



INTRODUCTION TO
Chemotherapy

CHEMOTHERAPY EDUCATION



MARY BIRD PERKINS
CANCER CENTER™

WELCOME

As you begin treatment, we understand that you may have many questions. Because our focus is on treating cancer, you can count on us to be there for you every step of the way. We are committed to providing you with the very best care and on-going education in a comfortable and convenient setting. If you have any questions, please contact a member of your Cancer Center care team. We are here to improve survivorship and lessen the burden of cancer for every patient, and that begins with ensuring we meet your every need and expectation.



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KNOW YOUR SYMPTOMS, KNOW WHERE TO GO

Your Cancer Care Team is ready to help you to keep your symptoms under control, keep you safe, and help you avoid unnecessary hospital visits. If you are not feeling well, please use this guide to help you notice your symptoms so that you know where to go for your health care. A symptom is a sign or warning.



THINGS YOU CAN DO TO KEEP YOUR SYMPTOMS UNDER CONTROL

- Continue to keep your health care provider appointments
- Talk to your Cancer Care Team for help and support
- Continue to take your daily medication
- Continue your daily exercise program
- Eat a healthy, well-balanced diet
- Drink plenty of fluids to stay hydrated



CALL YOUR DOCTOR NOW

PHYSICIAN'S NAME _____ **PHONE #** _____

- Temperature of 100.4 or higher (fever)
- Signs of infection: chills, redness, swelling, redness, pain on swallowing, coughing up mucous, or painful urination
- Nausea that interferes with eating and if medicine is not helping you relieve your nausea
- Vomiting (4 times in a 24-hour period and if medicine is not helping you relieve vomiting)
- Diarrhea (4 times in 24-hour period and if medicine is not helping to relieve your diarrhea)
- Constipation (not being able to pass stool for more than 3 days)
- New or uncontrollable pain
- Unusual bleeding or bruising
- Black or tarry stools. Blood in your stools or urine.
- Extreme fatigue (unable to carry on self-care activities)
- Mouth sores
- Yellowing of skin or eyes
- If you are feeling lightheaded
- Any questions or concerns about your treatment or diagnosis



CALL 9-1-1 OR GO TO THE EMERGENCY ROOM NOW

- If you are feeling short of breath or having a hard time breathing, closing up of throat, swelling in face
- If you are having chest pain or pressure, difficulty breathing or shortness of breath
- If you are bleeding and it does not stop
- If you begin to feel confused or disoriented

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WHAT IS CANCER?

Cancer is a group of many related diseases that begin in cells. The body is made up of many types of cells, which normally grow and divide only when the body needs them. At times, cells keep dividing when new cells are not needed, causing a mass of tissue, called a tumor.

WHAT IS CHEMOTHERAPY?

Chemotherapy is the use of medications to destroy cancer cells. Chemotherapy works by stopping or slowing the growth of cancer cells. At times, chemotherapy can also destroy healthy cells, especially those cells in the mouth and intestines, which can cause side effects.

Chemotherapy can cure cancer, control cancer, or ease cancer symptoms. It can be used alone or with surgery, radiation and /or immunotherapy. Radiation is the use of high-energy radiation to kill cancer cells and shrink tumors.

Immunotherapy is treatment that can modify the immune system to fight cancer.

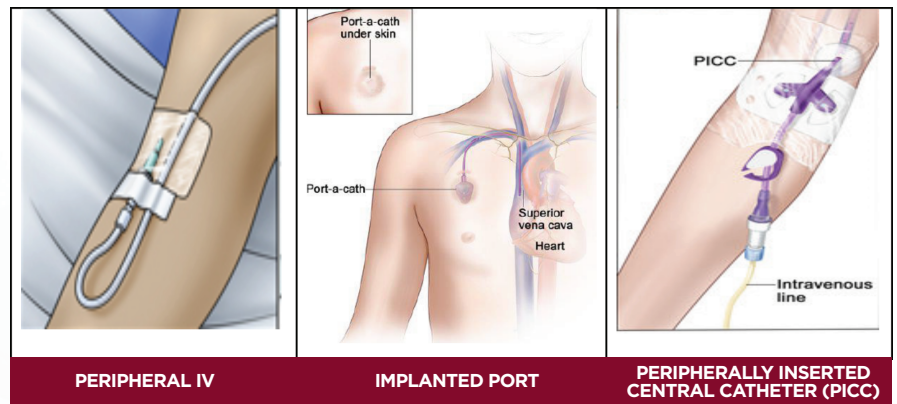


HOW IS CHEMOTHERAPY GIVEN?

- By needle injection (a shot given in a muscle or right under the skin)
- By intravenous (directly into a vein)
- Intraperitoneal (directly into the abdominal cavity)
- Intravesicular (directly into the bladder)
- By mouth (pills, capsules, or liquids to swallow)
- Topical (medicine put directly on skin)

CENTRAL VENOUS DEVICES

There are several ways that medications can be given intravenously, such as a peripheral IV, implanted port, tunneled catheters or PICC lines.



IMPLANTED PORTS (MEDIPORT OR PASSPORT)

A mediport is surgically placed device under the skin either in the chest or the upper inside of the arm. It requires routine flushing every several weeks with no additional maintenance for the patient.

