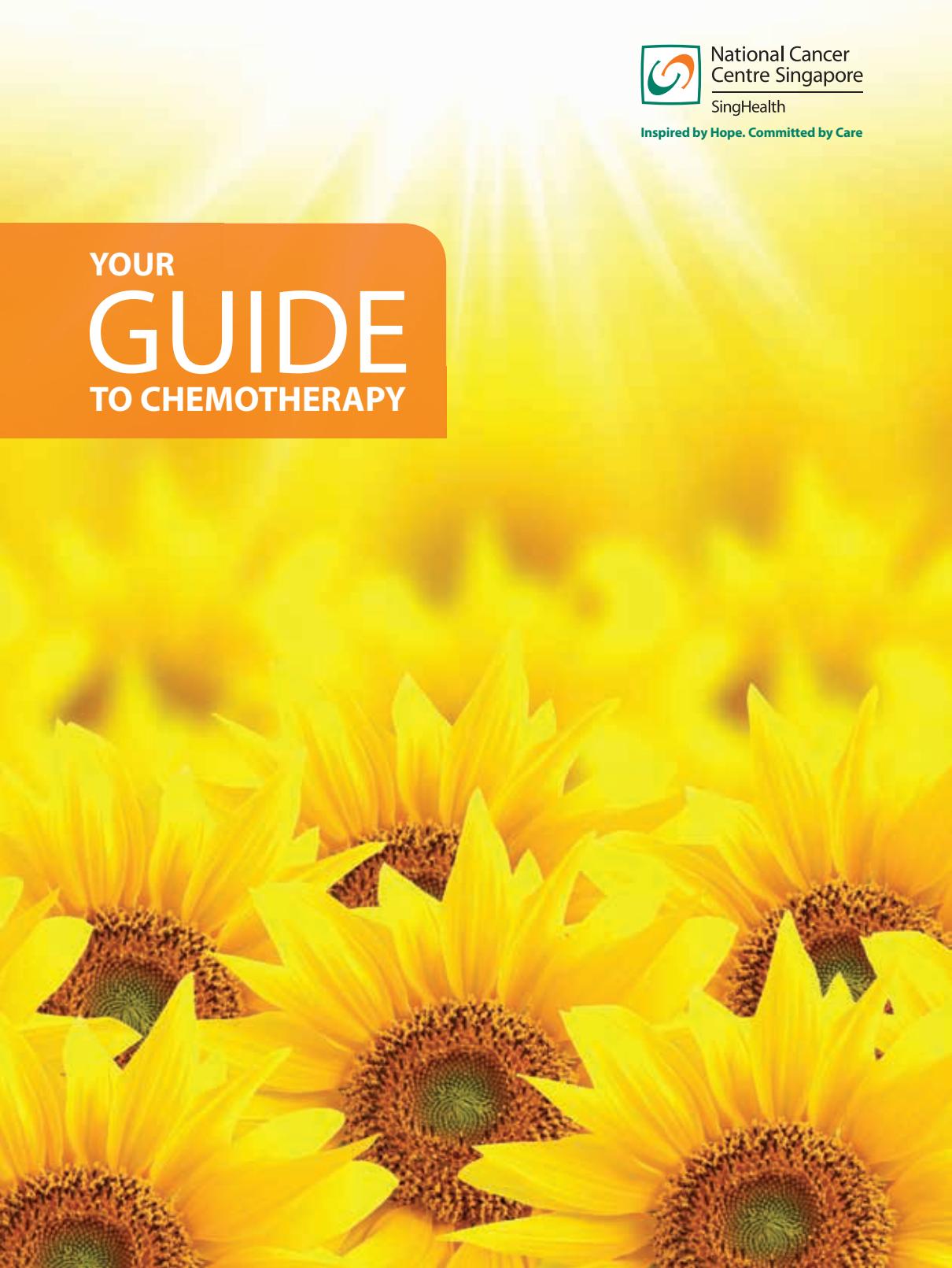


National Cancer
Centre Singapore

SingHealth

Inspired by Hope. Committed by Care

YOUR
GUIDE
TO CHEMOTHERAPY



This Folder Belongs To



CHEMOTHERAPY AND YOU

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Every day I wake up, thinking of chemotherapy, my heart sinks and thinking that it will end soon, my heart floats.

Mdm Aminah,
50-year-old patient

INTRODUCTION

Welcome to National Cancer Centre Singapore (NCCS). As this is your first visit to NCCS, we would like to share some information with you. This folder is prepared specially to guide you in coping with chemotherapy.

NATIONAL CANCER CENTRE SINGAPORE

The NCCS offers a one-stop, complete range of clinical services to our patients. Outpatient chemotherapy treatment is one of NCCS's clinical services and is done at the Ambulatory Treatment Unit (ATU).

AMBULATORY TREATMENT UNIT (ATU)

ATU is located at Level 3 of NCCS. At ATU, the pharmacist prepares your chemotherapy medications and the nurse will then administer it.

You and your family will be taught about chemotherapy and how it works. You will also learn how to take care of yourself during chemotherapy.

It is important that you bring this booklet every time you come to the NCCS. This is because the nurses and pharmacists will use the information in the folder to guide you in coping with your treatment.

HELPFUL TIPS

In order for you to have a more pleasant experience at ATU, it is important for you to take note of the following tips.

You may like to:

- ♥ Bring a **cardigan** or **jacket** to keep yourself warm as ATU is air-conditioned.
- ♥ Wear **non-slip socks** and **low heel non-skid footwear** to prevent falls.
- ♥ Have a light meal before coming for treatment. You can bring along your own drinks and/ or small bites. There is also a café right outside the Centre, as well as vending machines and water dispensers at every level.
- ♥ Bring your own **reading materials** (e.g. books/ magazines) to read OR music devices with earpiece to listen during the treatment.
- ♥ **Arrange for an adult to accompany you home** after chemotherapy treatment as certain medications can cause drowsiness.

Sometimes it's hard to remember everything you hear. To help you remember, you may be given a package containing some of the following information:

- ♥ Chemotherapy Booklet (Your Guide to Chemotherapy).
- ♥ Specific Chemotherapy Regime Timeline.
- ♥ Cancer and Nutrition Booklet.
- ♥ Caring for Your Wig Pamphlet.

Do not hesitate to clarify with your nurse or doctor if you are unclear of your treatment or managing the side effects.

Other information you will receive:

- ♥ Specific drug information leaflet

TRANSPORT

NCCS is easily accessible and conveniently located near the MRT station.

- ♥ Shuttle service is available from NCCS to Outram Park MRT station at 15 minutes interval.
Monday to Friday : 0800 to 1900hrs
Saturday : 0800 to 1400hrs
- ♥ Taxi stand is situated at the side of the building.

FOOD

It is important to have balanced meals while undergoing treatment. There are various eateries within Outram Campus (NCCS, Singapore General Hospital and National Heart Centre Singapore) which you can purchase your meals.

PAYMENT

Payment can be made by cash, NETS, Civil Service Benefit Card, and Credit Card to the cashier at ATU. Should you want to pay by Medishield or Medisave, please inform the cashier.

