

Cancer Drug Therapies Guide



About this book

Use the information in this book as a guide before, during and after your treatment. It contains handouts about common side effects from cancer drug therapies and ways to manage them. Many of the handouts also tell you what problems you need to look for and report to your doctor. If you have any questions or concerns after reading this book, please speak with your doctor or nurse.

Cancer treatment affects people in different ways. You may have a lot of side effects, some or none at all. This depends on the type and amount of treatment you get, how your body reacts and whether you have other health problems, such as diabetes or heart disease. Before you start treatment, talk with your doctor or nurse about which side effects to expect.

Getting ready for your first treatment



- ✓ Watch our cancer drug therapies education class. Viewing instructions should be in your education bag, or call 216-844-5432 to learn more.
- ✓ Ask your cancer doctor if you need to do any of these things before starting treatment:
 - See a dentist.
 - Get any vaccines such as those for the flu, pneumonia or chicken pox.
 - Talk with a fertility doctor about fertility options, in case you might want to have children in the future.
- ✓ Write down your questions. Talk with your doctor or nurse to get answers.

This info is general resource. It is not meant to replace your doctor's advice. Ask your doctor or health care team any questions. Always follow their instructions. Product or brand names in this book are for example only. UH does not endorse any specific product or brand.

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Common cancer drug therapies

How cancer is treated depends on many factors such as the type of cancer, how advanced it is and your overall health. This booklet focuses on common side effects from cancer treatment drugs and ways to help manage them.

Common types of cancer drug therapies are:

Chemotherapy	<ul style="list-style-type: none">• Uses drugs to kill cancer cells. Also called chemo
Immunotherapy	<ul style="list-style-type: none">• Helps your immune system fight cancer
Targeted therapy	<ul style="list-style-type: none">• Targets the changes in cancer cells that help them grow, divide, and spread
Hormone therapy	<ul style="list-style-type: none">• Slows or stops the growth of breast and prostate cancers that use hormones to grow

Chemo is the most common type of drug therapy for cancer. Each type of drug therapy works differently and their side effects may differ. Your cancer care team can provide details about your cancer treatment drugs and the side effects these drugs may cause.

Goals of cancer treatment

Your doctor should discuss the goals of your cancer treatment when they review the consent form with you. Based on your type of cancer and how advanced it is, cancer treatment can:

- **Cure cancer** – means treatment that kills cancer cells to the point that your doctor cannot find them in your body and they will not grow back.
- **Control cancer** – means treatment that keeps cancer from spreading or growing.
- **Relieve cancer symptoms** – means treatment that helps problems such as pain or pressure. Sometimes called palliative care.

More about chemo

Chemo works by stopping or slowing the growth of cancer cells, which grow and divide quickly. But it can also harm healthy cells that divide quickly, such as those that line your mouth and intestines, cells in your bone marrow that make blood cells and cells that make your hair grow. Damage to healthy cells may cause side effects.

Often, side effects get better or go away after chemo is over. Doctors have many ways to prevent or treat chemo side effects.

Sometimes, chemo is the only cancer treatment used. But more often, chemo is given along with surgery, radiation therapy, or other drug therapies for cancer. Chemo can:

- Make a tumor smaller before surgery or radiation therapy.
This is called **neo-adjuvant** chemo.
- Destroy cancer cells that may remain after surgery or radiation therapy.
This is called **adjuvant** chemo.
- Help radiation therapy and biological therapy work better.
- Destroy cancer cells that have come back (recurrent cancer) or spread to other parts of the body (metastatic cancer).

Immunotherapy basics

Your immune system is your natural defense system against infections and other diseases. It is made up of white blood cells and other organs and tissues of the lymph system. Immunotherapy is a cancer treatment that helps your body's immune system attack cancer cells.

Since immunotherapy is not the same as chemotherapy, it can cause different side effects. These side effects depend on how healthy you are before treatment, your type of cancer, how advanced it is, the type of therapy you are getting, how often you get it, and the dose. Side effects may begin soon after treatment starts, but most happen after a few months.

Targeted therapy basics

Targeted therapy is a type of cancer treatment that targets proteins that control how cancer cells grow, divide, and spread. It is the foundation of precision medicine. As researchers learn more about the DNA changes and proteins that drive cancer, they are better able to design treatments that target these proteins.

Most types of targeted therapy help treat cancer by interfering with specific proteins that help tumors grow and spread throughout the body. This is different from chemo, which often kills all cells that grow and divide quickly.

When targeted therapy was first developed, scientists thought that it would be less toxic than chemotherapy. But they have learned that targeted therapy can also cause serious side effects. The side effects that you may have depends on the type of targeted therapy you receive and how your body reacts to it.

Hormone therapy basics

Hormone therapy is a cancer treatment that slows or stops the growth of cancer that uses hormones to grow. Hormone therapy is also called hormonal therapy, hormone treatment, or endocrine therapy.

Hormone therapy falls into two broad groups, those that block the body's ability to produce hormones and those that interfere with how hormones behave in the body.

Hormone therapy is used to treat prostate and breast cancers that use hormones to grow. Hormone therapy is most often used along with other cancer treatments. The types of treatment that you need depend on the type of cancer, if it has spread and how far, if it uses hormones to grow, and if you have other health problems.

Because hormone therapy blocks your body's ability to produce hormones or interferes with how hormones behave, it can cause unwanted side effects. Side effects depend on the type of hormone therapy you receive and how your body responds to it. People respond differently to the same treatment, so not everyone gets the same side effects. Some side effects also differ if you are a man or a woman.

Treatment schedules

Treatment schedules vary widely. How often and how long you get treatment depends on:



- The type of cancer and how advanced it is
- The goals of treatment - whether chemo is used to cure your cancer, control its growth, or ease symptoms
- The type of treatment
- How your body reacts to treatment

You may get treatment in **cycles**. A cycle is a period of cancer treatment followed by a period of rest. For instance, you might get 1 week of treatment followed by 3 weeks of rest. These 4 weeks make up 1 cycle. The break gives your body a chance to rest and recover.

Be prepared for treatment days



QUICK TIPS

Clear your schedule for the day – it can be hard to predict how long you'll be here.

Bring items to help pass the time, like a book, phone or computer.

Missed treatments

It is not good to skip your treatment. But sometimes your doctor or nurse may change your schedule due to your side effects. If this happens, your doctor or nurse can explain what to do and when to start treatment again.

How treatment is given

Cancer drug therapies may be given in many ways, such as:

Injection. The medicine is given by a shot in a muscle in your arm, thigh, or hip or right under the skin in the fatty part of your arm, leg, or belly.

Intra-arterial (IA). The medicine goes straight into the artery that is feeding the cancer.

Intraperitoneal (IP). The medicine goes straight into the peritoneal cavity (the area that contains organs such as your intestines, stomach, liver, and ovaries).

Intravenous (IV). The medicine goes straight into a vein.

Orally. The medicine comes in pills, capsules, or liquids that you swallow.



How you may feel

Cancer treatments affect people in different ways. How you feel depends on how healthy you are before treatment, your type of cancer, how advanced it is, the kind of treatment you get, and the dose. Doctors and nurses cannot know for certain how you will feel during treatment.

Some people do not feel well right after treatment. The most common side effect is fatigue, feeling tired and worn out. See page 29 for ways to help manage fatigue.

You cannot tell if treatment is working based on its side effects. To gauge if the treatment is working, your doctor does physical exams and medical tests such as blood tests and x-rays at different points during your care. They also ask you how you feel.



QUICK TIPS

Planning ahead

Ask someone to drive you to and from treatment

Don't be afraid to ask someone to help you with meals or other home duties on the day of and 1 day after treatment

Work and cancer treatment

Many people can work during treatment, as long as they match their schedule to how they feel. Whether or not you can work may depend on what kind of work you do. Ask your doctor if it is ok for you to work during treatment. If your job allows, you may want to see if you can work part-time or work from home on days you do not feel well.

Many employers are required by law to change your work schedule to meet your needs during cancer treatment. Talk with your employer about ways to adjust your workload and schedule. You can learn more about these laws by talking with a social worker.

Getting cancer treatment through an IV line

Some cancer treatments are given through a thin needle that is placed in a vein on your hand or lower arm. Your nurse puts the needle in at the start of each treatment and removes it when your treatment is over. Let your doctor or nurse know right away if you feel pain or burning while you are getting treatment through an IV (intravenous) line.

Some IV treatments are given through catheters or ports, sometimes with the help of a pump.

Catheters. A catheter is a soft, thin tube. A surgeon places one end of the catheter in a large vein, often in your chest area. The other end of the catheter stays outside your body. Most catheters stay in place until all your treatments are done.

Ports. A port is a small, round disc made of plastic or metal that is placed under your skin. A catheter connects the port to a large vein, most often in your chest. Your nurse can put a needle into your port to give your treatment. This needle can be left in place for cancer treatments that are given for more than 1 day.

Pumps. Pumps are often attached to catheters or ports. They control how much and how fast chemo goes into a catheter or port. Pumps can be internal or external. External pumps remain outside your body. Most people can carry these pumps with them. Internal pumps are placed under your skin during surgery.



Be sure to watch for signs of infection around your catheter or port. To learn more about infection, read *Infection and Low White Blood Cell Count* on page 16.



QUICK TIPS

Add your doctor's name and phone number to your cell phone, so you have easy access to it.

If you take cancer treatment pills or get IV cancer treatment in your home, you need to follow special safety guidelines. Talk with your doctor, nurse or pharmacist to learn more.

Costs of cancer treatment

It is hard to say how much cancer treatment will cost. It depends the types and doses of treatment used, how long and how often treatment is given and where it is given.



If you have questions about bills or the cost of your treatment, ask to speak with one of our financial counselors or call 1-866-771-7266.

Home medicines

Take only medicines that are approved by your cancer doctor. Tell your doctor or nurse about all the over-the-counter and prescription drugs you take, including laxatives, allergy medicines, cold medicines, pain relievers, aspirin, and ibuprofen. One way to let your doctor or nurse know about these drugs is to bring in all of your pill bottles. Or, you can write out a medicine list. Your doctor or nurse needs to know:



- The name of each medicine
- How much you take
- Why you take it
- How often you take it

Talk to your doctor or nurse **before** you take any over-the-counter or prescription drugs, vitamins, minerals, dietary supplements, or herbs.

Vitamins, minerals, dietary supplements, or herbs

Some of these products can change how cancer treatment works or cause unsafe side effects. For this reason, it is important to tell your doctor or nurse about all the vitamins, minerals, dietary supplements, and herbs that you take before you start treatment. During treatment, talk with your doctor before you take any of these products.

Side effects from cancer treatment

Side effects are problems caused by cancer treatment.

You may have a lot of side effects, some, or none at all. This depends on the type and amount of treatment you get and how your body reacts. Before you start treatment, talk with your doctor, nurse or pharmacist about which side effects to expect and when they may happen. Side effects from chemo may not be the same as side effects from other cancer drug therapies.

Make sure to let your doctor or nurse know about any changes you notice - they may be signs of a side effect.

It is very important that you **call your cancer doctor's office** if you have any side effects or health problems that are new or getting worse. **Do not ignore them.** The sooner we know about any problems, the sooner we can start treating them.

Be sure to tell any health care provider you see that you are being treated for cancer. This includes visits to any Emergency Department.

Know what to look for



QUICK TIPS

Ask your nurse or pharmacist for a handout that lists what side effects might happen with your treatment.

Call your cancer doctor's office if you have any side effects or health problems that are new or getting worse. **Do not ignore them.**

Safe Handling of Body Fluids at Home

Small amounts of your cancer treatment medicines may be in your body fluids for several days. Examples of these body fluids include saliva, mucus, blood, urine (pee), bowel movements (poop), vomit and those from sex. Since these medicines can also harm healthy cells, it is best if you and other people aren't exposed to them. This handout lists safety measures to help prevent contact with your body fluids at home.



Follow these guidelines **for 7 days** after each IV cancer treatment. **If you take cancer treatment pills**, follow these guidelines at all times, even if you take a break from oral cancer treatment. When you are done taking all of your treatment, follow these guidelines for 7 days after your last dose.