PERIPHERALLY INSERTED CENTRAL CATHETERS (PICC)

A PICC line is inserted in the inner area of the arm opposite the elbow. A sterile dressing is placed over the catheter which requires a dressing change and flushes once a week. The dressing will need to stay clean and dry.

TUNNELED CATHETERS (HICKMAN OR GROSHONG)

A tunneled catheter is surgically placed under the skin and the catheter lumens are located outside of the chest and may hang from approximately 6-12 inches. A sterile dressing will be placed over the catheter and will need to be changed and flushed weekly. The dressing will need to stay clean and dry.

POSSIBLE COMPLICATIONS OF CENTRAL VENOUS DEVICES

Infection – Notify the doctor of any signs and symptoms of infection such as warmth, tenderness, redness and/or drainage from insertion side and fever.

Deep Vein Thrombosis (Blood Clot) – The signs and symptoms include swelling around the insertion site, swelling in the neck or the extremity near the device. Treatment is usually a blood thinner and may require hospitalization. If the doctor feels you are at risk for a blood clot, you may be placed on a low-dose blood thinner.

Extravasation – This occurs when the medication being infused leaks out of the vein and into the tissues nearby. The signs and symptoms include swelling, drainage, tenderness at the site and loss of blood return. Obtaining blood return from your line is essential in preventing extravasation. If ever the nurse does not obtain blood from your line, you could be sent for an x-ray of your line.

INJECTION OR INTRAVENOUS CHEMOTHERAPY INFORMATION

PREPARING FOR YOUR TREATMENT IN THE INFUSION SUITE

If you are going to have treatment in the Infusion Suite, you will proceed to the Infusion Suite after you have seen the physician and/or your laboratory results have been approved. Your physician will give your treatment orders to the pharmacy. We want you to be comfortable and informed as you begin treatment. The nurses will explain what to expect during treatment, the medications you will receive and how to manage side effects.

Nurses will be available during your treatment to answer any questions you may have. For your comfort, the items listed below will be available during your treatment:

- A selection of light snacks, fruit juices, and soft drinks
- Warmed blankets and pillows (you are welcome to bring your own, if preferred)
- Television (we offer earbuds, but you may bring your own)
- Wireless access (WIFI) (Bring your electronic devices)



Treatment lengths vary, so you are welcome to bring your own snacks or lunch depending on the time and length of your treatment. We request that your food be cold or room temperature, as we do not have accommodations for heating or storing food. Please bring foods that do not have a strong odor, as the smell of certain foods could make others uncomfortable. A sandwich and a bag of chips or fruit are good choices.

PREPARING FOR YOUR TREATMENT IN THE INFUSION SUITE (cont'd)

Your treatment may include drugs that make you drowsy. For this reason, it is very important that you bring someone with you that can drive you home from your treatments.

Treatment lengths vary from patient to patient. Some treatments may last 30 minutes, while others may last up to eight hours. Our nurses' primary goal is to administer your treatment properly and safely.

Additional Information:

- All cell phones should be on vibrate or low ring mode. When talking on the phone, please keep your voice at a low level. The "speaker phone" feature should not be used in infusion for the privacy and comfort of all guests.
- Only ONE family member per patient is allowed in the Infusion Suite. There may be high traffic times when we ask family members to wait in the waiting room.
- Children under the age of 16 are not allowed in the Infusion Suite.
- Please do not wear scented perfumes or lotions.
- If you take pain medicine, please bring it with you and take prior to entering the infusion area.
- Bring any special supplies you may need such as ostomy supplies, catheters, etc. Our office does not keep hospital supplies in stock.

At the end of your treatment, your intravenous access will be discontinued unless you are having continuous home infusion therapy. You will be provided additional instructions at discharge.

CONTINUOUS HOME INFUSION CHEMOTHERAPY

If you are receiving your fluids or medication over one or more days, you will receive continuous infusion treatment given through your implanted port or other intravenous (IV) access. This is to ensure that the correct dosage of fluids or medication is given at the proper speed. A nurse will connect you to a portable device, allowing you to receive your medication or fluids wherever you go. Any additional instructions will be provided to you by your nurse before leaving the infusion suite. If any problems arise, call the phone number located on your device.



HOME CARE INSTRUCTIONS

DURING - AND FOR 48 HOURS AFTER - CHEMOTHERAPY:

Most of the chemotherapy waste comes out in your body fluids – urine, stool, tears, and vomit. The drugs are also in your blood. When chemotherapy drugs get outside your body, they can harm or irritate skin – yours or even other people's skin. Keep in mind that this means toilets can be a hazard for children and pets.