INPATIENT

If hospitalization is required, we will arrange for inpatient accommodation at the Singapore General Hospital.

We hope this information will help to better prepare you for a pleasant experience in NCCS.



FACING CHEMOTHERAPY

You probably would want to ask many questions when your doctor suggested using chemotherapy to treat your cancer. Chemotherapy is the use of chemical substances to treat cancer with cytotoxic drugs and other drugs. Other drugs may include targeted therapy such as Trastuzumab and Rituximab and immunotherapy such as Pembrolizumab and Nivolumab etc.

QUESTIONS YOU MAY ASK

It is normal to have questions when starting treatment. Here are some common questions you may want to ask your doctor:

- ♥ What is chemotherapy?
- ♥ Will chemotherapy work for me?
- ♥ How is chemotherapy given?
- ♥ How often will I have it and for how long?
- ♥ Can I take other medications while I am getting chemotherapy?
- ♥ How will I feel after chemotherapy?
- ♥ Will I still be able to work? Will I still be able to do the things I enjoy?
- ♥ How do I talk about it with the people in my life? How will it affect them?

Many of these questions can't be answered simply or immediately. But, learning to take care of yourself during treatment can help you to have some control over how chemotherapy affects your life.

WHAT YOU CAN DO

Think of chemotherapy as helping you fight against cancer. Your doctor will discuss and recommend a treatment plan for you. Keep a list of questions to ask at your appointments with the doctors.

MANAGE YOUR SIDE EFFECTS

You may experience some side effects from chemotherapy. Learn the common side effects pertaining to your treatment.

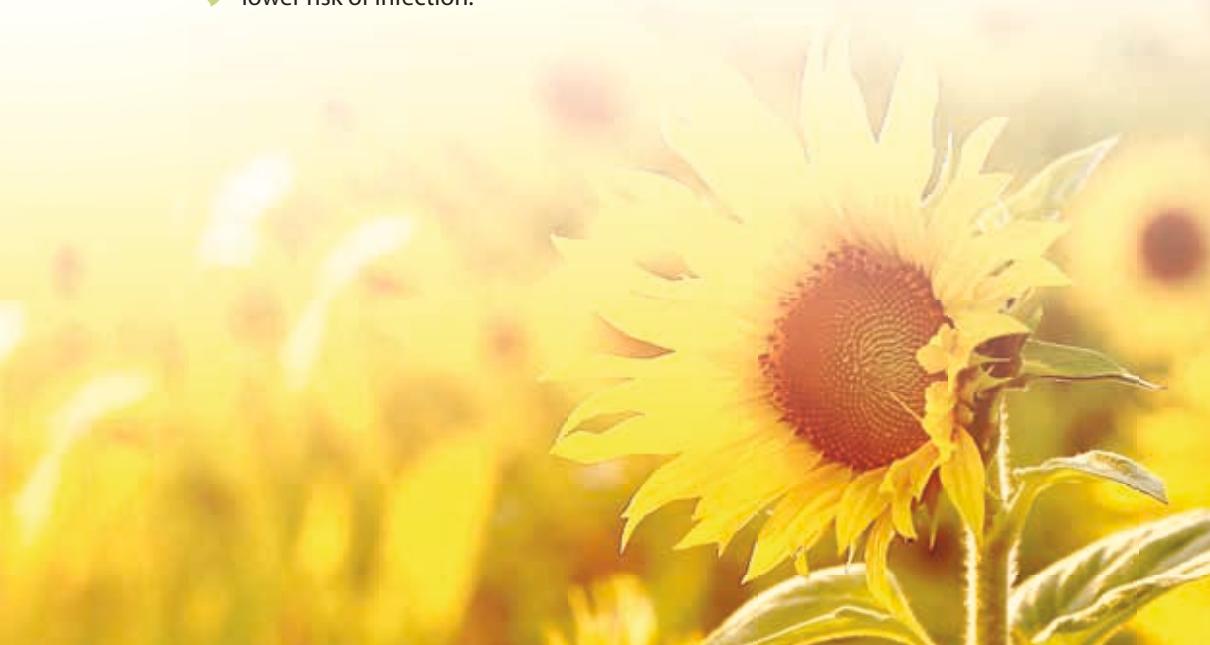
TAKE CARE AND BE KIND TO YOURSELF

You can do things to make you feel better. Get enough rest. Eat healthily and maintain a balanced diet. These can give you the strength to cope better with treatment.

NUTRITION

Nutrition is an important aspect of cancer treatment. Taking nutritious food while undergoing chemotherapy can help you to:

- ♥ feel better.
- ♥ maintain your strength and energy level.
- ♥ keep up your weight and your body's nutrition stores.
- ♥ better tolerate treatment-related side effects.
- ♥ recover and heal as quickly as possible.
- ♥ lower risk of infection.



OTHER MEDICATIONS/ SUPPLEMENTS

Some medication including herbs and natural health supplements may interfere with the effects of your chemotherapy.

Inform your doctor if you intend to use herbal products and supplements or have already started using them even before your conventional cancer treatment.

- ♥ Ask your doctor for reliable information on these products. He/ she can discuss with you about any study that has been done and whether or not the product is safe or would interfere with your treatment.
- ♥ Check the product labels for both the quantity and concentration of active ingredients contained in each product.
- ♥ Stop taking the product immediately and alert your doctor if you experience side effects such as wheezing, itching, numbness, tingling in the limbs or unexplained effects.
- ♥ Discuss your nutritional needs with a dietitian. He/ She can give you suggestions on how to modify your diet so that you can get all the nutrients that your body needs.

SPECIAL NOTES FOR CAREGIVERS

You can help your loved ones or friend to cope with his/ her cancer treatment. Here are some tips that may be helpful:

- ♥ Be prepared that food preference for your loved one may change from day to day. Some days he/ she won't want his/ her favourite foods because they don't taste good. Other times, he/ she will be able to eat a dish that couldn't be tolerated the day before.
- ♥ Be prepared for times that your loved one is able to eat only one or two dishes for a few days in a row, until side effects diminish. Even if he/ she cannot eat, you can still encourage him/ her to drink nourishing fluids. Amount may vary according to doctor's recommendations.
- ♥ Try not to force your loved one into eating and drinking. Encourage and support without being overwhelming. Be alert to the possibility of depression.
- ♥ Discuss with your loved one about needs and concerns. Be flexible and supportive, as this will help your loved one feel in control of the situation.



CHEMOTHERAPY AND YOU

Understanding Cancer And Chemotherapy

Knowing about cancer and what chemotherapy does to fight cancer may make you feel less anxious about starting treatment.

WHAT IS CANCER?

Cancer cells are normal body cells that have changed to become abnormal. The abnormal cells grow and divide uncontrollably to become a lump or cancer. Sometimes, they even spread to other parts of the body. The cause for these cells becoming abnormal are not known for all types of cancer.

HOW CHEMOTHERAPY WORKS

Chemotherapy kills cancer cells. Chemotherapy can be in the form of a single drug or a combination of drugs. Chemotherapy may be used alone or along with surgery and/or radiation therapy to shrink a tumour.