Basic guidelines for handling body fluids

- Try to handle your own body fluids when you can. You and your caregivers should wear nitrile gloves when cleaning up body fluids or items that hold body fluids such as soiled laundry or a basin for vomit.
- Don't let pregnant women or children touch body fluids or items that may contain these fluids.
- Wash hands with soap and water after wearing gloves or touching body fluids or soiled items. Don't use gloves with holes or tears.
- Turn gloves inside out when taking them off – try not to touch the outside of the gloves. Place used gloves in a sealed bag and throw away after one use. Wash hands with soap and water after gloves are off.



In the bathroom

- Wash hands well with soap and water after using the bathroom. Don't touch other items or surfaces until after you wash your hands.
- If you can, use your own bathroom. If you can't use your own bathroom, wipe the toilet seat and rim with a sanitizing wipe after each use. After cleaning, wash your hands with soap and water before touching anything. 7 days after your last treatment, wash the toilet and bathroom floor.
- If you have a low flow toilet, put the lid down and flush the toilet twice. This helps make sure body waste isn't left in the toilet.
- Sit on the toilet to avoid splashing. Wear gloves when cleaning a bedpan or urinal, using soap and water after each use.



Washing items soiled with body fluids

- Wash items soiled with body fluids in a washing machine right away.
- Don't wash soiled items with other clothing. Put soiled items through the wash cycle twice using hot water and detergent.
- If you don't have access to a washing machine, place soiled items in a sealed plastic bag until you can wash them.
- If you can, handle your own soiled items. If other people touch them, they should wear gloves. Wash clothing or skin that comes in contact with soiled items.



If you throw up

Wear gloves if you clean up vomit or empty a basin. Wash basin with soap and water after each use.

If you don't have control of your bladder or bowels

Use throw-away plastic backed pads or diapers to absorb urine or bowel movements. Wear gloves and change these items right away if they are soiled. Wash soiled skin gently with soap and water. Place soiled diapers, plastic-backed pads and gloves in their own bag before putting in the trash.

Sex

After getting cancer treatment, small amounts of your medicines may be in vaginal fluid or semen. We do not know if these medicines can harm a sexual partner. To help protect your partner, we recommend that you use a barrier during any type of sex.

If you have an ostomy

Wear gloves when emptying or changing ostomy bags. Ostomy supplies that can be thrown away, such as the bags or gloves, should be put in their own bag before putting them in the trash.

If you take cancer treatment pills or get IV cancer treatment in your home, you need to follow extra safety guidelines. Talk with your doctor or nurse to learn more.

Exercise During and After Cancer Treatment

If your doctor says it is safe, you can exercise during or after cancer treatment.

How routine exercise can help

Routine exercise can reduce fatigue (tiredness) and stress and improve bone and heart health, sleep and mood. Exercise can give you more energy, plus make you stronger and more flexible.

Getting started

- Talk to your doctor if you have questions, concerns or need help setting goals. Make a wellness plan for yourself. Invite family and friends to join you.
- Some exercise is better than none. If needed, start slowly. Each person has their own starting point and progress at their own pace.
- Use a fitness tracking device, like a pedometer, to keep track of how many steps you take each day. A good goal is walking 7,000-9,000 steps a day.
- Follow the safety guidelines on the next page.



Include in your exercise routine:

Aerobic activities

Anything that gets your heart beating faster counts - like brisk walking, swimming or riding a bike.

Goal - 30 to 60 minutes of activity, at least 3 to 5 days a week.

Muscle-strengthening activities

Activities that make your muscles work harder than usual, like free weights, therabands, or weight machines.

Goal - 2 sets of 12 to 15 repetitions, 2 times a week.

Don't forget to stretch! Do a few stretches before you exercise to help you stay flexible. Stretch muscles until you feel a tightness, hold for 10 to 30 seconds, and then relax.

Be safe!

- Do not exercise if you're not feeling well or if you have a . Do not exercise if you feel sick to your stomach (nausea), are throwing up or have pain that is not controlled with medicine.
- Stop exercising if it's hard to breathe, you have chest pain, or new or worsening pain elsewhere. Call 911 if you think any of these problems are a medical emergency.
- If you have swollen ankles, weight gain you cannot explain or feel short of breath when resting, call your doctor.
- If your immune system is weak, avoid public gyms until your white blood cell count returns to a safe level. Your doctor or nurse can tell you your white blood cell count.
- If you have peripheral neuropathy, which is pain, numbness or tingling in your hands and/or feet, a stationary bike may be safer than brisk walking.
- If you have a mediport or central line, avoid contact sports. Do not do activities that could bump or dislodge your port or line, such as playing baseball, basketball or tennis. Do not swim or do other water activities unless your doctor or nurse says it is ok.

Resources

- **Physical Medicine and Rehab doctors** can see patients for consultation and referral to services such as therapy and medical equipment. Call 216-844-5432 to learn more.
- **LIVESTRONG** at the YMCA – a 12-week program designed to help survivors improve strength and quality of life. Offered at little or no cost at YMCAs throughout Ohio. To learn more, call 1-855-220-7777, visit livestrong.org/ymca or call your local YMCA.
- **Strong Women, Strong Bones** – at the UH Landerbrook Women's Health Center. To learn more, call 216-831-8311.
- **The Gathering Place** – in Beachwood and Westlake. To learn more, call 216-595-9546.
- **Silver Sneakers** – free wellness program offered to people with certain Medicare plans. To learn more, call 1-866-584-7389 or visit silversneakers.com.
- **[Survivorship Care for Healthy Living](#)** – from the National Comprehensive Cancer Network. For a printable copy, visit nccn.org/patientguidelines

Normal Blood Cell Counts

This handout tells you about blood cells and what they do. You can use the next page to keep track of your lab results.

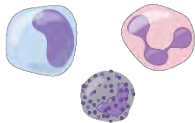
The goal of cancer treatment is to stop the growth of cancer cells and destroy them over time. Cancer treatments may also lower your normal blood cells. When your normal blood cell levels are lowered you may have side effects such as fatigue, bleeding or infection. Your body can replace these normal blood cells over time, so most of these side effects are short-term.

During your treatments, your doctor may take samples of your blood to closely watch these blood cell levels. You may hear your health care team members refer to these levels as your “blood counts,” “counts” or CBC.

Where blood cells are made and what they do

Blood cells are made in the bone marrow, which is the spongy tissue filling the center core of your bones. Each blood cell has a job to do. The three major types of blood cells are:

White blood cells



White blood cells help you fight infection.

When your white blood cells are low, your chances of getting an infection are higher.

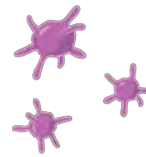
Red blood cells



Red blood cells carry oxygen to your body’s tissues.

When your red blood cells are low, you may get tired more easily.

Platelets



Platelets help your blood clot.

When your platelets are low, you may bruise or bleed more easily.



Use the log on the next page to keep track of your blood cell counts.

Infection and Low White Blood Cell Count

What it is and why it occurs

White blood cells help your body fight germs that cause infection (sickness). Cancer treatments can make it hard for your body to make new white blood cells. When your white blood cell count is low, your body might not be able to fight off infections like it used to. Without enough white blood cells, infections can quickly become serious. If you have a fever or other signs of infection you need to seek medical care as soon as you can.

Infections that happen during cancer treatment can often be treated. However, some can become serious or life-threatening in a short amount of time. If you have an infection when your white blood cell count is low, you may not see the normal warning signs like pus, redness or swelling. If you feel sick, warm, flushed or chilled, take your temperature to see if you have a fever. Sometimes a fever is the only sign of an infection. Page 18 explains what to do if you have a fever of 100.4°F (38°C) or higher.

When am I most at risk for an infection?

You are likely to have a higher chance (risk) of getting an infection when your blood cell counts are their lowest. This period of time is often called a **nadir**, meaning “lowest point.” The nadir often occurs 7 to 14 days after treatment starts, and it may last up to one week. Your nadir may vary, based on your treatment. **Ask your doctor or nurse when your white blood cell count will be lowest, since this is when you’re most at risk for infection.**

How can I help prevent infections?

Cleaning your hands is one of the best ways to help prevent infections.

Use soap and water to wash your hands. Scrub your hands with soap for 20 seconds before rinsing them with water. Dry your hands fully with a clean paper towel and use it to turn off the faucet. Use an alcohol-based hand sanitizer for times you are not near soap and water.



Always wash your hands before cooking and eating. Wash your hands after you use the bathroom, blow your nose, cough or touch animals. Wash your hands before and after touching wounds or catheters. Infections can happen to anyone, but there are things you can do to help prevent them. Read this handout to learn more ways to help prevent infections. Talk with your doctor or nurse if you have any questions or concerns.

Know the signs and symptoms of infection and what to do

Call your doctor right away (even on the weekend, holidays or in the middle of the night) if you think you have an infection, or if you have:



- **Fever of 100.4°F (38°C) or higher.** Do not take drugs that reduce a fever such as: aspirin, acetaminophen (Tylenol), ibuprofen (Advil, Motrin), or naproxen (Aleve) without your doctor's permission.
- Shaking, chills or sweats that are new or getting worse

Other signs of infection include:

- Redness, soreness, drainage (pus) or swelling in any area, including wounds, ports and IV sites
- Shortness of breath that is new or getting worse
- Rash or new sores on your skin
- Sore throat, new mouth sores or white patches in your mouth
- Frequent need to pee or pain or burning when you pee
- Bloody or cloudy urine
- Stiff neck
- New cough, change in cough or cough with green or yellow mucous (phlegm)
- Vaginal discharge or itching that is not normal for you
- Vomiting (throwing up)
- 3 or more loose, watery bowel movements in 24 hours (diarrhea)
- Sinus pain, pressure or nasal congestion
- New pain
- Confusion or feeling very sleepy or restless for no reason

If you have any questions or concerns, or if you think you have an infection, call your doctor right away.



If you have a fever of 100.4°F (38°C) or higher:

1. **Call your doctor right away** - even on the weekend, holidays or in the middle of the night.

Do not take drugs that reduce a fever such as: aspirin, acetaminophen (Tylenol), ibuprofen (Advil, Motrin), or naproxen (Aleve) without your doctor's permission.

2. If no one calls you back in 20 minutes, go to the nearest ED (Emergency Department). Call your doctor's office again and tell them which ED you are going to.
3. If you go to the ED, as soon as you arrive tell the ED check-in staff **and** triage nurse:
 - you are getting cancer treatment
 - your cancer doctor's name
 - you have a fever and it's an emergency

If you have a fever, make sure you tell the ED check-in staff and triage nurse right away. A fever means you might have an infection. This can be a life-threatening problem and you should be seen quickly.

If your doctor thinks you are very sick, they may tell you to go to the ED in an ambulance. If so, this is for your safety.

Don't forget to give the ED staff a copy of your medicine list.

More ways to help prevent infection: Your mouth

Check your mouth for problems. If you have dentures, remove them before looking in your mouth. Look closely inside your mouth, around your lips, under your tongue, around the edges of your teeth, on the roof of your mouth and on the inside of your cheeks. Call your doctor right away if you have any new mouth pain, sores or white patches in your mouth, or pain when eating or swallowing.

Protect yourself

- Check your mouth and brush your teeth after each meal and before you go to bed. Use a very soft toothbrush to avoid harming your gums. Replace your toothbrush often, especially after any mouth infection. Let your toothbrush dry before storing it.
- Check with your cancer doctor before having any dental work done. Tell your dentist that you are getting cancer treatment.
- Ask your doctor or nurse if and how often you should floss your teeth.
- Use lip balm to protect your lips.
- Brush your teeth after meals and before you go to bed.
- Rinse your mouth at least 3 times a day. Do not use mouthwash that contains alcohol because it can cause burning and dryness. You can make a mouth rinse by mixing $\frac{1}{4}$ teaspoon baking soda and $\frac{1}{4}$ teaspoon salt in 1 cup (8 ounces) of warm water. Swish the mixture around in your mouth, gargle and spit it out. Store any unused mouth rinse in a covered container at room temperature. If your mouth rinse is more than 24 hours old, throw it away and make a new batch.
- Read our **Mouth and Throat Changes** handout for more ways to care for your mouth. Ask your nurse for a copy if needed.