- Flush the toilet twice after you use it. Put the lid down before flushing to avoid splashing. If possible, you may want to use a separate toilet during this time. If this is not possible, wear gloves to clean the toilet seat after each use.
- Both men and women should sit on the toilet to use it. This cuts down on splashing.
- Always wash your hands with warm water and soap after using the toilet. Dry your hands with paper towels and throw them away.
- If you vomit into the toilet, clean off all splashes and flush twice.
- If you vomit into a bucket or basin, carefully empty it into the toilet without splashing the contents and flush twice. Wash out the bucket with hot, soapy water and rinse it; empty the wash and rinse water into the toilet, then flush. Dry the bucket with paper towels and throw them away.
- Caregivers should wear 2 pairs of throw-away gloves if they need to touch any of your body fluids. (Gloves can be bought in most drug stores). They should always wash their hands with warm water and soap afterward – even if they were wearing gloves.
- If a caregiver does come in contact with any of your body fluids, they should wash the area very well with warm water and soap. It's not likely to cause any harm, but try to avoid this. At your next visit, let your doctor know this happened. Being exposed often may lead to problems, and extra care should be taken to avoid this.
- Any clothes or sheets that have body fluids on them should be washed in your washing machine – not by hand. Wash them in warm water with regular laundry detergent. Do not wash them with other clothes. If they can't be washed right away, seal them in a plastic bag.
- If using throw-away adult diapers, underwear, or sanitary pads, seal them in 2 plastic bags and throw them away with your regular trash.

ORAL CHEMOTHERAPY INFORMATION

WHAT IS ORAL CHEMOTHERAPY?

- Oral chemotherapy is treatment with anticancer drugs that are swallowed in tablet, capsule or liquid form.
- It may be prescribed to control the spread of certain types of cancer or to relieve some of the symptoms of cancer.
- Oral chemotherapy also requires you to take on additional responsibilities for your care.
- Because you take oral medications at home instead of a doctor's office, you become a more active member of your healthcare team.
- Fewer visits to our office may give you more time for yourself and your family.

HOW TO TAKE ORAL CHEMOTHERAPY MEDICATION

- Swallow each tablet or capsule whole.
- Do NOT chew oral oncology medications.
- Do NOT cut oral oncology tablets or capsules.

WHAT TO DO IF YOU MISS A DOSE

- It is critical that you take your oral medication as prescribed and on schedule.
- If you miss a dose, take it as soon as possible.
- If it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule.
- Do NOT take double dose.

REMINDER METHODS TO TAKE YOUR ORAL CHEMOTHERAPY MEDICATIONS

- It is important to stay on your oral chemotherapy treatment plan.
- You may want to try the following suggestions:
 - ❖ Pillbox organizer
 - ❖ Paper calendar
 - ❖ Program reminders in your cell phone



MANAGEMENT OF SIDE EFFECTS

- The side effects of oral chemotherapy medications are specific to the medication you are taking.
- Your physician and nurse practitioner will review possible side effects with you.
- Monitor and promptly report all side effects to your physician or nurse practitioner.

YOUR ROLE IN TAKING YOUR ORAL CHEMOTHERAPY

- Understand when and how to take your medication.
- Understand possible drug/drug and drug/food interactions.
- Be reliable – oral chemotherapy medications must be taken as prescribed and on-schedule.
- Be able to monitor how you are feeling.
- Be willing to give feedback to your healthcare provider.
- Properly report any side effects to your health care provider.
- Keep scheduled appointments with your health care provider and bring your bottle and pill box to each appointment.
- Avoid pregnancy. If you suspect you may be pregnant, call your physician immediately.

NOTE: This information provided is only a guideline. Please consult your physician and drug package insert for clarification and/or additional information.

STORAGE AND HANDLING

Handle your oral chemotherapy medications with care. Just like when chemotherapy is given into the vein, this drug can be toxic, and exposure of the drug to others should be limited.

- Check with the pharmacy, provider or the prescribing information on how to store your oral chemotherapy.
- Keep your medication out of reach of children and pets.
- Leave your medication in the provided packaging until it is ready to be taken.
- Whenever possible, give your medication to yourself and follow the steps below. If a family member, friend, or caregiver needs to give the medication to you, they also need to follow these steps:
 1. Wash hands with soap and water.
 2. Put on gloves to avoid touching the medication. (Gloves are not necessary if you give the drug to yourself).
 3. Gently transfer the medication from its package to a small medicine or other disposable cup.
 4. Administer the medicine immediately by mouth with water.
 5. Remove gloves and do not use them for anything else.
 6. Throw gloves and medicine cup in household trash.
 7. Wash hands with soap and water.

- If a daily pill box or pill reminder is used, a separate one should be used for your oral chemotherapy medication. Do not mix other medications into the box with oral chemotherapy medication. The person filling the box or reminder should wear gloves. (Gloves are not necessary if you are filling the box or reminder yourself). When empty, the box or reminder should be washed with soap and water before refilling. Be sure to wash hands with soap and water after the task is complete, whether or not gloves are worn.
- If you have any unused medication, do not throw it in the trash and do not flush it down the sink or toilet. Talk to your care provider or pharmacist about proper disposal of your medication.
- If you are traveling, put your oral chemotherapy medication in a sealed plastic bag. Ask your pharmacist if any additional travel precautions are needed.

HANDLING BODY FLUID AND WASTE

The medication remains in your body for several days after it is taken, so some of the drug may be present in urine, stool, sweat, or vomit. Once you have started to take your oral chemotherapy pill, it is important to follow the instructions below every day for as long as your treatment lasts. This will keep yourself, loved ones, and the environment as safe as possible.