THE GOALS OF CHEMOTHERAPY

By reducing the number of cancer cells, chemotherapy may:

- ♥ Cure cancer.
- ♥ Control cancer by making the tumour smaller or stop it from spreading.
- ♥ Reduce symptoms (such as pain) when it is not possible to completely control the cancer.
- ♥ Kill any cancer cells remaining after surgery.

THE TREATMENT CYCLE

Chemotherapy is given in cycles. First, you have a treatment. Then, there is a resting time for the body's normal cells to grow before the next treatment. During this resting time, certain blood cells may temporarily decrease in number. Your doctor, nurse or pharmacist will help you learn what to expect during this period.

YOUR TREATMENT PLAN

You are unique. This means that your health, the cancer you have, and many other factors determine:

- ♥ The type of drugs used.
- ♥ The treatment cycle and duration.
- ♥ How the medications are given.

How Chemotherapy Is Given

Chemotherapy can be administered in different ways, including oral routes or by injection. Your doctor will decide on the treatment plan that best suits you. Chemotherapy is most often given by Intravenous (IV) infusion (through a tube placed in a vein).

YOUR INTRAVENOUS TREATMENT

Depending on the types and number of drugs, the length of your Intravenous (IV) treatment may range from minutes, hours to days.

Before the IV infusion, a nurse will help you to locate a good vein and place a small cannula (a small tube) into the vein to allow the drug(s) to be infused into your body. The drug(s) will be absorbed into your blood and carried around your body to the cancer cells.



THE MOST COMMON TYPES OF IV TREATMENT

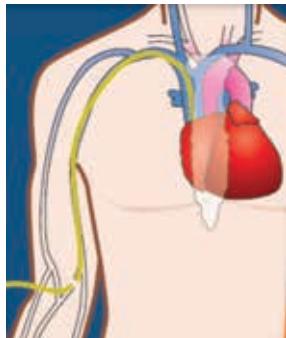
- ♥ **Short infusion** may last a few minutes (bolus injection) to 2 hours. This type of infusion is often given in an outpatient setting.
- ♥ **Long infusion** may last up to 8 hours or more. Some infusions require close monitoring and may need the patient to be admitted to the hospital.
- ♥ **Continuous infusion** may last for days or weeks. The drugs are delivered by a portable pump that can be worn at home. This allows you to receive chemotherapy and continue normal activities at the same time.

CANNULATION

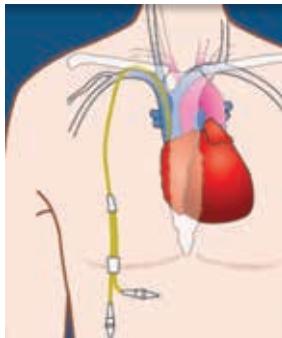
You may require a cannulation where a cannula (short fine plastic tube) will be inserted into your vein. You may feel coolness in the arm when the IV infusion has started. The IV cannula is removed after each treatment.

Occasionally you may not experience a smooth cannulation depending on the condition of your veins. Under such circumstances a repeated cannulation may be expected. Your nurse will discuss with you and your doctor if your veins are not too good for frequent cannulation. Central Vascular Access Devices (CVADs) may be proposed to overcome the repeated cannulation.

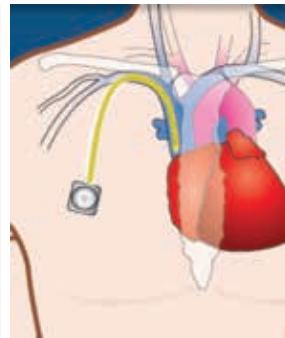
CENTRAL VENOUS CATHETERS



PICC: Peripherally inserted central catheter is a catheter placed on the upper forearm area.



CVC: Central venous catheter is a catheter placed on the chest area.



Implanted Port: a titanium device inserted subcutaneously on the chest and connected to a catheter.

To facilitate safe administration of the chemotherapy, a CVAD is strongly encouraged for patient with poor venous access. The benefits of having a central catheter are:

- ♥ Allow frequent drawing of blood sample for laboratory tests.
- ♥ Limit repeated needle pricks.
- ♥ Allow for administration of intravenous medications, blood and blood products and nutrients.
- ♥ Reduce the risk of extravasation (leakage of the drug out of the vein into the surrounding tissues). Extravasation can result in swelling, redness, burning sensation, pain, blister formation or breakdown of skin at/around the injection site, especially with vesicant drugs. Vesicant drugs refer to cytotoxic drugs that have potential to cause tissue damage. Some of the reasons for extravasation could be associated with small, fine and fragile veins and the irritability of the drugs to the veins.

Cytotoxic Extravasation Information and Management

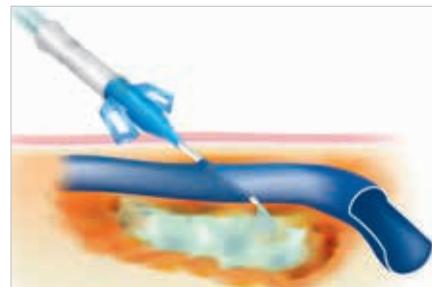
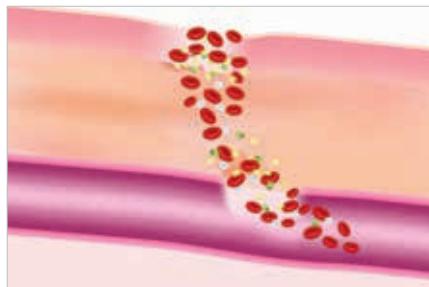
GENERAL INFORMATION

- ♥ Cytotoxic drug extravasation is an unintentional leakage of the chemotherapy drug into the tissues surrounding the injection site.
- ♥ Some of the reasons for the leakage of the chemotherapy drug are:
 - Small, fine, fragile veins
 - Irritability of the drugs to the veins
 - Excessive movements of hand during chemotherapy infusion
 - Migration of central vascular access devices (e.g. peripherally inserted central catheter, central venous catheter, implantable port).
- ♥ Leakage of the chemotherapy drug can result in swelling, redness, burning sensation, pain, blister formation, or breakdown of skin at/ around the injection site.

PREVENTING CYTOTOXIC DRUG EXTRAVASATION

Take the following precautionary measures to prevent the incidence of cytotoxic drug extravasation:

- Speak to your doctor/ attending nurse to understand your risks of having an extravasation
- Refrain from excessive hand movements during chemotherapy infusion
- Monitor your injection site. Inform your nurse immediately if you experience any pain, tightness, burning/ tingling sensation over the infusion site during your chemotherapy treatment
- Call a nurse for assistance to the toilet to minimize excessive movement and prevent any bend to the cannula.