More ways to help prevent infections: Your skin

When your skin is broken, your chances of getting an infection are higher. Keep your skin clean to help prevent germs from entering your body. Inspect your skin often. Report any changes like rashes or sores to your doctor.

Protect yourself

- **Wash your hands often with soap and water.**
Use alcohol-based hand sanitizer for times when you are not near soap and water. Take a warm shower each day. Use lotion or oil to soften dry skin.
- Use sanitizing wipes to clean surfaces and items that you touch. This includes doorknobs, ATM machines and household surfaces.
- Wear gloves when working in the garden, washing dishes or doing housework. If your white blood cell count is low, ask your doctor if it's ok to work in the garden.
- Shave with an electric razor but do not shave your head. It can cause your scalp to become inflamed or infected.
- Do not squeeze or scratch any pimples. Do not cut or tear your nail cuticles. Be extra careful when using scissors, needles or knives.
- Avoid cuts, scratches and burns. Do not go barefoot. Clean any cuts, scrapes, scratches or burns right away with warm water, soap and an antiseptic. Do this each day until the area has a scab over it. Keep the area covered with a clean bandage if needed.
- Clean your rectal area gently after each bowel movement. Speak with your doctor or nurse if your rectal area is sore, or bleeds, or if you have hemorrhoids.
- Ask your doctor or nurse if you should avoid sex.
- If you have a catheter, mediport or wound, watch for signs of infection around these areas. Signs include skin redness, drainage (pus), swelling or soreness. Call your doctor right away if you have any of these signs.



More ways to help prevent infections

Pets and animals

- Wash your hands after touching pets or other animals.
Do not pick up dog waste, clean litter boxes, bird cages or fish tanks.
Ask your doctor if it's ok for you to provide direct care for animals.
- Do not have direct or indirect contact with reptiles, fish and birds.



Food Safety

- Do not eat raw or undercooked fish, seafood, meat, chicken or eggs. These foods may have bacteria that can cause infection.
- Wash raw vegetables and fruits well before eating them.
- Keep hot foods hot and cold foods cold. Do not leave leftovers sitting out. Put them in the fridge as soon as you are done eating.
- Do not eat or drink items that are moldy, spoiled or past the freshness date.
- To learn more food safety guidelines, read our **Food Safety Guidelines for People with Cancer** handout. Ask your nurse for a copy if needed.



Vaccines

- While you are getting cancer treatment, do not get a flu shot or other types of vaccines (immunizations) without first asking your doctor or nurse. Some vaccines contain a live virus, which you should not be exposed to.
- Stay away from people who had a live virus vaccine within the past 30 days.
- If you have not had chicken pox, or have not receive the chicken pox vaccine, call your doctor for advice if you are exposed to it. You may need special treatment.

More ways to help prevent infections

- Clean your hands often. Keep your hands away from your eyes, nose and mouth.
- Stay away from crowds. Try not to be around a lot of people. For instance, try to shop during the least busy hours.
- Stay away from sick children and adults. Call your doctor right away if you have any contact with someone who has chicken pox, shingles, measles or other contagious diseases.
- Do not share drinking glasses, eating utensils or other personal items.
- Wipe yourself from front to back after each time you go to the bathroom. Clean your rectal area well after each bowel movement.
- Stay as active as you can. Avoid staying in bed for long amounts of time. Take deep breaths once in awhile to keep your lungs clear.
- Avoid fresh or dried plants and flowers because of the risk of a fungal lung infection called *Aspergillus*.
- Do not enter, travel through or stay in an area of construction or renovation, or where construction material or debris has been placed or where fields have recently been plowed.
- Talk with your doctor, nurse or dietitian **before** taking probiotics. Ask if it's safe for you to take them. Some patients should avoid taking certain probiotics based on their diagnosis and/or treatment plan.

Low Red Blood Cell Count (Anemia)

What it is and why it occurs

Red blood cells carry oxygen throughout your body. Anemia is when you have too few red blood cells to carry the oxygen your body needs. Your heart works harder when your body does not get enough oxygen. Hemoglobin and hematocrit are the blood tests used to measure the red blood cell count. When these levels are low, you are anemic.

Some types of cancer treatment cause anemia because they make it harder for bone marrow to produce new red blood cells.

Anemia can make you feel:

- Very tired or weak
- Faint or dizzy
- Short of breath
- Like your heart is pounding or beating very fast

You may also appear pale and look like you have lost color in your skin and/or lips.

Call your cancer doctor or nurse right away if you have any of the problems listed above.

Ways to manage anemia:

- **Get plenty of rest.** Try to sleep at least 8 hours each night. You might also want to take 1 or 2 short naps (1 hour or less) during the day.
- **Limit your activities.** This means doing only the activities that are most important to you. Save your energy by being active for short lengths of time. Rest between activities.
- **Accept help.** When your family or friends offer to help, let them. They can help care for your children, pick up groceries, run errands, drive you to your doctor's visits, or do other chores you feel too tired to do.
- **Stand up slowly.** You may feel dizzy if you stand up too fast. When you get up from lying down, sit for a few minutes before standing.
- **Eat a healthy diet and drink enough fluids.** Choose a diet that contains the calories and protein your body needs. Calories help keep your weight up and extra protein can help repair tissues harmed by cancer treatment. Talk to your nurse or ask to speak to our dietitian to find out what foods you should eat. Drink 6 to 8 cups of caffeine-free liquids each day.

There may be times when your doctor wants you to get a blood draw to check your blood cell counts.

If your red blood cell count falls too low, your doctor may want you to get a blood transfusion.



Call your cancer doctor or nurse right away if:

- You have fatigue that is so bad that you cannot do your normal activities
- You feel dizzy or like you are going to faint
- You feel short of breath or have problems breathing
- You feel very tired or weak
- It feels like your heart is pounding or beating very fast
- You look very pale or like you have lost color in your skin and/or lips



To learn more about how to manage fatigue, ask your nurse for our Fatigue handout.

Bleeding and Low Platelet Count

What it is and why it occurs

Platelets are cells that make your blood clot when you bleed. Cancer treatment can lower the number of platelets because it changes your bone marrow's ability to make them.

A low platelet count is called **thrombocytopenia (THROM-boh-sy-toh-PEE-nee-uh)**. This problem may cause bruises even when you have not been hit or bumped into something, bleeding, or a rash of tiny red or purple dots. Your doctor may delay your treatment or order a platelet transfusion if your platelet count is too low.

Ways to prevent bleeding if your platelet count is low

Self-care

- Apply gentle but firm pressure to any cuts until the bleeding stops.
- Brush your teeth with a very soft toothbrush. Soften the bristles of your toothbrush by running hot water over them before you brush.
- Do not use dental floss, water flossers or toothpicks.
- Blow your nose gently with your mouth open.
- Be careful when using scissors, knives, tools, or other sharp objects.
- Use an electric shaver instead of a razor.
- Tell your doctor or nurse if you are constipated or straining to have a bowel movement. They may suggest taking a stool softener and/or laxative.
- Do not use tampons, enemas, suppositories or rectal thermometers.
- Do not wear clothes with tight collars, wrists or waistbands.

Activity

- Make sure your home is safe so you do not fall. Use nonskid rugs and nightlights. If you are not steady on your feet, use a cane or walker.
- Protect your hands and feet. Wear gloves if working in the yard and use an emery board to file nails. Wear shoes all the time, even inside the house or hospital.
- Avoid lifting heavy objects.
- Do not play sports or do other activities during which you could get hurt

Check with your cancer doctor or nurse before:

- Drinking beer, wine, or other types of alcohol.
- Taking vitamins, herbs, minerals, dietary supplements, aspirin, ibuprofen (Advil, Motrin), naproxen (Aleve) or other medicines. Some of these products can change how cancer treatment drugs work or cause bleeding problems.
- Taking acetaminophen (Tylenol). Ask if it's safe for you to take this medicine for pain relief.
- Having sex. If they say you can have sex, use a water-soluble lubricant for sex. Avoid sexual activity that may harm your skin or cause bleeding. Do not have sex if your platelet count is less than 50K (50,000).
- Seeing your dentist.

If you are bleeding from a cut:

1. Stay calm. Put a clean cloth over the cut and apply steady direct pressure for 10 to 15 minutes. If the dressing is saturated, do not remove it. Put more bandages on top of it.
2. Lay down and put the area that is bleeding above heart or head level. Applying an ice pack can help control bleeding.
3. If bleeding is uncontrolled call 911. If bleeding does not stop after 10 minutes of direct pressure, call your doctor or nurse right away or go to the nearest ER (emergency room).

If you have a nosebleed:

1. Call your doctor's office.
2. Sit upright with head slightly tilted forward.
3. Apply ice and constant hard pressure for 15 minutes by pinching the soft part of your nose, just above your nostrils.
4. Do not pack your nose with tissues.
5. If bleeding stops, do not blow your nose right away.
6. If bleeding does not stop and you can't reach your doctor, go to the nearest ER (emergency room). You may need a platelet transfusion if bleeding does not stop.

Call your doctor or nurse right away if you have:

- easy bruising, especially if you have not been hit or bumped into anything
- tiny pinpoint-sized red or purple spots on your skin. These spots are called petechiae (peh-TEK-key-ee).
- Bleeding problems such as:
 - blood in your urine (pee) or red, brown, or pink urine
 - blood in your bowel movements or bowel movements are black
 - bleeding from your gums, nose or rectal area (bottom)
 - bleeding from a cut for more than 10 minutes after you apply pressure
 - soaking 1 or more large size pads or tampons with blood each hour
 - swelling or bleeding that happens more than 24 hours after bleeding is under control
- swelling or a warm or hot feeling in your arm or leg
- signs of infection such as fever of 100.4°F (38°C) or higher, chills, skin swelling, redness/red streaks on skin, warmth, drainage and/or pain



Call 911 right away if have any of these problems:



- uncontrolled bleeding
- coughing or throwing up blood
- vomit that looks like coffee grounds
- sudden, severe headache, confusion or mood changes like being agitated or very irritable
- changes in eyesight
- feeling dizzy or very sleepy
- heavy bleeding or bleeding from a large open wound
- signs of shock from blood loss such as pale, cold, clammy skin, fast pulse or heart feels like it's racing, changes in eyesight, and/or feeling faint or lightheaded

Fatigue: What it is and Ways to Manage

What it is and why it happens

Fatigue, also called tiredness, from cancer treatment can range from a mild to extreme feeling of being tired. Many people describe fatigue as feeling weak, worn out, heavy or slow. Resting does not always help. Fatigue can happen all at once or little by little. People feel fatigue in different ways. You may feel more or less fatigue than someone else who gets the same treatment. If you receive radiation therapy along with chemo your fatigue may be more severe.

Fatigue can happen during treatment and even for weeks or months after it is over. Fatigue can be caused by the type of treatment, the effort of making frequent visits to the doctor, or feelings such as stress, anxiety and depression.

Fatigue can also be caused by:

- Low red blood cell count
- Pain
- Medications
- Appetite loss
- Trouble sleeping
- Lack of activity
- Trouble breathing
- Infection
- Doing too much at one time
- Other medical problems

What you can do to manage fatigue

- **Be active.** Exercise is the best way to lessen fatigue. Ask your cancer doctor if it's safe for you to exercise during your treatment. Even 15 or 30 minutes of exercise a day, like walking or gentle stretching, can help give you energy. Avoid things that could lead to a fall. To learn more, ask for our handout, **Exercise During and After Cancer Treatment**, or call 216-844-5432 to have a copy sent to you.
- **Eat and drink well.** Try to eat 5 to 6 small meals and snacks rather than 3 large meals. Keep foods around that are easy to fix, such as canned soups and frozen meals. Drink 6 to 8 (eight ounce) cups of liquids each day, unless a member of your cancer care team tells you otherwise. If you need help with food and drink choices, you can ask to meet with a dietitian.