- Pregnant women should avoid touching anything that may be soiled with body fluids from the patient.
- Toilet and septic systems
 - You may use the same toilet, septic tank, and/or sewer that you usually use. If you have a low-flow toilet, close the lid and flush twice to ensure all waste has been discarded.
 - If the toilet or toilet seat becomes soiled with urine, stool, or vomit, clean the surfaces before other people use the toilet.
 - Wash hands with soap and water after using the toilet.
- If you need a bedpan, be sure your caregiver knows to wear gloves to assist with cleanup and to wash the bedpan with soap and water every day.
- If you do not have good control of bladder or bowels, use a disposable pad with a plastic back, a diaper, or a sheet to absorb body waste.
- Wash any skin that has been exposed to body waste or the medication with soap and water.
- Linens or clothing that are soiled with body fluids or body waste should be washed separately from other linens and clothing. If you do not have a washer, place the soiled linens in a plastic bag until they can be washed.
- Wash hands with soap and water after touching linens or clothing that may be soiled with body fluids.

GENERAL SIDE EFFECTS OF CHEMOTHERAPY

Side effects are problems caused by chemotherapy. You may experience many side effects or none at all. They may last a short time or longer. This will depend on what type of chemotherapy you receive and how often. Some chemotherapy treatments can cause long-term effects. Many times side effects can be prevented. Let your doctor or nurse know about any changes you experience.

COMMON SIDE EFFECTS THAT WILL BE DISCUSSED ARE AS FOLLOWS:

1. Decreased blood counts
2. Fatigue
3. Nausea/vomiting
4. Hair loss
5. Mouth sores or irritation
6. Appetite changes
7. Pain
8. Constipation
9. Diarrhea
10. Skin changes
11. Numbness and tingling
12. Infertility
13. Sexual changes

UNDERSTANDING YOUR COMPLETE BLOOD COUNT (CBC)

Complete Blood Count (CBC) - A CBC provides detailed information about three types of cells in your blood: red blood cells, white blood cells, and platelets. A CBC is needed prior to receiving any chemotherapy medications and must be monitored regularly.

White Blood Cell Count (WBC) - These are the cells that help the body fight disease and infection. The types of WBC are neutrophils, basophils, eosinophils, lymphocytes, and monocytes. If the WBC are low, the term is called **neutropenia**.

Red Blood Cell Count (RBC) - These cells carry oxygen to and remove waste products from the body's tissue. These cells also contain hemoglobin. If the RBC are low, the term is called **anemia**.

Platelet Count - Platelets help to stop bleeding by forming blood clots. If the platelets are low, the term is called **thrombocytopenia**.

» 1. DECREASED BLOOD COUNTS

DECREASED WHITE BLOOD COUNT (NEUTROPENIA)

Neutrophils are a special part of white blood cells. These cells help the body fight infection and colds. When the white blood count drops below 1500, it is called neutropenia. During this time, it is very important you take the following precautions until your neutrophil count rises above 1500.

- Notify your doctor if you have any signs of infection: Temperature 100.4 F or higher, cough, burning with urination, sore that does not heal or abdominal/stomach pain.
- Be sure to take your temperature if you are feeling ill and call the doctor if it is 100.4°F or higher any time day or night.
- Avoid raw fruits or vegetables that cannot be thoroughly cleaned or washed, such as lettuce. They may carry bacteria. You can eat any that have been thoroughly washed, cooked, or canned.
- All meats, seafood, and eggs should be thoroughly cooked.
- All milk products should be pasteurized.
- Be sure to wash your hands throughout the day and whenever they become soiled.
- Avoid anyone who may be sick. It is advisable to avoid crowds. Avoid sexual intercourse at this time until your counts rise above 1500.
- Avoid live plants and flowers due to bacteria in the soil and water.
- Do not handle litter boxes or animal waste.
- If you are taking antibiotics, be sure to complete the whole course as prescribed.
- If you received injections to help increase your white count, you may experience some bone pain.

DECREASED PLATELETS (THROMBOCYTOPENIA)

Platelets are cells that make you blood clot when you bleed. When your platelets are low, this may cause bruises, bleeding from your mouth, gums, or nose, or a rash of tiny, red dots.

- Use a soft bristled toothbrush.
- Use an electric razor to shave.
- Avoid activities that are likely to cause injury such as contact sports, moving furniture, riding a bike, lifting weights, etc.
- Avoid constipation or straining to have a bowel movement. You can use a laxative if needed. Do not use an enema without asking the doctor.
- Do not take medications that contain aspirin or aspirin-like drugs such as Advil, Motrin, etc.
- Blow your nose gently.
- Be careful when using scissors, knives or sharp objects.
- Use a lubricant when engaging in sexual intercourse.

- Notify the doctor if the following occurs:
 - Nose bleed
 - Bleeding from your gums or mouth
 - Excessive or easy bruising
 - Tiny red spots on your skin
 - Blood in your urine (may be pink, red or tea colored)
 - Blood in your stools (may appear red, black, or tarry)

If platelet levels are very low, you may be given a platelet transfusion.

DECREASED RED BLOOD CELLS (ANEMIA)

Anemia is when you have too few red blood cells, which carry oxygen throughout your body. This can make your heart work harder and feel like it is beating fast. Also you can feel tired, short of breath, weak, dizzy, faint or very tired.