POST EXTRAVASATION ADVICE

The following advice will be based on the type of drug extravasated:

- ♥ Apply cold compress for 15-20 minutes, 4 times a day for 3 days
- ♥ Apply warm compress for 15-20 minutes, 4 times a day for 3 days
- ♥ Apply topical cream as prescribed after each cold or warm compress
- ♥ Apply light dressing as advised by the nurse
- ♥ Elevate affected arm/ leg (e.g. on a pillow) to reduce the swelling.
- ♥ Take oral analgesics as prescribed for pain
- ♥ Observe for the following signs and symptoms:
 - Pain, tightness, burning sensation, or any changes in hand sensation at the ex-injection site
 - Redness or swelling at the ex-injection site
 - Blister formation, skin breakdown or areas of colour changes anywhere on the skin
 - Difficulty in the movement of your hand, wrist, elbow, shoulder or leg at the ex-injection site.

WHEN TO SEEK HELP

Please contact the nurse at the Telephone Triage Service during operating hours if you experience the signs and symptoms stated.



‘ You have to fight through some bad days to earn the best days of your life!

Ms Kate Wong,
75-year-old survivor

MANAGING SIDE EFFECTS

Chemotherapy can cause side effects in different parts of your body. Side effects occur because chemotherapy also kills normal cells but these cells will regrow. So the side effects are temporary.

The normal cells most affected are those which make up the blood, hair resulting in hair loss, and the digestive tract leading to mouth ulcers or diarrhoea. Other cells like nerves are also affected, giving rise to tingling sensation in fingers or toes.

Not every patient will experience the same side effects. If you do have side effects, try not to be discouraged. Your doctor, nurse or pharmacist will educate you on the side effects you may have. They will also tell you ways that can make you feel better.

COMMON SIDE EFFECTS THAT YOU MAY HAVE

Tick the appropriate side effect (s)

- | | |
|---|---|
| <input type="checkbox"/> Alopecia (Hair Loss) | <input type="checkbox"/> Fatigue |
| <input type="checkbox"/> Anaemia | <input type="checkbox"/> Infection |
| <input type="checkbox"/> Arthralgia and Myalgia
(Joint and Muscle Aches) | <input type="checkbox"/> Kidney and Bladder Effects |
| <input type="checkbox"/> Bleeding | <input type="checkbox"/> Mucositis (Sore Mouth) |
| <input type="checkbox"/> Constipation | <input type="checkbox"/> Nausea and Vomiting |
| <input type="checkbox"/> Diarrhoea | <input type="checkbox"/> Numbness/Tingling Sensation
in Hands and Feet |
| <input type="checkbox"/> Effects on Skin and Nail Changes | |



Here are
SOME TIPS
that might
help you
feel better.

Alopecia (Hair Loss)

WHAT IS ALOPECIA?

Alopecia or Hair Loss occurs with certain chemotherapy and it usually begins 10 to 21 days after the drugs are given. Some drugs may cause total hair loss within one to two months. Hair on the head is often lost first, but hair over the entire body can also be lost.

Hair may begin to regrow during chemotherapy but it will be slow. Full regrowth happens when chemotherapy is completed.

HOW DOES HAIR LOSS AFFECT YOU?

Hair loss may change the way you feel about yourself but always remember that hair loss is a temporary side effect of chemotherapy.

It is common and perfectly normal to feel angry or depressed about this loss. Talking about your feelings can help. If your feelings are stopping you from daily routine, share them with your doctor or nurse.

HOW TO MANAGE HAIR LOSS?

- ♥ It may not be possible to stop hair loss. So, it is important to think about getting a wig and/ or head covering before your treatment. This is because enough hair will allow a good match of colour and style when fitting a wig.
- ♥ Some people who lose all or most of their hair choose to wear caps, scarves, wigs or turbans. Others leave their head uncovered. Choose whatever makes you feel comfortable.
- ♥ Have your hair cut short. A shorter style will make your hair look thicker and fuller. It will also make hair loss easier to manage when it occurs.
- ♥ Exposed scalp can be sensitive to the effects of sun and temperature and must be protected. Use sunscreen when exposed to sunshine.
- ♥ Use mild shampoo and soft hair brushes.
- ♥ Use low heat when drying your hair.
- ♥ Do not use brush rollers to set your hair.
- ♥ Avoid the use of hair dye when you are on active treatment.

RESOURCE

You may wish to obtain your hair wigs from commercial hair wigs shops. Alternatively, you can contact NCCS's Wig Bank managed by Cancer Helpline at 6225 5655 to fix an appointment for wig fitting and styling and loan of the wigs.

You may want to participate in the 'Look Good, Feel Better' classes for people who have hair loss during cancer treatment. Ask your doctor or nurse about these classes.

Anaemia

WHAT IS ANAEMIA?

Anaemia occurs when chemotherapy reduces the number of red blood cells that carry oxygen to all parts of the body. When there are too few red cells, body tissues don't get enough oxygen to do their work. This condition is called anaemia.

WHAT ARE THE SIGNS AND SYMPTOMS OF ANAEMIA?

Usually when anaemia is mild, there is no or little symptom. When the anaemia is severe, you may feel tired. Other symptoms include dizziness and shortness of breath. If you have any of these, inform your doctor.

HOW TO MANAGE IF YOU FEEL TIRED OR WEAK?

- ♥ Conserve your energy; Choose the most important things to do each day.
- ♥ Ask for help; When family or friends offer to help, let them. They can take you to the doctor, buy groceries, or make meals.
- ♥ Balance rest with activity by taking short naps during the day. Take short naps of less than 1 hour are best during the day.
- ♥ Sleep at least 8 hours every night.
- ♥ You may feel better if you take short walks or do gentle exercise.
- ♥ Eat and drink well.

Talk with your doctor or nurse to learn what food and drinks are best for you. You may need to:

- ♥ Take high-protein food such as meat, tofu, beans and eggs.
- ♥ Take food rich in iron such as red meat, sardines, tuna and leafy greens (such as spinach and "Kai Lan").
- ♥ Drink at least 8 cups of liquid every day unless as advised otherwise by doctor.



WHEN TO SEEK HELP?

Call **6436 8088** to make an appointment to see a doctor if you feel:

- ♥ Dizzy or faint.
- ♥ Short of breath.
- ♥ Very weak and tired.
- ♥ Your heart is beating very fast.

Arthralgia And Myalgia (Joint Pain And Muscle Ache)

WHAT ARE ARTHRALGIA & MYALGIA?

Arthralgia and Myalgia are side effects whereby you may experience aching pain in your joints and muscles. This discomfort occurs in the large joints such as the hips, knees, or shoulders and can range from a mild ache to severe pain.

Pain in the large joints of the arms and legs can occur any time from 48 to 72 hours after you received chemotherapy. This side effect may not occur with every treatment; you may experience pain during one treatment and not feel aches after the next treatment.

HOW TO MANAGE JOINT PAIN AND MUSCLE ACHE?

- ♥ Take the medication prescribed by your doctor.
- ♥ Get plenty of rest and plan your activities to include rest periods.
- ♥ A heating pad may help give comfort to the aching area. Cover the pad or bottle with a towel when putting it next to your skin. Use for short periods, 5-10 minutes for 4 to 5 times per day.
- ♥ Maintain your nutrition by eating healthy, regular meals.