More ways you can manage fatigue

- **Plan time to rest.** Alternate between activity and rest. Plan ahead. Rushing uses energy. Limit naps to 30 minutes. Keeping naps short helps you sleep better at night.



- **Keep items you use often within reach.** Don't stand for too long. If needed, use devices such as a reaching or grabbing tool, bedside commode or shower chair.
- **Do things to help you relax.** Lowering stress may give you more energy. You might want to try meditation, prayer, yoga, guided imagery or visualization.

- **Promote good sleep.** You are likely to sleep better at night when you are active during the day. You may also find it helpful to relax before going to bed.



Avoid alcohol and high sugar foods in the evening and caffeine 6 to 8 hours before it bed since they may keep you awake. Wake up and go to bed at the same time each day. Avoid cell phone and computer use late at night. Stop smoking.

- **Plan a work schedule that works for you.** You may want to talk with your boss about ways to work from home. Or you may want to go on medical leave (stop working for a while) while getting cancer treatment.
- **Let family and friends help.** They can help with household chores, provide rides, shop for food and cook meals.
- **Learn from others who have cancer.** People who have cancer can help by sharing ways that they manage fatigue. One way to meet others is by joining a support group – either in person or online.
- **Talk with your doctor or nurse.** Let them know if fatigue is keeping you from doing your normal activities. If you need help coping with difficult thoughts or feelings, or problems like pain, they may suggest you meet with a counselor or specialist.

Call your cancer doctor's office right away if you have:

- Fever of 100.4°F (38°C) or higher or chills
- Fatigue that is so bad that you cannot do your normal activities like getting dressed, taking a shower or making meals
- Dizziness or loss of balance when walking or getting out of a bed or chair
- Confusion
- Weight loss



Go to the nearest Emergency Room or call 911 right away if you have:

- Problems breathing
- Problems walking
- Fainting - passing out or unable to wake up
- Fallen and hurt yourself



Hair Loss from Chemo

What it is and why it happens

Some types of chemo can harm the cells that make hair. This means that the hair on your head and anywhere on your body might fall out.

Hair loss is called alopecia. Hair loss often starts 2 to 3 weeks after chemo begins. Your scalp may hurt at first. Then, hair loss may be a little at a time or in clumps. This can happen anywhere on your body: your head, face, arms, legs, underarms or pubic hair between your legs. It takes about 1 week for all your hair to fall out. Hair often grows back about 2 to 3 months after your last chemo treatment.

Your hair will be very fine when it starts growing back. Your new hair may not look or feel the same as it did before. For instance, your hair may be thin instead of thick, curly instead of straight, and darker or lighter in color.

What you can do about hair loss

Before you lose your hair

- **Ask your doctor or nurse if you are likely to have hair loss.** Some patients may not lose their hair during chemo. Hair loss depends on the type of chemo being used.
- **Cut your hair short.** Cutting your hair short often makes hair loss easier to manage. If shaving your head, use an electric razor to help avoid cutting your skin and causing an infection.
- **If you plan to buy a wig, do so while you still have hair.** The best time to choose your wig is before you start chemo. This way, you can match the wig to your hair color and hairstyle. Choose a wig that feels comfortable and does not hurt your scalp.
- **Ask if your insurance company will pay for a wig.** If it will not, you can deduct the cost of your wig as a medical expense on your income tax. Your insurance company may use the term “hair prosthesis” instead of wig. Ask your nurse or social worker about free wig services in your area or call our Cancer Information Service Line at 216-844-5342.

■ **Be gentle when washing your hair.** Use a mild shampoo, such as a baby shampoo. Dry your hair by patting, not rubbing, it with a soft towel.

■ **Do not use items that can hurt your scalp.** These include:

- Straightening or curling irons
- Hair bands and clips
- Brush rollers or curlers
- Hairsprays, hair dyes or products to perm or relax your hair
- Electric hair dryers
- Straight razor

After you lose your hair

■ **Protect your scalp.** Your scalp may hurt during and after hair loss. Protect it by wearing a hat, turban or scarf when you are outside. Try to avoid places that are very hot or very cold. This includes tanning beds and outside in the sun or cold air. Always apply sunscreen of SPF 30 or higher to protect your scalp.

■ **Stay warm.** You may feel colder once you lose your hair. Wear a hat, turban, scarf or wig to help you stay warm.

■ **Sleep on a satin pillowcase.** Satin causes less friction than cotton when you sleep on it. You may find satin pillow cases more comfortable.

■ **Talk about your feelings.** Many people feel angry, depressed or embarrassed about hair loss. If you are very worried or upset, you might want to talk about these feelings with a doctor, nurse, social worker, family member, friend or someone who has lost their hair from cancer treatment.

Eating Well During Cancer Treatment

This handout suggests ways to eat well and maintain good nutrition during cancer treatment.

People with cancer have different diet needs

When you have cancer, you need to keep up your strength to deal with the side effects of treatment. When you are healthy, eating enough food is often not a problem. But when you are dealing with cancer and treatment, this can be a real challenge.

Eating well during treatment can help you:

- Feel better
- Keep up your muscle strength and energy
- Maintain your weight and your body's store of nutrients
- Lower your risk of infection
- Heal and recover quickly

Try to keep your weight stable during treatment. Your health care team can watch your weight for any rapid weight loss or weight gain. Often, you will need extra protein and calories due to the cancer and treatment. Even though you may not be as active, you may need to eat more to keep from losing weight.



Ask your doctor or nurse if you should speak with a dietitian about diet changes you may need to make.

If your appetite is good and your weight is steady, eat a balanced diet:

Fruits and Vegetables	<ul style="list-style-type: none"> • Eat 5 to 7 servings (or more than 4 cups) each day. • Focus on different colors of fruits and vegetables.
Grain products	<ul style="list-style-type: none"> • Eat at least 6 servings of grain products each day 3 of your 6 servings should be whole grain products. • Examples: ½ cup oatmeal, ½ cup of brown rice, 1 slice of whole grain bread, ½ cup of whole wheat pasta.
Low-Fat Meat, Fish and Poultry	<ul style="list-style-type: none"> • Do not eat more than 18 ounces of cooked red meat each week. Cooked red meats are beef, lamb and pork. • Choose: Lean beef trimmed of fat, such as round, sirloin, flank, and tenderloin; ground beef that is 90 percent lean or greater; cuts of pork trimmed of all visible fat; and skinless chicken breast
Low-Fat Dairy Foods	<ul style="list-style-type: none"> • Choose no more than 3 servings a day of low-fat dairy foods. • Examples: 1 cup of low-fat milk, 1 cup of low-fat yogurt, 2 cups of low-fat cottage cheese, 1/3 cup of low-fat shredded cheese (3 grams of fat or less per ounce)
Cut Back on Fat, Sugar, Alcohol and Salt	

Getting enough liquids

- Try to drink 6 to 8 cups of fluids each day. 1 cup equals 8 ounces. 8 cups equals 64 ounces. Water is the best liquid to drink to stay hydrated. If water does not taste good, try flavored water. Limit your intake of liquids with caffeine to 2 to 3 servings a day.
- Foods that are liquid at room temp can be counted as liquids. Examples are: ice cream, sherbet, gelatin, cream soups and popsicles.
- Keep something to drink with you at all times so you can sip on it throughout the day.
- If you've been told to limit how much you drink, follow those guidelines. If you're unsure, talk to your cancer doctor.



If you are having trouble eating well:

During treatment, you may not feel hungry and foods may not taste right to you. Even small amounts of food may make you feel full. If you have trouble eating, choose high calorie and high protein foods listed in the tables on the next 2 pages. Push yourself to eat even when you are not hungry. Try to eat 5 to 6 small, frequent meals instead of 3 large meals.

If you are not eating well, or if you have vomiting, diarrhea or night sweats, you may need more than 6 to 8 servings of liquids a day. Choose liquids that contain calories such as fruit juices and sports drinks, milk or smoothies. You can also try liquid supplements or meal replacements such as Boost Plus, Carnation Breakfast Essentials or Ensure Plus. Drinking electrolyte containing beverages, like Gatorade or Pedialyte can help replenish fluid loss from diarrhea or throwing up.

Other things you need to know

- Tell your doctor or dietitian if you are on a special diet for high blood sugar (diabetes), kidney or heart disease or any other problem. Talk with your doctor or dietitian before starting any special diets.
- **Talk to your doctor or dietitian about any herbs, herbal products, vitamins, minerals, antioxidants or supplements you take, or are thinking about taking. Some of these products can be unsafe and cause problems by changing how cancer treatments work.**
- Talk with your doctor, nurse, or dietitian **before** taking probiotics. Ask if it's safe for you to take them. Some patients should avoid taking certain probiotics based on their diagnosis and/or treatment plan.

Taste or smell changes

Cancer, cancer treatment or dental problems can cause changes in your sense of taste or smell. Although there is no way to prevent these problems, they often get much better after treatment ends. Some ways to manage these changes include:

- If you have a metal or bitter taste in your mouth, use plastic or bamboo utensils and glass cookware. Use sugar-free lemon or orange candy or mints. Add extra flavor to foods using herbs like basil, oregano or rosemary, or add barbecue sauce to meat or chicken.
- If foods lack flavor or don't taste right, try tart foods and drinks. Use recipes that contain lemon, lime, orange or vinegar. Add citrus fruits to water or drink lemonade. If your mouth or throat is sore, avoid tart or acidic foods.
- If foods taste salty, choose foods that are naturally sweet like carrots or sweet potatoes.
- Reduce food smells by serving foods cold or at room temperature, keeping foods covered and drinking through a straw. Use a fan when cooking.

- Brush your teeth before and after meals. Rinse mouth with a solution of ½ teaspoon of baking soda and ½ teaspoon of salt in 1 cup of warm water. Do this before eating and up to 6 times a day.

Ways to Add Calories

To These Foods	Try Adding
Soups, Potatoes, Hot Cereals, Grits, Rice, Cooked Vegetables, Gravies, Sauces or Noodles	1 tablespoon of butter, margarine adds 120 calories 1 tablespoon of sour cream adds 26 calories
Hot chocolate, Desserts, Gelatin, Pudding, Pancakes, Waffles or Fruit	2 tablespoons of whipped cream adds 25 calories
Soups, Sauces, Scrambled Eggs, Pudding, Hot Cereals, Mashed Potatoes, Hot Chocolate, Meatloaf or Hamburgers	1 cup of whole milk adds 150 calories 1 cup of half and half adds 315 calories
Breads, Muffins, Fruits, or Crackers	1 tablespoon of cream cheese adds 51 calories
Breads, Cereals, Shakes, Fruit or Yogurt	1 tablespoon of honey or jam adds 64 calories 1 tablespoon of sugar adds 30 calories
Cookies, Muffin or Bread Mixes, Yogurt, Fruit or Ice Cream	½ cup of granola adds 210 calories
Muffins, Cookies, Breads, Cakes, Cereals or Puddings	1 mini box of raisins or 2 dried apricots adds 40 calories
Sandwiches, Dips, Toast, Omelets	½ of a medium avocado adds 125 calories

Ways to Add Protein

To These Foods	Try Adding
<ul style="list-style-type: none"> • Sandwiches • Bread • Tortillas • Chili • Hamburgers • Eggs • Vegetables • Soups • Casseroles • Potatoes • Rice • Pasta 	<p>1 ounce of cheese adds 7 grams of protein</p>
<ul style="list-style-type: none"> • Hot cereals • Soups • Hot chocolate 	<p>1 cup of whole milk adds 8 grams of protein</p>
<ul style="list-style-type: none"> • Shakes • Milk • Casseroles • Bread • Meatloaf • Pasta • Sauces • Soups • Mashed potatoes • Puddings • Hot cereals • Scrambled eggs 	<p>¼ cup of powdered milk adds 6 grams of protein</p> <p>1 to 2 scoops of protein powder adds 20 to 35 grams of protein</p> <p>½ cup of Greek yogurt adds 13 grams of protein</p>
<ul style="list-style-type: none"> • Shakes • Cakes • Cookies • Brownies • Pies • Bubbly drinks 	<p>½ cup of ice cream or frozen yogurt adds 4 grams of protein</p>
<ul style="list-style-type: none"> • Salads • Casseroles • Soups • Vegetables 	<p>1 hard cooked egg adds 7 grams of protein</p>
<ul style="list-style-type: none"> • Casseroles • Breads • Muffins • Pancakes • Cookies • Waffles • Fruit, Cereal • Ice Cream • Yogurt • Vegetables • Salad 	<p>¼ cup of nuts or seeds adds 6 to 9 grams of protein</p> <p>¼ cup of wheat germ adds 8 grams of protein</p>

More Ways to Add Protein

To These Foods	Try Adding
<ul style="list-style-type: none"> • Sandwiches • Toast • Crackers • Muffins • Waffles 	<ul style="list-style-type: none"> • Pancakes • Vegetables • Fruits • Shakes <p>2 tablespoons of peanut butter adds 8 grams of protein</p>
<ul style="list-style-type: none"> • Soups • Casseroles • Pasta 	<ul style="list-style-type: none"> • Grains • Vegetables <p>¼ cup of beans or legumes adds 4 grams of protein</p>
<ul style="list-style-type: none"> • Vegetables • Salads • Casseroles • Soups • Sauces • Baked potatoes 	<ul style="list-style-type: none"> • Omelets • Soufflés • Quiches • Stuffing • Sandwich fillings <p>1 ounce of cooked and chopped meat or fish adds 7 grams of protein</p>

A special note for caregivers

Do not be surprised or upset if your loved one's food preferences change from day to day. There may be days when they do not want a favorite food or says it now tastes bad.