- Get plenty of rest.
- Limit your activities
- Accept help from family or friends.
- Eat a well-balanced diet.
- Stand up slowly from a sitting or lying position.
- You may even be given a blood transfusion if needed.
- Notify the doctor or nurse if:
 - Your level of fatigue changes or you are not able to do your usual activities.
 - You feel dizzy or like you are going to faint.
 - You feel short of breath.
 - It feels like your heart is pounding or beating very fast.

» 2. FATIGUE

You may experience periods of feeling tired or “worn out”. The rule of thumb is to “listen to your body.” If you feel tired, REST! If you feel like doing, DO! Don’t overdo, but also don’t get into a bed and stay there. If you become too inactive, you will feel worse. Eating a well-balanced diet may help to reduce the fatigue. Tell your doctor if your fatigue is worsening. The fatigue may be caused by anemia and may be treated.

Ways to conserve your energy

Bathing

- Wash hair in shower, not while leaning over the sink. Sit on a bench while showering.
- Sit to dry off or use a terry robe instead.
- Use a shower organizer to avoid reaching.
- Use safety strips in the tub and install a rail.
- Use a hand-held shower head while sitting.
- Use moderate temperature instead of hot water.

Grooming/Dressing

- Sit in a chair while grooming.
- Use an elevated commode seat.
- Don’t lean forward unsupported, rest your elbows on the counter.
- Use long-handled brushes to avoid holding arms up over your head.
- Wear loose fitting clothes, slip-on shoes with low heels.
- Organize and lay out your clothes ahead of time.

Mobility

- Use a wheelchair for long trips.
- Use elevators/escalators instead of stairs.
- Install ramps/handrails.

» 3. NAUSEA AND VOMITING

Some types of chemotherapy causes nausea (feeling sick to your stomach), vomiting (throwing up) or both. Nausea and vomiting can happen because of other medications, radiation therapy, pain, constipation, a virus, or infection.

If you are getting chemotherapy, nausea/vomiting can happen during, right after, or hours to days later. You may receive medicines to help prevent nausea, prior to your chemotherapy and you may be given a prescription to take medicine to take when you are at home. It is important to take your medications as prescribed by your doctor. It is easier to prevent the nausea than trying to treat it once it starts.

Let your doctor know if your medicine is not helping to relieve your nausea/vomiting

Ways to manage nausea and vomiting

- Avoid foods with strong or unpleasant smell
- Eat 5-6 small meals and snacks each day instead of 3 large meals
- Have foods and drinks that are warm or cool (not hot or cold)
- Relax before your treatment by meditating or doing deep breathing exercises

» 4. HAIR LOSS (ALSO CALLED ALOPECIA)

Some types of chemotherapy damage the cells that cause hair growth, so you may lose some or all of your hair. Depending on the type of treatment, hair loss usually begins 7 to 21 days after the first chemotherapy treatment. Hair usually grows back 2 to 3 months after chemotherapy is over. Your hair may be a different color or texture.

Ways to manage hair loss

- Obtain a wig before you lose your hair so you can match your hair color and get used to wearing it. Some insurance plans cover part of the costs of wigs.
- Cutting your hair short prior to losing can make hair loss easier to manage. If you shave your head, use an electric shaver
- Gently wash your hair. Use a mild shampoo and dry hair by patting it with a soft towel.
- Using a satin pillow or hair net at night will reduce the amount of hair on your pillow.
- Protect your scalp by wearing a hat, turban, or scarf when outside.

Talk to the nurse, patient navigator, or social worker for resources such as:

American Cancer Society

Offers a variety of services to people with cancer and families, including referrals to low-cost wig banks.

Phone: 1-800-227-2345 | Visit: <http://www.cancer.org>



» 5. MOUTH SORES OR IRRITATION

Mouth sores are a common side effect and you may hear the terms mucositis or stomatitis. Mouth sores can be caused by chemotherapy and by radiation therapy. It can cause dry mouth, changes in taste and smell, and sensitivity to hot or cold foods. The mouth sores can bleed and become infected and can affect teeth, gums and the lining of your mouth.

Check the inside of your lips and mouth and the top and bottom of your tongue every day. **Let your doctor or nurse know right away if you see or feel problems in your mouth, having pain or having a hard time swallowing.**

Ways to manage

- Keep mouth, teeth, gums, and tongue clean.
- Use a baking soda/salt solution at least 4 times per day (after meals & bedtime)
 - Recipe: 1/4 tsp salt & 1/2 tsp baking soda
 - Mix in 2 cups of tap water.
 - Make fresh daily.
 - Swish around your mouth for 2 minutes, then spit out.
- Use an extra-soft tooth brush for all areas of your mouth after each meal and at bedtime.
- Do not use mouthwash that has alcohol.
- Ask your nurse or doctor about flossing. If approved, gently floss your teeth every day.
- If you wear dentures, make sure they fit well and keep them clean. Limit time wearing dentures.
- Keep your mouth moist by sipping water throughout the day or sucking on sugar-free hard candy or chewing sugar-free gum.
- Do not eat spicy foods or acidic fruit juices, like orange, grapefruit, or tomato.
- Choose foods that are soft, moist and easy to chew or swallow.
- Stay away from hard or crunchy food.