- ♥ Relaxation techniques, such as guided imagery and meditation may be helpful.
- ♥ Taking a warm bath is comforting.
- ♥ Massage therapy to the affected areas may help.

If you need additional information on trying out these measures, you can ask your doctor or nurse.



WHEN TO INFORM THE DOCTOR OR NURSE?

If at any time you are uncomfortable and the discomfort does not go away despite taking medication, please call **6436 8088** to make an appointment to see a doctor.

Bleeding

WHAT IS BLEEDING?

Bleeding occurs when blood escapes from a blood vessel. Bleeding can happen anywhere in the body. It can happen as an open cut, nosebleed, or bleeding piles, or it may occur inside the body like the stomach, lung, brain, or bladder.

Slow bleeding can have little effect or can make you tired, weak and short of breath. Sudden bleeding can cause severe weakness, dizziness, and pain.

WHEN DOES BLEEDING OCCUR?

Chemotherapy can affect the bone marrow's ability to make platelets. Platelets are blood cells that help stop bleeding by making your blood clot. If your blood does not have enough platelets, you may bleed or bruise more easily than usual, even from a minor injury.

HOW CAN YOU PREVENT BLEEDING FROM HAPPENING?

- ♥ Do not take any medicine without first checking with your doctor or nurse. This includes aspirin or aspirin-free pain relievers and Chinese herbs.
- ♥ Do not drink any alcoholic beverages unless approved by your doctor.
- ♥ Shave using an electric razor.
- ♥ Trim and cut nails.
- ♥ Use skin lotion to prevent dryness and breaks in skin.

- ♥ Use soft bristle toothbrush to clean your teeth. You may want to stop flossing your teeth temporarily if you have tendency to bleed.
- ♥ Blow your nose gently. Do not use fingers to dig your nostrils.
- ♥ Handle sharp objects (scissors, needles, knives or tools) with care so as to avoid accidental cuts.
- ♥ 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.
- ♥ Wear heavy duty gloves when digging in the garden or working near plants with thorns.

WHAT ARE THE SIGNS AND SYMPTOMS OF BLEEDING?

Skin	<ul style="list-style-type: none"> • A fine red rash that looks like pinpoint dots, usually appearing on the feet and legs • Increased bruising
Digestive System	<ul style="list-style-type: none"> • Blood in vomitus • Blood in stools • Black tarry stools
Eyes	<ul style="list-style-type: none"> • Bleeding into the whites of the eyes • Inability to see normally
Urination / Genitals	<ul style="list-style-type: none"> • Blood in urine • Pain or burning on urination • Increased cramping frequency • Unusually heavy vaginal bleeding (or any bleeding if you are past menopause)
Mouth and Nose	<ul style="list-style-type: none"> • Blood blisters • Blood oozing from gums • Blood-tinged saliva • Bleeding mouth sores • Nosebleeds
Others	<ul style="list-style-type: none"> • Severe headaches, dizziness, increased weakness, difficulty waking up, pain in joints and muscles.



WHEN TO SEEK HELP?

Call **6436 8088** to make an appointment to see a doctor if you have any signs and symptoms of bleeding.

Constipation

WHAT IS CONSTIPATION?

Constipation means being unable to move your bowels, having to push harder to move your bowels, or moving them less often than usual. Faeces will be small, dry and hard.

WHEN DOES CONSTIPATION HAPPEN?

Constipation happens when you get less exercise, or when you eat and drink less than usual. Some medicines also cause constipation.

HOW DOES CONSTIPATION AFFECT YOU?

Constipation can cause pain and discomfort. Maintaining good bowel habits and routines are important. Your bowels should move every day with little or no strain.

HOW CAN CONSTIPATION BE PREVENTED?

- ♥ Drink at least 6 to 8 glasses of fluid each day unless advised otherwise by doctor.
- ♥ Eat a lot of high-fibre food, especially whole wheat breads and cereals, cooked vegetables, fresh and dried fruits, and nuts, unless advised otherwise by doctor.
- ♥ Exercise daily. If you are unable to increase your exercise, tighten and relax the muscles in your abdomen and move your legs often while sitting or resting in bed.
- ♥ Maintain good bowel habit. Many people find that after breakfast is a good time to try to have a bowel movement.

WHEN TO SEEK HELP?



Call **6436 8088** to get an appointment to see a doctor if:

You do not have bowel movement for more than two days. You may need to take a laxative or stool softener or use an enema, but do not use these remedies unless you have asked your doctor.

Diarrhoea

WHAT IS DIARRHOEA?

Diarrhoea is defined as more than 2 times of loose or watery stools per day. It can be caused by your cancer treatments. Diarrhoea may be worse if you are also receiving radiation treatment over your abdomen.

HOW CAN DIARRHOEA BE CONTROLLED?

If you have diarrhoea:

- ♥ Drink plenty of fluids to replace those you have lost through diarrhoea. Mild clear liquids such as water, clear soup, rice water or isotonic water are best. Drink them slowly, and make sure they are at room temperature.
- ♥ Eat small frequent meals.
- ♥ Eat low-fibre foods instead. Low-fibre foods include white bread, white rice or noodles, ripe bananas, canned or cooked fruit without skins, yogurt, eggs, mashed or baked potatoes without the skin, pureed vegetables, chicken without skin and fish.
- ♥ Avoid high-fibre foods, which can lead to diarrhoea and cramping. High-fibre foods include whole-grain breads and cereals, raw vegetables, beans, nuts, seeds and fresh and dried fruit.
- ♥ Avoid coffee, tea, alcohol and sweets. Stay away from fried or greasy food. They can irritate the stomach and can cause diarrhoea and cramping.
- ♥ Avoid milk and milk products if they make your diarrhoea worse.



WHEN TO SEEK HELP?

Call **6436 8088** to make an appointment to see a doctor if you:

- ♥ Have diarrhoea that is uncontrolled and/ or does not stop even when you take anti-diarrhoea medication.
- ♥ Develop a temperature of 38°C or higher.
- ♥ Have bloody stools.
- ♥ Are not able to retain liquids.
- ♥ Notice your urine becoming dark in colour.
- ♥ Become dizzy.

Effects On Skin And Nails

WHAT EFFECT DOES CHEMOTHERAPY HAVE ON YOUR SKIN AND NAILS?

Minor skin problems may occur while you are receiving chemotherapy. Possible side effects include redness, itching, peeling, dryness and acne. Your nails may become brittle or cracked or develop vertical lines or bands.

HOW DO YOU TAKE CARE OF THESE PROBLEMS?

- ♥ Protect your nails by wearing gloves when washing dishes, gardening or performing other work around the house.
- ♥ Exposure to the sun may increase the effects some chemotherapy drugs have on your skin. Check with your doctor or nurse about using a sunscreen lotion with at least SPF 15 to protect against the sun's effects.
- ♥ Sometimes there is darkening of the skin along the vein. Some people wear long sleeve shirts or use make-up to camouflage the area. The darkened areas will usually fade on their own a few months after treatment ends.
- ♥ Avoid dryness by taking quick showers or sponge baths rather than long, hot baths. Apply moisturising cream and lotion while your skin is still moist and avoid perfume, cologne or aftershave lotion that contains alcohol.
- ♥ If your skin itches, inform your doctor for a prescription.
- ♥ If you develop acne, try to keep your face clean and dry by using mild medicated creams or soaps.