Keep food within easy reach. This way, your loved one can snack when they are ready to eat. Put a snack pack of applesauce or diced fruit along with a spoon on the bedside table. Keep roasted nuts on the counter. Keep cut-up fruits and vegetables in the refrigerator. Encourage eating fruits and vegetables with dips for extra calories and protein. Carrots go well with hummus and apples can be dipped in peanut butter.

Offer gentle support rather than pushing your loved one to eat. Suggest that they drink plenty of liquids when their appetite is low. Talk with your loved one about ways to manage eating problems. If you need help, ask their cancer doctor for a referral to a dietitian.

Call your doctor or nurse:

- If you start to have eating problems.
- If you have white, cheese-like patches in your mouth or throat or a white coating on your tongue. These can be a sign of infection.
- If you have swelling in your mouth or mouth sores.



Call your doctor's office right away if you:

- Cannot eat or drink for more than 12 hours
- Have a fever of 100.4°F (38°C) or higher or chills

To learn more

- Read **Eating Hints** from the National Cancer Institute

For a free copy, call our Cancer Information Service line at 216-844-5432 or ask your nurse. To view online, visit cancer.gov/eating-hints or scan the QR code to the right.



- Read our **Food Safety Guidelines for People with Cancer** handout. For a copy, ask your nurse or call our Cancer Information Service line at 216-844-5432.
- Read the booklet **Food Safety for Older Adults and People with Cancer, Diabetes, HIV/AIDS, Organ Transplants and Autoimmune Diseases** - from the Food and Drug Administration (FDA).

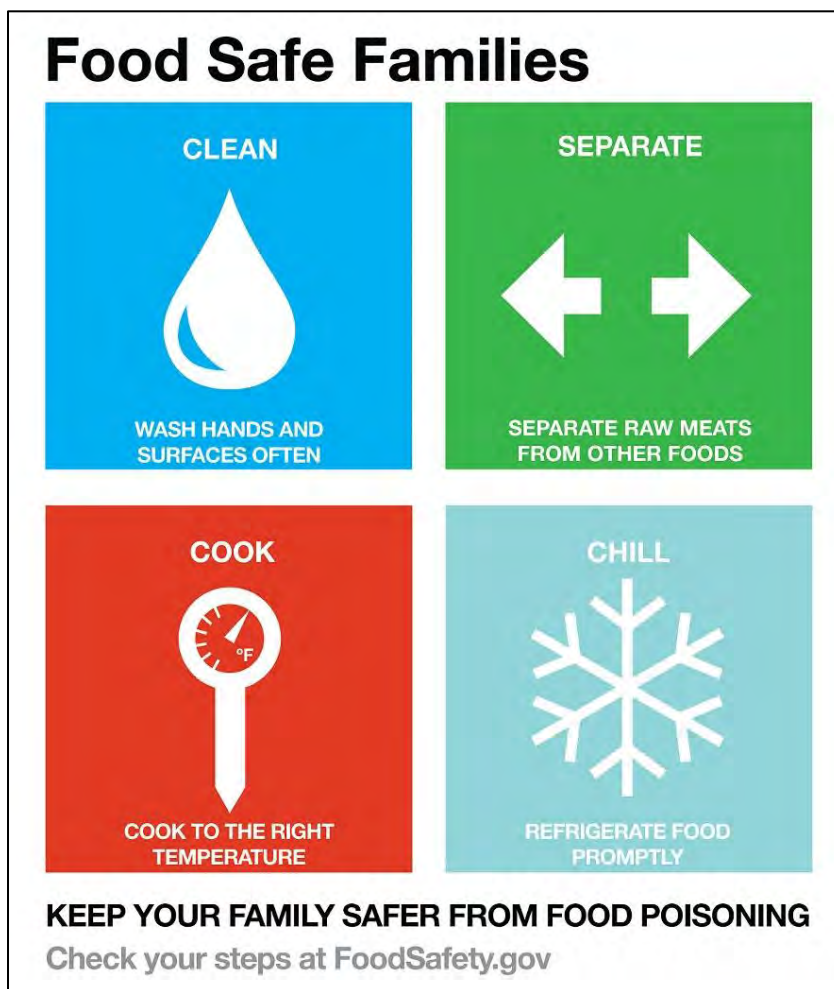
To order a free copy, call 1-888-674-6854 or email fsis.outreach@usda.gov
To view online, visit: foodsafety.gov. Click on People at Risk > People with Weakened Immune Systems

Food Safety Guidelines for People with Cancer




When certain bacteria, viruses or parasites contaminate food, they can cause foodborne illness. People with weak immune systems due to cancer are more likely to get sick from contaminated food. This handout will tell you how to safely handle and prepare your food to avoid foodborne illness. It also has a chart that lists foods you should not eat.

Four basic steps to food safety

Food that looks, smells or tastes fine can have bacteria, viruses or parasites that can make you sick. **Never taste a food to see if it is safe to eat.** The easiest way to stay safe is to follow these 4 steps each time you handle and prepare food: **clean, separate, cook and chill.**



Food Safe Families

<p>CLEAN</p>  <p>WASH HANDS AND SURFACES OFTEN</p>	<p>SEPARATE</p>  <p>SEPARATE RAW MEATS FROM OTHER FOODS</p>
<p>COOK</p>  <p>COOK TO THE RIGHT TEMPERATURE</p>	<p>CHILL</p>  <p>REFRIGERATE FOOD PROMPTLY</p>

KEEP YOUR FAMILY SAFER FROM FOOD POISONING
Check your steps at FoodSafety.gov

Step 1

Clean: Wash your hands and surfaces often. Bacteria, viruses and parasites can spread in the kitchen and get onto cutting boards, utensils, countertops and food. To make sure your hands and surface are clean, you should:

- Wash hands in warm soapy water for **at least 20 seconds** before and after:
 - Handling food
 - Touching garbage
 - Using the bathroom
 - Touching pets
- Wash cutting boards, dishes, utensils and countertops with hot soapy water before and after you prepare raw meat, poultry, seafood and any food that will not be cooked. As an added precaution, the U.S. Department of Agriculture suggest sanitizing cutting boards and countertops by rinsing them in a solution made of 1 tablespoon of unscented liquid chlorine bleach per gallon of water. As an alternative, plastic cutting boards can be run through the wash cycle of a dishwasher.
- Wash produce. Rinse fresh fruits and vegetables and use a clean vegetable brush to scrub firm-skin fruits and vegetables under running water for at least 30 seconds, including those with skins and rinds that are not eaten. These include fruits and vegetables that are prewashed, pre-rinsed or are organic.
- Use paper towels to clean up kitchen surfaces. Wash kitchen cloths, towels and sponges daily in the hot cycle of the washing machine.
- Clean lids of cans with hot soapy water before opening. Wash the can opener with hot soapy water after use.
- Don't wash meat, poultry, fish or eggs. If water splashes from the sink while washing, it can spread bacteria.
- Wipe handles of grocery carts and baskets with a sanitizing wipe before using them.
- Wash your hands with soap and water or use an alcohol-based hand sanitizer after touching menus in a restaurant.

Step 2

Separate and don't cross contaminate. Cross-contamination occurs when germs spread from one food product to another. This often happens when raw meat, poultry, seafood and eggs are not handled safely. The key is to keep these foods and their juices away from vegetables and fruit that will be eaten raw and any other ready-to eat foods.

To prevent cross-contamination:

- Keep raw meat, poultry, seafood and eggs away from other foods in your grocery cart, grocery bags and refrigerator. Put raw packaged meat, poultry or seafood into a plastic bag before putting it in the shopping cart. Store raw meat, poultry and seafood on the bottom shelf of the fridge so their juices won't drip on foods that will not be cooked.
- Never put cooked food back on a plate or cutting board that held raw meat, poultry, seafood or eggs without first washing the plate or cutting board with hot soapy water.
- Don't reuse marinades used on raw foods unless you bring them to a boil first.
- Use separate cutting boards for raw foods and another for ready-to-eat foods, such as bread, fresh fruits and vegetables, and cooked meat.
- Don't cut different types of foods with the same knife. Wash the knife with hot, soapy water before using it to cut a different type of food. Or, use one knife to cut meat, another to cut veggies and another to cut bread.
- Don't taste the food you are cooking with the same utensil used for stirring. Use a clean utensil each time you taste food while it is cooking.



Step 3

Cook foods to safe temperatures. Foods are safely cooked when they are heated to the USDA-FDA recommended safe minimum internal (inside) temperatures, as listed on this page. **To make sure foods are cooked safely, always use a food thermometer.** Check the inside temperature in several places with the thermometer to make sure the food is cooked to the safe minimum temperature. Follow the table below for safe cooking guidelines.

Type of food	Recommended safe minimum internal temperature
Turkey, Chicken, Duck	Heat to an inside temperature of at least 165°F.
Beef, Pork, Veal, Lamb Steaks, Roasts and Chops	Heat to an inside temperature of at least 160°F for ground meats and at least 145°F for steaks, roasts and chops with a 3-minute rest time after cooking. Juices should run clear.
Ham fresh or smoked	Heat to an inside temperature of at least 145°F and allow to rest for at least 3 minutes. Reheat cooked hams packaged in USDA-inspected plants to 140°F and all others to 165°F.
Fish	Heat to an inside temperature of at least 145°F. Cook until flesh is opaque and thickest part pulls apart easily with a fork.
Shrimp, Lobster, Crab	Cook until shells turn red and flesh is pearly opaque.
Clams, Mussels, Oysters	Cook until shells open. If the shells do not open, do not eat the seafood inside.
Eggs	Cook until the yolks and whites are firm. Use only recipes in which the eggs are cooked or heated to at least 160°F.
Sauces, soups, gravies	Bring to a boil when reheating.
Hot dogs, lunch meats, bologna and deli meats	Heat until steaming hot or at least 165°F.
Leftovers and Casseroles	Heat to at least 165°F.
Unpasteurized tofu	Cut into cubes and boil for 5 minutes.
Foods that are cooked and waiting to be served	All foods should stay at least at 140°F between the time they are cooked and served.

When cooking in a microwave oven, cover, stir and rotate food for even cooking. If there is no turntable, rotate the dish by hand once or twice during cooking. Always allow standing time before checking the inside temperature with a food thermometer. Food is done when it reaches at least the safe minimum inside temperature.