» 6. CHANGES IN APPETITE

Not everyone's appetite is altered by chemotherapy. You may lose your appetite due to nausea, mouth sores that are painful, taste changes due to the medications or from feeling tired or depressed. It is important to eat a well-balanced diet.

Ways to manage changes in appetite

- Eat 5 to 6 small meals or snacks each day instead of 3 big meals.



- Set a daily schedule for eating your meals and snacks.
- Drink milkshakes, smoothies, juice or soup if you do not feel like eating solids.
- Use plastic forks and spoons to decrease the metal taste that some drugs can cause.
- Eat high protein, high calorie snacks such as peanut butter or cheese and crackers, Boost, Ensure, milkshakes or smoothies.
- Exercise prior to eating to increase your appetite.
- Until you are aware how you will tolerate chemotherapy, usually avoiding strong odor foods, greasy foods and acidic foods will help.

» 7. PAIN

Only you know when you have pain and how it feels. Pain can include burning, numbness, and tingling or shooting pains in your hands and feet. Mouth sores, headaches, muscle pain and stomach pain can also occur. Tell your doctor and nurse right away if you are having pain.

Some chemotherapy medications can cause pain such as numbness and tingling to the hands and feet, headaches, mouth sores, muscle and stomach pains. Let your doctor or nurse know if you are experiencing any pain especially if you are taking pain medications.

» 8. CONSTIPATION

Constipation happens when you do not have bowel movements as often and stools are hard, dry and difficult to pass. You may have pain when you have bowel movements and feel bloated or nauseous. You may belch, pass a lot of gas, and have stomach cramps.

Constipation can happen from medications such as chemotherapy and pain medicine. It can also happen when people are not actively moving around, not drinking enough liquids, or eating foods that are low in fiber.

Ways to manage constipation

- Drink at least 8 cups of water or other fluids each day.
 - Be physically active every day.
 - Eat foods that are high in fiber such as whole-grain breads and cereals, dried beans and peas, raw vegetables, fresh and dried fruit, nuts, seeds, and popcorn.
 - If your constipation continues, call your doctor. Your doctor may give you a prescription for medicine to help relieve constipation. Ask your doctor or nurse before taking medicine for constipation.

» 9. DIARRHEA

Diarrhea is having many loose or watery bowel movements, sometimes called stools. You may or may not feel cramps or belly pain. Diarrhea can be caused by chemotherapy, radiation therapy to the belly, infection, other medicines, surgery, and stress.

Let your doctor or nurse know right away if your diarrhea lasts for more than 24 hours, especially in large amounts at one time or you have diarrhea many times during the day.

Ways to manage diarrhea

- Eat 5-6 small meals and snacks each day instead of 3 large meals.
- Ask your doctor or nurse about eating foods that are high in salt and potassium.
- Eat low-fiber foods, like bananas, white rice, white toast, mashed potatoes.
- Sip fluids all day or drink 8-12 cups of clear liquids each day to prevent dehydration.
- Gently clean skin around anus with warm water and soft cloth, then dry gently and completely.
- Over the counter medicines and prescriptions are available for diarrhea. **Talk to your doctor or nurse before taking medicine for diarrhea.**

Stay away from:

- Very hot or very cold drinks
- Spicy foods
- Alcohol or drinks with caffeine
- Limit milk or milk products, like ice cream milkshakes, cheese
- High-fiber foods like, beans, nuts, raw fruit and vegetables

» 10. SKIN CHANGES

Treatment can cause changes to the skin and are often mild, but at times can be severe as a sign of an allergic reaction. Report drug related skin rashes to your doctor.

Minor skin changes may include:

- Itching, dryness, redness and peeling
- Sensitivity to the sun (you can burn very quickly)
- Dark patches on your skin, around your joints, or under nails
- Nail problems



Ways to manage itching, dryness, redness, peeling

- Take quick showers or sponge baths instead of long, hot baths.
- Pat, rather than rub, yourself dry after bathing.
- Wash with a mild, moisturizing soap.
- Put on cream or lotion while your skin is still damp after washing.
- Tell your doctor or nurse if this does not help.
- Do not use perfume, cologne, or aftershave lotion that has alcohol.
- Take a colloidal oatmeal bath when your whole body itches. Colloidal oatmeal is a special powder you add to bath water.

Ways to manage sun sensitivity

- Avoid direct sunlight. During the summer, the sun tends to be the strongest from 10 a.m. until 4 p.m.
- Use sunscreen lotion with an SPF (skin protection factor) of 15 or higher. Or use ointments that block the sun's rays, such as those with zinc oxide.
- Keep your lips moist with a lip balm that has an SPF of 15 or higher.
- Wear light-colored pants, long-sleeve cotton shirts, and hats with wide brims.
- Do not use tanning beds.

Ways to manage nail problems

- Wear gloves when washing dishes, gardening, or cleaning the house.
- Keep nails trimmed and cleaned.
- Avoid artificial nails or nail polish.

» 11. NUMBNESS AND TINGLING TO HANDS AND FEET

Certain chemotherapy drugs can cause numbness and tingling to hands and feet (peripheral neuropathy). Discuss with your doctor about possible treatment options.