WHEN TO SEEK HELP?

Call **6436 8088** to make an appointment to see a doctor if you have the following signs and symptoms:

- ♥ sudden or severe itching, your skin breaks out in a rash or hives.
- ♥ wheezing or any other trouble breathing.

These symptoms may mean you are having an allergic reaction that may need to be treated immediately.

Fatigue

WHAT IS FATIGUE?

Fatigue refers to a condition of being very tired. It can be subjective and could be contributed by the cancer itself, chemotherapy, emotional stress (worried or depressed), insufficient sleep, nutrition deficit and/ or anaemia.

Fatigue can be differentiated into short-term (acute) and long-term (chronic). Acute fatigue is tiredness that can be relieved by rest. Chronic fatigue is a continuous feeling of tiredness not relieved by rest.

WHAT ARE THE SIGNS AND SYMPTOMS OF FATIGUE?

People who are fatigued have sensations such as weakness, dizziness, difficulty concentrating and tiredness. People sometimes think they are just being lazy or depressed.

HOW TO MANAGE FATIGUE?

- ♥ Go to bed at a regular time. Do things that relax you before bedtime so that you can sleep better. You might try taking a bath or reading. Take short naps during the day.
- ♥ Do low intensity exercise such as walking daily when you have the energy. Take a short walk with a relative or friend. Rest when energy is low.
- ♥ Take well-balanced meals and drink sufficient water. This helps produce energy and make you feel less tired.
- ♥ Do your work when you tend to have the most energy. Finish only what you can. Delegate the rest to others.
- ♥ Don't be afraid to get help when you need it. Ask your family and friends to help with things like cooking, shopping, housework, driving and child care.

WHAT IS INFECTION?

Risk for infection due to cancer or side effects of chemotherapy is common. The body protects itself by using white blood cells to destroy germs after they enter the body. When the number of white blood cells is lowered from chemotherapy, you become more prone to infection. If signs of infection are ignored, you can become very ill.

HOW CAN YOU PREVENT YOURSELF FROM GETTING INFECTION?

- ♥ Keep your body clean by bathing daily.
- ♥ Keep your mouth clean by brushing your teeth twice daily and flossing once daily.
- ♥ Be sure to wash your hands before you eat and after you use the toilet to remove germs as personal hygiene is important.
- ♥ Avoid large crowds. Stay away from people with signs of infection, infection such as colds or flu or anyone feeling unwell.
- ♥ Avoid people who have recently received immunisations, such as vaccines for polio, measles, mumps and rubella (German measles).
- ♥ Avoid uncooked foods.
- ♥ Avoid constipation and straining. You can have a smooth bowel movement by using medication that soften the stool. Do not use laxatives or enemas unless approved by your doctor.
- ♥ Remove fresh flowers and live plants from the rooms where you stay.
- ♥ Do not change cat litter or clean up excreta from animals.
- ♥ Monitor your temperature when you feel unwell.

WHAT ARE THE SIGNS AND SYMPTOMS OF INFECTION?

- ♥ Fever 38°C or higher.
- ♥ Chills and rigor.
- ♥ Sore mouth or white coating in the mouth or tongue.
- ♥ Cough with or without sputum production.
- ♥ Pain or burning sensation during urination or cloudy urine.

- ♥ Any body area with redness or swelling.
- ♥ Swelling, redness, pain, itch or discharge from the catheter site.
- ♥ Difficulty breathing or painful breathing.
- ♥ Persistent vomiting or diarrhoea.
- ♥ Vomiting blood, blood-stained vomitus or dark brownish fluid.
- ♥ Bleeding that does not stop after applying pressure.
- ♥ Severe abdominal discomfort or cramps.
- ♥ Very little or no urine at all for 12 hours or more.
- ♥ An overall feeling of being sick, even if you don't have a fever or any other signs of infection.
- ♥ Any other abnormal and/ or prolonged symptoms, which cause concern.



WHEN TO SEEK HELP?

Call **6436 8088** to make an appointment to see a doctor if you experience any of the above signs and symptoms.

Be prepared to give the doctor the following information:

- ♥ When was the last treatment.
- ♥ Highest temperature in the last 24 hours.
- ♥ Any chills.
- ♥ Any symptoms of infection.
- ♥ Any medications taken.
- ♥ Any contact with sick person.

Kidney And Bladder Effects

WHAT EFFECT DOES CHEMOTHERAPY HAVE ON THE KIDNEYS AND BLADDER?

Some chemotherapy may irritate the bladder or may cause temporary or permanent damage to the kidneys.

HOW TO PREVENT KIDNEYS AND BLADDER EFFECTS?

Drink at least 8 glasses of fluid to ensure good urine flow and help prevent problems; this is especially important if your drugs are among those that affect the kidneys and bladder.



WHEN TO SEEK HELP?

Call **6436 8088** to make an appointment to see a doctor if you have any of these signs and symptoms:

- ♥ Little urine output even though you are drinking plenty of fluids.
- ♥ Pain or burning sensation when you urinate.
- ♥ A feeling that you must urinate immediately ("urgency").
- ♥ Reddish or bloody urine.
- ♥ Fever.
- ♥ Chills.

Mucositis (Sore Mouth)

WHAT IS MUCOSITIS?

Mucositis or Sore Mouth is the painful inflammation and ulceration of the mucous membranes lining the digestive tract, usually as an adverse effect of chemotherapy and radiation therapy (RT).

HOW TO MANAGE A SORE MOUTH?

- ♥ Examine your oral cavity at least once daily for ulcers and redness or patches.

- ♥ Keep your mouth clean and moist at all times.
 - Brush your teeth after each meal. Always use a soft toothbrush.
 - Clean your teeth even though your mouth is sore. If it hurts to use a soft brush, use an oral swab which is a cleaning stick with a soft sponge tip.
 - Hold the swab with the grooves at a 90-degree angle to the gum line so that the sponge can reach in between the teeth.
 - Do not floss your teeth when there is pain or bleeding.
 - Keep your dentures in only during meals.
 - Do not rinse or gargle with mouthwash that contains alcohol. Ask your doctor, nurse or pharmacist about a mild mouthwash that you can use to prevent mouth sores.
 - Rinse your mouth with salt solution (half teaspoon to 250mls of water) every 2 hours for 1 to 2 minutes. If your mouth is very sore, you can rinse every hour.
 - Keep your lips and the inside of your mouth coated with a water-based mouth moisturiser.
 - If your mouth is very dry, drink water and other fluids frequently throughout the day unless advised otherwise by doctor. Chew sugarless gum or suck sugarless hard candy to moisten your mouth. Artificial saliva is also available; apply frequently.

WHAT TO AVOID THAT MAY BE IRRITATING?