Step 4

Chill foods quickly. Cold temperatures slow the growth of harmful bacteria. Keeping a constant refrigerator temperature of 40°F or below is one of the best ways to lower the risk of foodborne illness. Use an appliance thermometer to make sure your refrigerator is 40°F or lower and your freezer temperature is 0°F or lower. To chill foods safely:

- Refrigerate or freeze meat, poultry, eggs, seafood and any perishable foods within 2 hours of buying or cooking. Refrigerate within 1 hour if the temperature outside is above 90°F.
- Never thaw food at room temperature, such as on the countertop. Thaw food in the refrigerator, in cold water, or in the microwave. When thawing food in the refrigerator, keep it away from raw fruits, veggies and other cooked foods. Put a dish under the food to catch drips. If you thaw food in cold water or in the microwave, you should cook it right after it is thawed. Do not refreeze food once it is thawed.
- Place cooked food into shallow containers and immediately put in the refrigerator or freezer for rapid cooling.
- Keep cold foods cold, at 40°F or below. Keep hot foods hot - over 140°F.
- Throw away any cooked or perishable food left out at room temperature for more than 2 hours – 1 hour if the outside temperatures is above 90°F.
- Throw away cooked foods, such as leftovers, that are stored in the refrigerator after 72 hours (3 days). Put dates on cooked foods you store in the refrigerator. If you are not sure about the safety of a food in your refrigerator, don't take the risk – **when in doubt, throw it out!**
- Freeze foods that will not be used within 2 to 3 days.

Call your doctor or nurse right away if you have:

- Nausea or throwing up
- Diarrhea
- Fever of 100.4°F (38°C) or higher or chills
- Stomach cramps



Foodborne illness often feels like the flu. Call your doctor or nurse right away if you have the symptoms above or if you think you have become sick because of food you have eaten.

Foods and drinks to avoid

Some foods and drinks are more likely to contain harmful bacteria or viruses. The risk from these items depends on where they come from and how they are processed, stored and prepared. The items in this chart have a higher chance (risk) of causing a foodborne illness. If you had a bone marrow or stem cell transplant, see page 49 for extra guidelines.

Food Group	Do Not Eat or Drink
Protein Sources	<p>Undercooked or raw meat, poultry, seafood, and shellfish</p> <p>Raw or undercooked (over easy, soft boiled, poached) eggs and unpasteurized egg substitutes</p> <p>Unpasteurized tofu</p> <p>Sliced meats from the deli. Commercially packaged luncheon meats and hot dogs are allowed, if heated until steaming hot before eating.</p> <p>Hard-cured salami in natural wrap</p> <p>Pickled fish; Uncooked, refrigerated smoked seafood such as salmon or trout labeled nova-style, lox, kippered, smoked or jerky</p> <p>Tempe (tempeh) products and all miso products</p> <p>Refrigerated pâtés or meat spreads</p> <p>Unroasted raw nuts and roasted nuts in the shell</p>
Milk	<p>Unpasteurized or raw milk, milk products or eggnog and foods made from unpasteurized or raw milk</p> <p>Unpasteurized cheeses</p> <p>Sliced cheeses from the deli. Commercially packaged cheeses are allowed.</p> <p>Cheeses made with mold as Brie, Camembert, Stilton and Blue and Mexican-style soft cheeses such as queso fresco, queso blanco</p> <p>Unpasteurized yogurt</p>

Food Group	Do Not Eat or Drink
Fruits	<p>Fresh fruits that have not been carefully washed</p> <p>Unpasteurized fruit juices - such as apple cider</p> <p>Fresh fruit salsa and pre-cut fruit from grocery store</p>
Vegetables	<p>Fresh vegetables or herbs that have not been carefully washed</p> <p>Raw sprouts - alfalfa, bean, broccoli and any other sprouts</p> <p>Unpasteurized vegetable juices</p> <p>Fresh fruit salsa and pre-cut vegetables from grocery store</p> <p>Bagged lettuces and salads from restaurants</p>
Grains	<p>Unpackaged breads or bagels from self-serves bins</p> <p>Uncooked grain products such as raw oats</p>
Fats, Oils and Sweets	<p>Salad dressings containing molded cheese such as bleu, Roquefort</p> <p>Foods that contain raw/undercooked eggs such as homemade mayonnaise, eggnog, cookie dough, cake or brownie batter and Caesar-salad dressing</p> <p>Fresh salad dressings (stored in grocery refrigerated case) containing raw eggs or cheeses listed under dairy do not eat category</p>
Beverages	<p>Cold-brewed tea made with warm or cold water</p> <p>Mate tea, sun tea, Kombucha tea</p> <p>Unpasteurized beer, homemade wine or home brewed beer</p> <p>Unboiled well water</p>
Other	<p>Items from bulk food bins, salad bars, buffets or self-service</p> <p>Raw uncooked brewers' yeast</p> <p>Moldy and outdated food products</p>

USDA-FDA Cold Storage Chart

These time limit guidelines help keep refrigerated food safe to eat. Because freezing keeps food safe indefinitely, recommended storage times for frozen foods are for quality only.

Product	Refrigerator (40°F)	Freezer (0°F)
Fresh, in shell eggs	3 to 5 weeks	Don't freeze
Hard cooked eggs	1 week	Don't freeze well
Liquid Pasteurized Eggs, Egg Substitutes		
Opened	3 days	Don't freeze well
Unopened	10 days	1 year
Deli and Vacuum-Packed Products		
Egg, chicken, ham, tuna & macaroni salads	3 to 5 days	Don't freeze well
Hot Dogs		
Opened package	1 week	1 to 2 months
Unopened package	2 weeks	1 to 2 months
Luncheon Meats		
Opened package	3 to 5 days	1 to 2 months
Unopened package	2 weeks	1 to 2 months
Bacon, Sausage and Ground Meats		
Bacon	7 days	1 month
Sausage, raw – from chicken, turkey, pork, beef	1 to 2 days	1 to 2 months
Hamburger, ground beef, turkey, veal, pork, lamb and mixtures of them	1 to 2 days	3 to 4 months
Fresh Beef, Veal, Lamb, Pork		
Steaks	3 to 5 days	6 to 12 months
Chops	3 to 5 days	4 to 6 months
Roasts	3 to 5 days	4 to 12 months
Fresh Poultry		
Chicken or turkey, whole	1 to 2 days	1 year
Chicken or turkey, pieces	1 to 2 days	9 months
Seafood		
Lean fish such as halibut, flounder, haddock	1 to 2 days	6 to 8 months
Fatty fish such as salmon, tuna	1 to 2 days	2 to 3 months
Leftovers		
Leftovers	3 days	Do not reheat



If you had a bone marrow or stem cell transplant, follow the food safety guidelines in our Low Pathogen Diet and Food Safety handout. If you need a copy, ask your nurse.

Other safety tips

Talk with your doctor, nurse or dietitian **before** taking probiotics. Ask if it's safe for you to take them. Some patients should avoid taking certain probiotics based on their diagnosis and/or treatment plan.

Read food labels to make sure food is not past its “sell by” or “use by” date.

When purchasing canned foods, make sure they are free of dents, cracks, or bulging lids. Once home, clean each lid before opening the can.

When eating out, ask if food contains uncooked items such as eggs, sprouts, seafood or meat. If in doubt, choose something else.

Buy produce that is not bruised or damaged.

To learn more

- Visit www.foodsafety.gov
- Read the booklet **Food Safety for Older Adults and People with Cancer, Diabetes, HIV/AIDS, Organ Transplants and Autoimmune Diseases** from the Food and Drug Administration (FDA).

To order a free copy, call 1-888-674-6854 or email fsis.outreach@usda.gov.
To view online, visit: www.foodsafety.gov. Click on People at Risk > People with Weakened Immune Systems

- Learn about food storage timelines on the Foodkeeper app or foodsafety.gov

Constipation

What it is

Constipation is when bowel movements happen less often and stools are hard, dry and not easy to pass. You may also feel bloated or sick to your stomach (nauseated), belch, pass a lot of gas, and have stomach cramps, pain or pressure in the rectum.

Why it happens

Some common causes of constipation are:

- Pain meds, anti-nausea meds and some cancer treatment medicines
- The location of the cancer
- Not being as active or spending a lot of time sitting or lying down
- Changes in your diet such as not eating enough or not drinking enough fluids

Ways to manage constipation

- **If you have a remedy for constipation that's worked before, ask your cancer doctor or nurse if it's okay to use it.** Sometimes they may want you to avoid certain medicines, foods or home remedies for constipation. Never use enemas or suppositories unless your doctor or nurse tells you to do so.
- **Try being active each day.** This can help prevent and relieve constipation. You can be active by walking or doing yoga. If you can't walk, ask what exercises you can do in a chair or bed. Ask your doctor if you need to limit your activity in any way.
- **Drink at least 8 cups of fluids each day unless someone on your health care team tells you not to.** Drink often throughout the day. Drinking warm or hot fluids, such as coffee and tea helps with constipation. Fruit juices, such as prune juice, may also help.
- **Ask your doctor or nurse if you can eat foods high in fiber or use a fiber supplement.** Foods high in fiber and fiber supplements **can harm** people with certain types of cancer or those not drinking enough fluids. Check with your doctor or nurse before adding high fiber foods or a fiber supplement to your diet. High fiber foods include veggies, fruits with skin, whole grain products, popcorn, dried fruits and nuts.



- **If you need help finding a constipation remedy, talk with your cancer doctor, nurse or dietitian.** Ask if there's a laxative, stool softener or other medicine you can take. You may also want to ask if you should take something to help prevent constipation. Doing so may help you keep your normal bowel pattern. It's best to ask **before** starting treatment, if you take pain or anti-nausea medicine or if you've had past problems with constipation.

Call your doctor or nurse right away if you:

- Have not had a bowel movement in 2 days
- Have not had a bowel movement within 24 hours after using a home remedy
- Have belly pain, bloating, cramping, and/or rectal pain
- Have an upset stomach (nausea) and/or are throwing up (vomiting)
- See blood in your bowel movements
- Are not passing gas
- Fever of 100.4°F (38°C) or higher or chills



Constipation is sometimes a sign of a more severe health problem. Call your doctor or nurse right away if you have any concerns.

Go to the nearest Emergency Room or call 911 right away if you have:

- Bleeding from your rectum (bottom)
- Bowel movements with a lot of blood or blood clots
- Bowel movements that are black or tar-like
- Severe belly pain or swelling
- Vomit that is brown, yellow, green, bitter tasting or looks like coffee grounds



Diarrhea


What it is

Diarrhea is 3 or more loose, watery bowel movements in 24 hours. Foods and liquids pass through the bowel (intestines) so quickly that your body cannot absorb enough nutrients, vitamins, minerals and water from them. This can cause your body to lose fluid (dehydration) and have chemical (electrolyte) imbalances. If this happens, you may need IV fluids to replace lost water and nutrients.

Why it happens

Diarrhea can be caused by cancer treatments such as chemo, radiation, surgery or biological therapy. These treatments can harm healthy cells in the lining of your large and small bowel. Diarrhea can also be caused by infections or other medicines.

Ways to manage diarrhea

- **Drink 8 to 12 cups of clear liquids each day.**
1 cup equals 8 ounces. Drink liquids slowly. Include popsicles, ice chips or sports drinks like Gatorade or Powerade. Try to drink 1 cup of fluid after each loose bowel movement.
- 
- **Eat 5 or 6 small meals each day instead of 3 large meals.**
 - **Eat foods and liquids that are high in sodium and potassium.**
When you have diarrhea, your body can lose these substances and it is important to replace them. Foods with sodium include bouillon, fat-free broth, pretzels, and crackers. Foods high in potassium include bananas, oranges, avocados, canned apricots, and baked, boiled or mashed potatoes.
 - **Eat low-fiber foods.** Low-fiber foods include plain or vanilla yogurt, white toast, white rice, eggs, saltine crackers, canned fruit, applesauce, well-cooked veggies, chicken or turkey (skinless and baked, broiled or grilled) and instant oatmeal.
 - **Have foods and drinks that are room temperature.**
 - **Ask your doctor if you should try a clear liquid diet.**
This can give your digestive system time to rest.

Stay away from foods or drinks that can make diarrhea worse.