Some side effects of peripheral neuropathy are:

- Feelings of “pins and needles” or “hot and cold” of hands and/or feet
- Difficulty picking things up or buttoning clothes
- Pain when walking
- Problems with balance
- Hearing loss

Ways to manage

- Report any unusual feeling you may have to your health care professional. Let them know if you are experiencing any of the above symptoms, so they can assess.
- Protect areas where sensation is decreased (example; do not walk around without foot wear). Wear thick socks and soft soled shoes.
- Avoid extreme temperature changes. This may worsen symptoms.
- Wear warm clothing in cold weather. Protect feet and hands from extreme cold.
- Be careful when washing dishes or taking a bath or shower. Do not let the water get too hot.
- Use potholders when cooking.
- Use gloves when washing dishes and gardening.
- Inspect skin for cuts, abrasions, and burns daily, especially arms, legs, toes and fingers.

» 12. INFERTILITY

MALES:

Chemotherapy drugs may lower the number of sperm cells, reduce their ability to move, or cause other abnormalities. These changes can result in infertility, which may be temporary or permanent. Infertility affects a man's ability to father a child.

Because sterility may occur, it is important to discuss this issue with your doctor before you begin treatment.

Even though chemotherapy can decrease sperm production, men should use an effective means of birth control (such as condoms) with their partners during treatment to prevent pregnancy. Birth defects can occur if babies are conceived during chemotherapy. Ask your doctor when you can stop using birth control for this purpose.

FEMALES:

Anticancer drugs can damage the ovaries and reduce the amount of hormones they produce. As a result, some women find that their menstrual periods become irregular or stop completely while they are having chemotherapy.

Damage to the ovaries may result in infertility, the inability to become pregnant. In some cases, the infertility is a temporary condition; in other cases, it may be permanent. Whether infertility occurs and how long it lasts depends on many factors, including the type of drug, the dosage given, and the woman's age.

Although pregnancy may be possible during chemotherapy, it is important to not get pregnant because some anti-cancer drugs may cause birth defects. Women of childbearing age, from the teens through the end of menopause, are urged to use birth control throughout their treatment. Becoming pregnant while on chemotherapy is **never** recommended.

» 13. SEXUAL CHANGES

Problems for WOMEN include:

Symptoms of menopause (for women not yet in menopause).

These symptoms include:

- Hot flashes
- Vaginal dryness
- Feeling irritable
- Irregular or no menstrual periods
- Bladder or vaginal infections
- Vaginal discharge or itching
- Being too tired to have sex or not being interested in having sex
- Feeling too worried, stressed, or depressed to have sex

Problems for MEN include:

- Not being able to reach climax
- Impotence (not being able to get or keep an erection)
- Being too tired to have sex or not being interested in having sex
- Feeling too worried, stressed, or depressed to have sex

TIPS FOR WOMEN:

Some symptoms can make intercourse uncomfortable. However, by using a water-based vaginal lubricant, such as K-Y Jelly, these symptoms can be relieved. The tissue changes can also make a woman more likely to get vaginal infections. To help prevent infection, avoid oil-based lubricants such as Vaseline, wear cotton underwear and pantyhose with a ventilated cotton lining, and don't wear tight slacks or shorts. Your doctor may also prescribe a vaginal cream or suppository to reduce the chances of infection. If infection does occur, it should be treated right away.

TIPS FOR BOTH MEN AND WOMEN:

- Tell your partner about your feelings and concerns.
- Allow your partner to express his or her feelings.
- Try talking together about your sexual activity and feelings.
- Talk with your partner during sexual intimacy, too.
- Planning sexual activity ahead of time can be helpful (such as a time of day when you feel well rested)
- Engage in adequate foreplay and massage.
- Try sexually stimulating clothing.
- Try different positions during intercourse to reduce strain.
- Take pain or nausea medicine one hour before sexual activity.
- If your white blood cell count or platelet count is low, avoid sexual intercourse for a few days until your blood counts recover (usually counts are at their lowest 7-10 days after chemotherapy treatment, but ask your physician or nurse if you are not sure).



» 14. NUTRITION & DIETARY SUGGESTIONS

Clear Liquid (may help in management of poor appetite, constipation, diarrhea, and vomiting)

- | | | | |
|-------------------|---------------------|-------------------|----------------|
| ■ Bouillon | ■ Popsicles | ■ Honey | ■ Fruit Ice |
| ■ Cranberry Juice | ■ Broth | ■ Resource Breeze | ■ Jelly |
| ■ Fruit Punch | ■ Grape Juice | ■ Apple Juice | ■ Ensure Clear |
| ■ Pedialyte | ■ Gatorade | ■ Flavored Water | |
| ■ Gelatin | ■ Caffeine Free Tea | ■ Powerade | |

Full Liquid (may help in management of poor appetite and vomiting)

- | | | | |
|---------------------------|-------------------|-------------------|-------------------------------|
| ■ All clear liquids above | ■ Syrup | ■ Plain Ice Cream | ■ Water |
| ■ Fruit drinks | ■ Ensure Plus | ■ Honey | ■ Sherbet |
| ■ Smoothies | ■ Milk | ■ Boost Plus | ■ Tomato Juice |
| ■ Yogurt | ■ Vegetable Juice | ■ Milkshakes | ■ Carnation Instant Breakfast |

Easy on the Stomach (may help in management of nausea and vomiting)