- ♥ Chewing tobacco or smoking cigarettes, cigars or pipes.
- ♥ Alcoholic beverages (beer, wine or liquor).
- ♥ Mouthwashes that contain more than 6% alcohol.
- ♥ Food and drinks that are hot, spicy or sour.



WHEN TO SEEK HELP?

Call **6436 8088** to make an appointment to see a doctor if you have:

- ♥ Redness or extreme dryness of mouth.
- ♥ Soreness or pain.
- ♥ Cracks, ulcers, blisters, white patches.
- ♥ Temperature 38°C or higher.
- ♥ Bleeding from your mouth.
- ♥ Difficulty swallowing.

Nausea And Vomiting

WHAT IS NAUSEA?

Nausea (feeling sick in your stomach) and/ or vomiting (throwing up) may happen from your chemotherapy. Nausea and vomiting, if they happen, are usually worst on the day of your treatment. Sometimes nausea and vomiting can last for three or more days after chemotherapy.

HOW DOES NAUSEA AND VOMITING AFFECT YOU?

Nausea and vomiting may be mild or severe.

If you vomit a lot, you can get dehydrated and have other problems from losing body salts. If you are vomiting and cannot drink fluids, it may affect your kidneys or bladder.

HOW CAN YOU PREVENT NAUSEA AND VOMITING?

- ♥ Do take your anti-vomiting medications regularly as prescribed. These medications help to control nausea and vomiting.
- ♥ Take the medication(s) as your doctor has ordered. If you have vomiting and cannot take them or it did help to lessen your nausea and vomiting but, not as much as you would like, do call the nurse at the Telephone Triage Service.
 - Eat small frequent meals throughout the day.
 - Eat and drink slowly.
 - Have someone else cook for you.

HOW TO MANAGE NAUSEA AND VOMITING?

Besides taking anti-vomiting medications, you can try some of these helpful hints:

- ♥ Try eating food and drinking beverages that were easy for you to take or have made you feel better when you had the flu, morning sickness, or were nauseous from stress. These can be dry crackers, sour candy and bland food such as porridge and noodle soup.
- ♥ Eat food that are at room temperature or cold. The smells from hot food may make your nausea worse.

- ♥ Avoid your favourite food, fatty or fried food, spicy food, or very sweet food when you feel nauseous.
- ♥ Avoid eating for at least a few hours before treatment if nausea occurs during chemotherapy.
- ♥ If possible, have somebody else make the meals when you are nauseated.
- ♥ Adopt some relaxation technique to help you to be in more control of yourself and lower your anxiety level.
- ♥ Give a good mouth wash after you have vomited.



WHEN TO SEEK HELP?

Call **6436 8088** to make an appointment to see a doctor if you:

- ♥ Have nausea that lasts for more than 2 days, or if nausea keeps you from doing things that are important to you.
- ♥ Have nausea and vomiting that are not controlled by the anti-vomiting medications.
- ♥ Have vomited more than once or twice a day for two days.
- ♥ Cannot keep any liquids (water, soup, juices) or food down.
- ♥ Are vomiting and you lose more than 1 kg in a day (this is from losing water). You will usually feel thirsty and your mouth will seem dry when you are losing a lot of water.
- ♥ Are vomiting many times and your urine is dark yellow and you are not going to the bathroom as often as you normally do.
- ♥ Are vomiting and feel light-headed or dizzy or confused.
- ♥ Have vomitus that looked like coffee ground fluid (this could be blood).

Numbness Or Tingling Sensation (Peripheral Neuropathy)

WHAT IS PERIPHERAL NEUROPATHY?

One of the possible side effects from receiving chemotherapy is damage to the nerves, often presenting in the extremities of your body. This may result in a feeling of “pins and needles” or the feeling that your hands and/ or feet are numb.

The numbness may cause you to have difficulty picking up a coin; buttoning your shirt or blouse. It is important to tell your doctor or nurse if you experience these conditions or when these conditions worsen. Your treatment plan can be evaluated to prevent further nerve damage.

HOW TO MANAGE TINGLING SENSATION OR NUMBNESS?

- ♥ Although it is not possible to prevent early nerve damage, it is possible to prevent it from worsening. The most important thing that you can do is to tell your doctor or nurse immediately if any of the above symptoms occur. It may or may not be serious. Your doctor may order rehabilitation and physical therapy to minimise loss of function.
- ♥ If your fingers become numb, be very careful when grasping objects that are sharp, hot or otherwise dangerous. Use gloves when grasping hot or sharp objects.
- ♥ If your sense of balance or muscle strength is affected, avoid falls by moving carefully, using handrails when going up or down stairs and using bathmats in the bathtub or shower. Do wear non-skid socks/ shoes.



WHEN TO SEEK HELP?

Inform a doctor or nurse if you have the following signs and symptoms:

- ♥ A feeling of “pins or needles” or numbness in your hands and feet.
- ♥ Pain in your hands or feet.
- ♥ Loss of balance, clumsiness and walking problems.
- ♥ Ringing in your ears.
- ♥ Difficulty hearing.
- ♥ Changes in your vision.
- ♥ Difficulty picking up an object or buttoning your shirt or blouse.
- ♥ Any other changes.



FREQUENTLY ASKED QUESTIONS

You may have questions about how chemotherapy could change your life. Here are some answers to common questions, and some of the adjustments you may need to make.

WILL I STILL ABLE TO WORK?

Many people still work during chemotherapy. If you find you have less energy, you may need to talk with your employer about adjusting your work schedule.

- ♥ Do some work at home or reduce the number of hours you work.
- ♥ Plan your treatment cycle on your time off.

SHOULD I EXERCISE?

Ask your doctor about starting an exercise programme. It may help you sleep better and promote a sense of well-being.

- ♥ Exercise when you feel most energetic.
- ♥ Keep the pace moderate. Even small amount of exercise can help. Instead of jogging; you can walk, swim or ride a stationary bicycle.

WILL I BE AFFECTED SEXUALLY?

Chemotherapy can cause sexual changes in both men and women.

- ♥ You may notice changes in your desire to have sex. Hugging and cuddling one another may seem more important now.

For men, certain chemotherapy can cause erectile dysfunction, but it can also be a result of emotional stress caused by the treatment. This is usually temporary.

For women, certain chemotherapy can cause vaginal dryness. This can lead to painful, irritating sexual intercourse. Using water-based lubricant can make it more comfortable. Consult your doctor before using any type of over-the-counter medications.

- ♥ Chemotherapy can cause short-term or permanent infertility. Talk to your doctor if you are planning to have children. Men may want to bank or freeze their sperms. Women may consider cryopreservation by freezing their eggs.

- ♥ Use reliable contraception throughout treatment and beyond as recommended by your doctor. It is not advisable for you or your partner to become pregnant, as the treatment drugs could harm the baby.
- ♥ Chemotherapy can cause irregularities in menstruation cycles or even early menopause. Talk to your doctor/ nurse if you are unsure of the symptoms that you are experiencing.
- ♥ Communication with your partner is important. Letting your partner know of your feelings and concerns over the changes occurring in his/ her body can help maintain relationships.