These include:

- Very hot or very cold drinks
 - Milk products, unless they are low-lactose or lactose-free. Prolonged diarrhea lasting more than 2 days may cause a temporary lactose intolerance. If this happens, limit milk and dairy foods to no more than 2 cups per day. 1 cup equals 8 ounces. You can eat dairy products again after the diarrhea gets better.
 - Be careful with nutrition drinks like Boost or Ensure. Although they are lactose-free they may make diarrhea worse.
 - Fried, greasy or fatty foods
 - Spicy foods, such as curry, garlic, pepper, hot sauce, salsa and chili
 - Drinks that have a lot of sugar such as soda, fruit punch, prune juice, and orange juice and apple juice
 - Foods that are high in fiber such as:
 - Whole wheat breads
 - Whole grain cereals
 - Raw fruits and vegetables
 - Salads and leafy greens
 - Foods or drinks with caffeine such as regular coffee, tea, some sodas, and chocolate
 - Beer, wine, and other types of alcohol
 - Sugar-free products that contain malitol, xylitol or sorbitol. These are mostly found in sugar-free gums and candy. Read product labels to find out if they have these sweeteners in them.
 - Foods or drinks that can cause gas. These include cooked dried beans, cabbage, broccoli, cauliflower, cucumbers, melons, and carbonated drinks.
 - Nuts, seeds and popcorn
 - Tobacco
- **Keep your rectal area clean and dry after each bowel movement using mild soap and water.** Use a cream such as Desitin to protect your skin. **Tell your doctor or nurse if your rectal area is sore or bleeds or if you have hemorrhoids.**
 - **Ask your nurse if a warm sitz bath would be helpful for rectal pain.**

Nausea and Vomiting: Ways to Manage

What it is

Nausea is when you feel sick to your stomach, like you are going to throw up. Vomiting is when you throw up. You may also have dry heaves, which is when your body tries to vomit, even though your stomach is empty.

Nausea and vomiting can occur while you are getting chemo (chemotherapy), right after, or many hours or days later. You will most likely feel better on the days you do not get chemo.

Why it happens

Some causes of nausea and vomiting are:

- Certain types of cancer treatment such as chemo, radiation therapy, surgery, targeted therapy and/or immunotherapy
- The cancer itself
- Certain medicines
- Infections or illness

Some chemo can cause nausea, vomiting or both. If needed, your doctor can prescribe medicines to help prevent nausea and vomiting during and after chemo. These are called **antiemetic** or **anti-nausea** drugs. How and when you take them depends on the type of chemo you are getting and how you react to it. Your doctor may prescribe more than one type of drug to help with nausea. Be sure to take these drugs as ordered and let your doctor or nurse know if they do not work.

If you have questions or concerns about treatments to control nausea and vomiting caused by chemo, talk to your doctor or nurse.

If one anti-nausea drug does not work well for you, your doctor can prescribe a different one.



What you can do about nausea and vomiting

- **Do not take medicines on an empty stomach** unless your doctor tells you to do so.
- **Choose bland, easy-to-digest foods and drinks** that do not upset your stomach. These include plain crackers, toast, pretzels, dry cereal, white rice, bananas, applesauce, gelatin, and drinks such as ginger ale. Avoid high fat dairy products because they may make nausea worse.
- **Eat small meals and snacks.** Instead of 3 large meals each day, you might feel better if you eat 5 or 6 small meals and snacks. Do not drink a lot before or during meals. Also, do not lie down right after you eat.
- **Have foods and drinks that are warm or cool (not hot or cold).** Give hot foods and drinks time to cool down, or make them colder by adding ice. You can warm up cold foods by taking them out of the refrigerator 1 hour before you eat or warming them slightly in a microwave. Drink clear soda or ginger ale at room temperature. Let carbonated drinks lose their fizz before you drink them.
- **Stay away from foods and drinks with strong smells.**
- **Get enough fluids to help prevent dehydration.**
Sip on clear fluids throughout the day which include:
 - Water, broth and caffeine-free tea
 - Sports drinks like Gatorade, Powerade, or Propel
 - Fruit juices like apple, cranberry or grape



Try small bites of popsicles or fruit ices. Sucking on ice chips may be helpful.

- **Suck on sugar-free mints or tart candies like sugar-free lemon drops.**
Do not use tart candies if you have mouth or throat sores.
- **Try ginger candies or ginger-root tea.**
- **Relax before treatment.** You may feel less nausea if you relax before your chemo. Meditate, do deep breathing exercises, or imagine scenes or things that make you feel peaceful. You can also do quiet hobbies such as reading, listening to music or knitting.

- **Try an anti-nausea wristband that uses acupressure points to help control motion sickness.**
- **If you feel like throwing up, breathe deeply and slowly or get fresh air.** You might also distract yourself by chatting with friends or family, listening to music, or watching a movie or TV.
- **Talk to your doctor or nurse before trying other treatments.** If you want to try other treatments for nausea and vomiting, such as acupuncture or cannabis, talk with your doctor or nurse first. This is important because things that seem safe may interfere with your cancer treatment.

Let your doctor or nurse know if your medicine for nausea is not working.

Foods that are easy on the stomach

This list may help if you feel queasy or have trouble keeping food down.

Main meals

- Baby food
- Cooked refined cereals such as cream of wheat or cream of rice
- Cottage cheese
- Eggs
- Macaroni and cheese
- Pureed cooked foods
- Soups

Sweets

- Fruit, pureed or baby food
- Gelatin
- Milkshakes, smoothies
- Soft fruits like bananas or peaches
- Yogurt, plain or vanilla

For a more detailed list of foods that are easy on the stomach, see “Eating Hints,” a book from the National Cancer Institute. For a free copy, call our Patient Education Office at 216-844-5432 or scan the QR code.



Scan me



Call your doctor or nurse right away if you:

- Have a fever of 100.4°F (38°C) or higher or chills
- Cannot eat, drink or keep liquids down for 12 hours
- Cannot take your anti-nausea medicine or it is not working
- Have stomach pain or swelling
- Have not made urine (pee) for 8 hours or if your urine (pee) is dark yellow
- Throw up within 30 minutes after taking your medicine
- Have back pain or a headache
- Have signs of dehydration such as: feeling dizzy, very tired or weak; like heart is racing or skipping a beat, dry mouth, feeling very thirsty and/or not peeing as often as normal



Call 911 if you:

- Have chest pain or problems breathing
- See red, bloody or brown vomit, or vomit looks like coffee grounds
- Have blurry vision, pass out, or become confused, restless or very sleepy for no reason
- Have forceful (projectile vomiting) or bad stomach pain while throwing up



Mouth and Throat Changes

What they are and why they happen

Some cancer treatments can harm cells that line your mouth, throat and lips. This can cause problems with your teeth, gums, lining of your mouth and glands that make saliva. Mouth and throat problems can include:

- A dry mouth with little or no saliva.
- Infections of your gums, teeth or tongue.
- Greater sensitivity to hot or cold foods.
- Mouth sores that can cause trouble eating.
- Changes in your taste and smell. Foods can have strange tastes, like metal or chalk, have no taste at all or taste and smell different.

What you can do

Ask your doctor if you need to see a dentist before starting treatment.

If so, be sure to tell your dentist that you will be getting treatment for cancer.

Check your mouth and tongue each day. Call your doctor or nurse right away if you see any problems such as mouth sores or white spots.

Keep your mouth moist. You can sip water throughout the day, suck on ice chips or sugar-free hard candy and chew sugar-free gum.

Use a water-based moisturizer on your lips at least 2 times a day.

This helps keep your mouth moist. Avoid lip balms or moisturizers that contain petroleum. Petroleum attracts and holds germs, which can lead to infection.

Clean your mouth, teeth, gums and tongue at least 2 times a day.

- Brush your teeth, gums, and tongue after each meal and at bedtime with an extra soft toothbrush and fluoride toothpaste.
- Ask your doctor or nurse if and how often you should floss your teeth.



Rinse your mouth at least 3 times a day. Do not use mouthwash that contains alcohol because it can cause burning and dryness. You can make a mouth rinse by mixing ¼ teaspoon baking soda and ¼ teaspoon salt in 1 cup (8 ounces) of warm water. Swish the mixture around in your mouth, gargle and spit it out. Store any unused mouth rinse in a covered container at room temperature. If your mouth rinse is more than 24 hours old, throw it away and make a new batch.

Be careful of what you eat when your mouth is sore.

- Choose foods that are moist, soft and easy to swallow. Soften food with gravy, sauces, broth, yogurt or other liquids. Avoid foods that stick to your teeth.
- Take small bites of food, chew slowly and sip liquids while you eat. Eat foods at cool or room temperature. Warm or hot foods can hurt your mouth or throat. Suck on ice chips or popsicles to relieve mouth pain.
- Ask to speak with a dietician for ideas of foods that are easy to eat.

Stay away from things that can hurt, scrape or burn your mouth such as:

- Sharp or crunchy foods such as crackers and potato or corn chips.
- Spicy foods, such as hot sauce, curry dishes, salsa and chili.
- Citrus fruits or juices such as orange, lemon, and grapefruit.
- Food and drinks with a lot of sugar, such as candy or soda.
- Beer, wine and other alcohol.
- Toothpicks or other sharp objects.
- Tobacco products such as cigarettes, pipes, cigars and chewing tobacco

If you wear dentures, retainers or other oral devices

- Brush dentures 2 times a day and rinse well. Use a soft bristle toothbrush or a brush made for cleaning dentures. Clean other oral devices 2 times a day as recommended for that device.
- Keep dentures moist when not being worn. Soak them in the denture cleaning solution recommended by your dentist.

- Clean denture and oral device soaking cups and change soaking solution daily.
- Remove dentures or other oral devices when cleaning your mouth. If you have mouth sores, or your mouth is inflamed or painful, avoid wearing these items to prevent further irritation.

Call your cancer doctor's office right away if you have:

- Bad pain in your mouth or throat. Your doctor may order medicine to help lessen this.
- Open sores on your lips, gums, or tongue
- White, cheese-like patches in your mouth or throat. This could be a sign of infection.
- Bleeding gums that do not stop bleeding easily
- Fever of 100.4°F (38°C) or higher or chills
- Mouth problems that cause you to not be able to eat



Chemo Brain: What it is and Ways to Manage

What it is

Chemo brain is a term used to describe problems with thinking that may happen, during or after cancer treatment. Many people say having chemo brain feels like their mind is in a fog. Even though it's called chemo brain, these problems can happen with chemo (chemotherapy), immunotherapy or radiation treatments to the head. Chemo brain can cause trouble with:

- Calling to mind things like names, dates and common words
- Getting things done on time
- Doing more than one thing at a time
- Paying attention
- Finding the right word to say
- Learning new things
- Keeping daily tasks in order
- Solving problems in your head, like keeping a checkbook balanced
- Matching up eye and hand movements, like hitting a nail with a hammer

Why it happens

The cause of chemo brain is not known. People who have chemo, immunotherapy or radiation to the head may have a greater chance of having this problem. Certain chemo drugs and meds to help chemo side effects may change how the brain works. Other things like the cancer itself, low blood counts, trouble sleeping, sadness and stress can also cause problems with thinking.

For **most** people, chemo brain goes away or gets better within a year after treatment is over. For **some** people, chemo brain may get better slowly over time but never fully go away.

What you can do about chemo brain

Talk to your doctor or nurse if you are having problems with thinking. Try these tips to help sharpen your thinking:

- Make lists, take notes or use a daily planner to help keep track of things.
- Use sticky notes, a dry erase board or phone alarms remind you to do things like taking out the trash or locking the door.
- Be aware of things that distract your thinking like TV noise or background music



- Keep the same routine each day. Keep things you use each day in the same place such as your purse, wallet, glasses and keys.
- Do one thing at a time. When doing a task with a lot of steps, like cooking or working on the computer, whisper each step to yourself to help keep focused.
- Repeat out loud the things that you want to remember. Saying something a couple times can help your mind hold on to it. Making up a song to remind you can also help.
- Work your brain by taking a class, doing puzzles or reading books.
- Get at least 8 hours a night sleep and take short naps during the day if you need to.
- Get some exercise daily. Get up and walk for 30 minutes each day. Walk 5 to 10 minutes at a time if 30 minutes at once is too much.
- Ask friends and loved ones for help when you need it. Cutting down on daily tasks can save your mental strength.
- Ask your doctor or nurse about seeing a speech therapist to help with chemo brain problems.