- | | | | |
|-------------------------|-------------------|----------------------------|--------------------------|
| ■ Broth (chicken, beef) | ■ Noodles (plain) | ■ Chicken (baked, grilled) | ■ Tea |
| ■ Chicken Noodle Soup | ■ Cranberry Juice | ■ Cream Cheese | ■ Potato (baked, boiled) |
| ■ Vegetable Juices | ■ Grape Juice | ■ Pasta (plain) | ■ Turkey (baked) |
| ■ Fish (baked, grilled) | ■ Fruit Punch | ■ Skim Milk | ■ Cottage Cheese |
| ■ Eggs | ■ Avocado | ■ Clear Liquids | ■ Rice (plain) |

High Fiber (may help in management of constipation)

- | | | | |
|---------------------|-----------------------|------------------|---------------|
| ■ Bran muffins | ■ Spinach | ■ Cooked Beans | ■ Yams |
| ■ Shredded wheat | ■ Potatoes with skins | ■ Prunes | ■ Popcorn |
| ■ Whole Wheat Bread | ■ Nuts | ■ Cabbage | ■ Oatmeal |
| ■ Brussel Sprouts | ■ Bran Cereal | ■ Collard Greens | ■ Cooked Peas |
| ■ Broccoli | ■ Corn | ■ Sweet Potatoes | ■ Granola |

Low Fiber (may help in management of diarrhea)

- | | | | |
|-------------------|-------------------------|-------------------|--------------------|
| ■ Chicken | ■ Sherbet | ■ Carrots | ■ Yogurt |
| ■ Grits | ■ Potatoes without skin | ■ String beans | ■ Saltine crackers |
| ■ White Rice | ■ Turkey | ■ Animal crackers | ■ Gelatin |
| ■ Angel Food Cake | ■ Eggs | ■ Graham crackers | ■ Canned fruit |
| ■ Ginger snaps | ■ White bread | ■ Vanilla wafers | ■ Noodles |

High Protein (may help in management of fatigue, poor appetite or weight loss)

- | | | | |
|--------|--------------|------------------|--------|
| ■ Beef | ■ Yogurt | ■ Chicken/Turkey | ■ Fish |
| ■ Milk | ■ Nuts/Seeds | ■ Eggs | ■ Tofu |

Snack Ideas

- Fruit (blueberries, strawberries, pears, apples, grapes)
- Vegetables (carrots, broccoli, green peppers, cucumbers)
- Sandwiches (ex: egg salad, grilled cheese, or peanut butter)
- Ice cream, sherbet, and frozen yogurt
- Popcorn, pretzels, puddings, custards
- Graham Crackers or vanilla wafers
- Nuts, seeds, and nut butters
- Fruit muffin with butter
- Soy, almond, or rice milk
- Sliced or string cheese
- Boiled eggs
- Yogurt
- Cottage Cheese
- Toast with Jelly
- Vegetable Juice
- Angel Food cake
- Dry cereal
- Protein bars
- Trail mix
- Pretzels

Powerful combinations to add calories and protein

- Grilled chicken (chopped) with cream of chicken soup, steamed broccoli, and rice
- Peanut butter sandwich on wheat bread and chocolate milk
- Egg, ham, cheese, and spinach omelet
- Bagel, cream cheese, banana and whole milk
- Oatmeal, raisins, butter, and condensed milk
- Graham crackers with peanut butter and chocolate milk
- Baked sweet potato with Greek yogurt
- Turkey, egg, and cheese on an English muffin
- Mandarin oranges in light syrup with whipped topping
- Peanut butter and jelly on toast
- Granola bar, yogurt, and fruit
- Pita bread with hummus

WHO “Simple Solution” homemade oral rehydration drink (may help in management of dehydration due to losses from nausea vomiting and/or diarrhea)

Ingredients:

- 1/2 level teaspoon of salt
- 6 level teaspoons of sugar
- 1 liter of water (clean drinking or boiled water and then cooled)

Preparation Method:

- Stir the mixture till the salt and sugar dissolve.

Sources:

<https://rehydrate.org/solutions/homemade.htm> | <https://cancer.org/content/dam/CRC/PDF/Public/6711.00>

<https://www.eatright.org/health/diseases-and-conditions/cancer/nutrition-during-and-after-cancer-treatment>

REFERENCES/ RESOURCES

Cancer Center General Information

Marybird.org

Chemocare - for drug information and side effect management

www.chemocare.com

Cancer Services of Greater Baton Rouge

550 Lobdell Ave, Baton Rouge, LA 70806

(225) 927-2273

CancerCare

800-813-HOPE (4673)

www.cancercare.org

CancerCare Co-Payment Assistance Foundation

866-55-COPAY (866-552-6729)

www.cancercare.org/copayfoundation

American Cancer Society

10528 Kentshire Court, Baton Rouge, LA 70810

(800) 227-2345

Cancer.Net

www.cancer.net

National Cancer Institute

800-422-6237

www.cancer.gov

National Comprehensive Cancer Network - Patient and Caregiver Resources

215-690-0300

www.nccn.com

Needy Meds

www.needymeds.org

Oral Chemotherapy Education

www.oralchemoedsheets.com

(For information about oral Chemotherapy drugs)



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