Eating Right To Feel Better

It is very important to eat well during chemotherapy. The energy from a healthy diet can help you rebuild normal cells. It can also give you strength and help fight infection. You will then feel better and be more able to cope with side effects.

Ask your doctor, nurse and pharmacist about your nutritional needs. Be sure to take in enough calories to maintain your weight and proteins to build and repair skin, hair, muscles and organs.

Also, drink extra amount of fluid to protect your bladder and kidneys during chemotherapy unless otherwise advised by doctor.

FLUIDS

Fluids help the body produce urine and prevent constipation. They help prevent kidney and bladder problems. They also replace fluids lost from vomiting and diarrhoea. Try water, fruit juices and beverages like milo, soya bean milk, barley and chrysanthemum tea.

PROTEIN

Protein builds muscle, bone, skin and blood. It helps your body heal and fight infection. Good choices include chicken, lean meat, eggs, cheese, beans and tofu.

CALORIES

Calories give the body energy. The body uses this energy to perform all its functions, including healing. To get enough calories, eat food such as ice cream, eggs, milk products, honey, cakes and pudding if you can't tolerate your usual diet.

Eating Right During Treatment

Side effects may make it a little harder to eat well on some days. Try these tips to help you eat:

GO EASY ON YOURSELF

- ♥ Have a friend or family member sit with you while you eat.
- ♥ Take your anti-nausea medications as directed.
- ♥ Do what pleases or relaxes you. Listen to soft music while you are eating.
- ♥ Eat some of your favourite food, if that's what you are craving for.

USE A NEW APPROACH

- ♥ Be open to new food and recipes.
- ♥ Eat small portion often and slowly. Have a healthy snack instead of a meal if you are not very hungry.
- ♥ Try eating in a new place.
- ♥ Take a walk before eating.

LET OTHERS HELP

- ♥ Let friends and family cook for you.
- ♥ If you live alone and are not up to cooking, cater your food.

Support From Others

When you first knew you had cancer, you might have felt fearful, angry or depressed. These are normal reactions but you may not want to share them immediately. Now that you are having chemotherapy, you may have new concerns in addition to the ones that you are already feeling.

You may or may not want to talk about your feelings. And if you do want to talk, these are some people who can listen and give you support.

DOCTORS, NURSES AND PHARMACISTS

If you have questions or worries about your chemotherapy, talk with your doctors, nurses or pharmacists.



COUNSELLING PROFESSIONALS

There are counsellors who would listen, understand and help you cope with your feelings caused by having cancer and chemotherapy. You can ask your doctor to refer you to a psychiatrist, psychologist, or social worker. You may also talk with someone from your religious institution.

FRIENDS AND FAMILY MEMBERS

Talking with friends or family members can help you feel better. But many people do not understand cancer and here are some tips about how you can talk with them:

- ♥ **Be Open and Honest:** People will be more willing to help if they are aware of what you are going through. Talk openly and honestly about your condition, the treatment and how you are feeling. If people offer to help, talk about how they can help you.
- ♥ **Ease Their Discomfort:** People may be afraid to say or do something wrong. Tell them that showing their care and concern is helpful. Let them know that there may be no perfect thing to say.
- ♥ **Expect Different Reactions:** People will respond in different ways. Some may seem angry. Others may refuse to hear any more. Others may seem too attentive. Understand that each of them means well. People often don't know what to say to someone with a serious illness.

SUPPORT GROUPS

Support groups are made up of people who are going through the same kind of experiences as you. Many people with cancer feel comfortable sharing their thoughts and feelings with someone who faces the same condition. Support groups can also show you how to live with cancer. Ask your doctors and nurses about joining a support group.

You can contact the Patient Support at 6436 8668 or patientsupport@nccs.com.sg for more information.

TIPS FOR FAMILY AND FRIENDS

- ♥ Don't pressure the person to talk. Just let the person know that you are willing to listen.
- ♥ You or the person who has cancer may be feeling angry. This is a normal reaction. Be understanding and do not take the anger personally.
- ♥ Don't make empty statements like "Don't worry. Everything will be fine." Instead, offer practical help like doing housework, errands and driving the person for hospital appointments.

LOOKING TO SOURCES OF HELP

You are not facing chemotherapy alone. Seek the help of loved ones, support groups, and counselling if you need it. To better understand your treatment, make a list of questions to ask your doctors and nurses. You also can use the resources below for more information.



RESOURCES

To learn more, call these numbers or email them:

CancerHelpline, National Cancer Centre Singapore

Tel : 6225 5655 • Email : cancerhelpline@nccs.com.sg

Singapore Cancer Society

Tel : 6436 8420

Breast Cancer Foundation

Tel : 6352 6560 • Email : enquiries@bcf.org.sg

Hospice Care Association

Tel : 6251 2561 • Email : hospice@mbox2.singnet.com.sg

The NCCS hopes that Your Guide to Chemotherapy will help you and your family better understand chemotherapy.

Discuss the information in this folder with your doctor, nurse and pharmacist and take good care of yourself during your chemotherapy.

By working together, you, your family and your health care providers will make the strongest team in your fight against cancer. We wish you success.



QUICK REFERENCE

WHEN TO SEE THE DOCTOR

See the doctor immediately if you have:

- ♥ Any signs of infection, including temperature of 38°C or higher, chills, sweating, redness, swelling and pain around a wound.
- ♥ Any symptoms of extreme dizziness and shortness of breath.
- ♥ Bleeding that won't stop.
- ♥ Sore throat with difficulty drinking.
- ♥ Vomiting or diarrhoea that won't stop.
- ♥ Chest pain or difficulty in breathing.

NCCS AMBULATORY TREATMENT UNIT (ATU)	NCCS ONCOLOGY @ CGH	NCCS ONCOLOGY @ SKH
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Operating Hours
Mon-Fri : 0800 – 1900hrs
Sat : 0800 – 1300hrs

Operating Hours
Mon-Fri : 0830 – 1700hrs

Operating Hours
Mon-Fri : 0830 – 1700hrs

During Operating Hours

Telephone Service for Chemotherapy Side Effects Management

Mon-Fri : 0830 - 1300hrs
1400 - 1700hrs

Mon-Fri : 0830 – 1700hrs

Mon-Fri : 0830 – 1700hrs

Tel : 6436 8132

Tel : 6426 7349

Tel : 6930 2539

Chemotherapy Review Clinic

Clinic "C" (Level 2)
Mon-Fri : 1000 - 1300 hrs
Tel : 6436 8088
(To make an appointment)

Nil

Nil

After Operating Hours

Singapore General Hospital
Department of Emergency Medicine

Changi General Hospital
Accident and Emergency Department

Sengkang General Hospital
Emergency Department

MY PERSONAL NOTES & QUESTIONS

DATE

NOTES / QUESTIONS

MY PERSONAL NOTES & QUESTIONS

DATE

NOTES / QUESTIONS

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Facebook: www.facebook.com/NationalCancerCentreSingapore

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