Call your doctor or nurse right away if you have:

- A very bad headache that is not helped by medicine and will not go away
- Throwing up (vomiting) for no reason
- Trouble speaking
- Trouble walking or keeping your balance
- Blurry or foggy eyesight



- **Ask your doctor if over-the-counter medicines, like Imodium may be used. Do not take any medicine for diarrhea without first asking your doctor or nurse.**
- **Ask to speak with a dietitian.** They can tell you food to eat and foods to avoid.
- **Keep track of your bowel movements on a calendar.** Include details about how often you have them and what they look like. If you're having diarrhea, it can be helpful to share these details with your doctor or nurse.

Call your doctor or nurse right away if you:

- Have 3 or more loose or watery bowel movements in a 24-hour period
- Cannot keep fluids down for 12 hours or more
- Feel faint or like you will pass out
- Have dark urine (pee) or do not pee for 8 hours or more
- Are told to take medicine to stop your diarrhea and it does not work
- Have belly pain, cramping or swelling
- Have bleeding from rectal area
- Have broken skin or sores near your rectum (bottom)
- Have a fever of 100.4°F (38°C) or higher or chills
- Have any signs of dehydration like: dizziness, feeling very tired or weak, like your heart is racing or skipping a beat, feeling very thirsty or not peeing as often as normal



Go to the nearest Emergency Room or call 911 right away if you:

- Faint or pass out
- Have bowel movements that are black or tar-like or have blood in them



Nervous System Changes: What they are and Ways to Manage

What they are and why they happen

Some cancer treatments can harm your nervous system. Most often, they can affect the peripheral nerves, which are all of the nerves in the body except for your spinal cord and brain. This is known as **peripheral neuropathy**. This damage can cause pain and make it hard to perform daily functions such as walking or using your hands. These symptoms may resolve over time, or they may last the rest of your life.

Problems may include:

- Tingling, burning, lack of strength, in your hands or feet
- Numbness or loss of feeling in hands or feet. Your ability to sense temperature such as hot/cold or pressure/touch may be lessened or gone.
- “Pins and needles” feeling in hands or feet
- Pain when walking
- Being clumsy or losing your balance
- Feeling colder than normal
- Not able to feel pain from things like a sore on your foot or a cut on your hand
- Sweating too much or too little
- Weak, sore, tired or achy muscles
- Trouble picking things up or buttoning your clothes
- Shaking or trembling
- Hearing loss
- Fatigue (tiredness)
- Stomach pain, constipation, diarrhea or heartburn
- Confusion and memory problems
- Dizziness
- Depression or feeling down
- Less common – low blood pressure or low heart rate

What you can do



- **Call your doctor's office if you are have any of the problems listed on page 64.** Ask them about ways to help manage these problems.
- **Call your doctor's office if you have any signs of an infected wound, such as fever of 100.4°F (38°C) or higher, chills, swelling, skin redness or red streaks on skin, warmth, drainage and/or pain.**
- **Avoid falling.**
 - Walk slowly and keep pathways clear by removing cords, rugs, and other objects.
 - Set up hand rails throughout house, especially in the bathroom, hallways, and stairs.
 - Use a night light or flash light when walking at night or darkened areas.
 - Steady yourself while walking with an assistive device such as a cane or walker.
- **Take breaks when needed.** Give yourself extra time to do things.
- **Protect your feet.** Always wear sneakers, tennis shoes or other footwear with rubber soles. Check your feet daily for any cuts, bruises or burns you may not have felt.
- **Protect your hands.** Wear gloves when working in the garden, cooking or washing dishes. Also wear gloves while handling knives, scissors and other sharp or unsafe object. Check your hands daily for any cuts/bruises/burns you may not have felt.
- **Monitor temperatures closely.** Be extra careful not to burn yourself while cooking. Make sure your bath water is not too hot so that you don't get burned.
- **Talk with your doctor about medicines that may help such as steroids, numbing cream, or pain medicine.**

This info is a general resource. It is not meant to replace your doctor's advice. Ask your doctor or health care team any questions. Always follow their instructions.

Skin and Nail Changes

What they are and why they happen

Some types of chemo can damage the fast-growing cells in your skin and nails. These changes may be painful and bothersome, but most are minor and do not need treatment. Many will get better once you are done with chemo. However, major skin changes need to be treated right away because they can cause lifelong skin damage.

Minor skin changes may include

- **Itching, dryness, redness, rashes and peeling.**
- **Darker veins.** Your veins may look darker when you get chemo through an IV.
- **Sensitivity to the sun** – Your skin may burn very quickly. It can happen even to people who have very dark skin color.
- **Nail problems.** Your nails may darken, turn yellow, or become brittle and cracked. Sometimes nails loosen and fall off, but new nails grow back.
- **Hyperpigmentation:** A problem that results in dark patches on your skin or a darker color on skin. Dark patches can occur around your joints, under your nails, in your mouth, along the vein used for chemo, under tape or dressings, in your hair.



Major skin changes need to be treated right away because they can cause lifelong changes.

See the next page to learn more.

Causes of major skin changes

- **Chemo leaking from your IV.** Tell your cancer doctor or nurse right away if you have burning or pain when you get IV chemo.
- **Allergic reactions to chemo.** Some skin changes may mean that you are allergic to the chemo. Tell your cancer doctor or nurse right away if you have sudden and severe itching, rashes or hives.
- **Radiation recall.** Some chemo causes skin changes in the area where you had radiation. Your skin can become red, blister, peel or be very painful.

Ways to Manage Skin and Nail Changes during Chemo

Some of the tips in this section should not be used for skin that has received radiation. If you are getting radiation, ask your radiation doctor or nurse how to care for the skin at your radiation site.

Itching, dryness, redness, rashes and peeling

- Sprinkle yourself with cornstarch. **Avoid if also getting radiation.**
- Wear gloves when washing dishes, working in the garden, or cleaning the house.
- Take quick showers or sponge baths instead of long, hot baths. Pat, rather than rub yourself dry with a clean towel after bathing.
- Apply cream or lotion while your skin is still damp after washing.
- Use hypoallergenic oil-in-water creams or ointments. Do not use greasy creams or creams that have perfume or petroleum in them.
- Do not use perfume, cologne, lotion, cream, gel or aftershave that has alcohol.
- Take a colloidal oatmeal bath when your whole body itches. Colloidal oatmeal is a special powder you add to bath water.
- Remove make-up with a hypoallergenic liquid cleanser.
- Avoid scratching and use a soft cloth to rub over skin or apply massage or pressure.

Acne-type rash

- Keep your face clean and dry.
- Ask your cancer doctor or nurse if you can use medicated creams or soaps and which ones to use.

Sensitivity to the sun

- Avoid direct sunlight. This means not being in the sun from 10 am until 4 pm. These are the times when the sun tends to be strongest.
- Use sunscreen lotion each day, no matter what season it is. Sunscreen should have an SPF (skin protection factor) of 30 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 30 or higher.
- Wear light-colored pants, long-sleeve cotton shirts and hats with wide brims.
- Do not use tanning beds.



Nail problems

- Do not wear tight fitting shoes.
- If you use topical products to strengthen your nails, stop using them if you have skin or nail pain.
- Tell your cancer doctor or nurse if your cuticles are red and/or painful.
- Do not cut, bite or push back your cuticles. Doing so can increase your chances of getting an infection.

Radiation recall

- Protect the area of your skin that received radiation therapy from the sun. It is more sensitive to the sun and can get sunburn easily.
- Do not use tanning beds.
- Place a cool, wet cloth where your skin hurts.
- Wear clothes made of cotton, or other soft fabric. This includes your underwear - bras, underpants, and t-shirts.
- Let your doctor or nurse know if you think you have radiation recall.

Call your cancer doctor or nurse right away if you have:

- New skin changes, rashes, blisters or pain
- Pain, redness, burning or swelling at any injection or IV site
- Fever of 100.4°F (38°C) or higher or chills



Call 911 right away if you have:

- Swelling of your mouth, tongue or face
- Wheezing or other trouble breathing



Sexual Concerns

What they are and why they happen

Some types of cancer treatment can cause sexual concerns. These changes are different for women and men. Cancer treatments can include surgery, radiation therapy, chemo, and other anti-cancer therapies.

In women, some treatments may affect the ovaries, which can cause changes in hormone levels. Hormone changes can lead to problems like:

- Pain during intercourse
- Symptoms of early menopause such as hot flashes, vaginal dryness, feeling irritable, irregular or no monthly periods
- Being too tired to have sex or not wanting to have sex
- Feeling too worried, stressed or sad to have sex
- Bladder or vaginal infections
- Vaginal discharge or itching

In men, some treatments can cause changes in hormone levels, decreased blood supply to the penis, or harm to the nerves of the penis. These can lead to problems like:

- Being too tired to have sex or not wanting to have sex
- Not being able to get or keep an erection that is firm enough for sex - also called erectile dysfunction or ED
- Not being able to reach climax (orgasm)
- Feeling too worried, stressed or sad to have sex

Whether or not you have sexual concerns depends on if you have had these problems before, the type of treatment you are getting, your age, and if you have any other health problems. Some problems, such as not wanting to have sex, are likely to improve once treatment is over.

What you can do about sexual concerns during treatment

Talk with your doctor or nurse about:

Sex. Ask your doctor or nurse if it is ok for you to have sex during treatment. Most people can have sex, but it is good to ask. Small amounts of chemo may be found in vaginal fluid or semen after getting chemo. It's unknown if these small amounts can harm a sexual partner. To help protect your partner, we recommend that you use a barrier during any type of sex. Follow this guideline **for 7 days** after each IV cancer treatment. **If you take pills for your cancer treatment**, follow this guideline at all times, even if you take a break from your treatment. When you are done taking all of your oral cancer treatment, follow this guideline for 7 days after your last dose.

Some cancer treatments can cause low white blood cell counts, which may increase your chances of getting an infection. Talk to your doctor or nurse if you have questions about your chances of getting an infection during sex. If you had a stem cell transplant, talk to your transplant team about more ways to protect yourself from infection.

Avoid sexual activity that may harm your skin or cause bleeding. Do not have sex if your platelet count is less than 50K (50,000).

Infertility. Ask if cancer treatment will cause you to not be able to get pregnant or father a child and what choices you have. It's best to ask about this **before starting your treatment**. Our Oncofertility Navigator is a specially trained nurse practitioner who can help answer questions and provide resources. To contact the navigator, email oncofertility@uhhospitals.org

Medicines. Talk with your doctor, nurse or pharmacist about medicines that may help sexual problems.

For women:

- **To help prevent infections - wear cotton underwear and pantyhose with cotton linings. Do not wear tight pants or shorts.**
- **Use a water-based vaginal lubricant such as K-Y Jelly or Astroglide when you have sex.** If this doesn't help and sex is still painful, talk to your doctor or nurse.
- **Cope with hot flashes in these ways. Dress in layers**, with an extra sweater or jacket that you can take off. **Be active.** This includes walking, riding a bike or other types of exercise. **Learn ways to manage stress.** Try yoga, meditation or other ways to relax.

For men and women:

- **Be open and honest with your partner about your feelings or concerns.**
- **Explore new ways to show love.** If you are having sex less often, try other things that make you feel close to each other, such as, hug and cuddle more, bathe together or give each other massages.
- **Talk with a doctor, nurse, social worker or counselor.** If you, or your partner are worried about sexual problems, you may want to talk with someone who can help.
- **Learn more.** Visit the American Cancer Society's website, www.cancer.org. Type Sexuality in the search box for more resources.

Birth Control

For women. You must not get pregnant while getting cancer treatments and for a year afterwards. Some medicines may hurt the fetus, mainly during the first 3 months of pregnancy. If you still have menstrual periods, or spotting, talk to your gynecologist about the best birth control for you. Tell your gynecologist that you are getting treatment for cancer since this may affect the type of birth control they suggest.

For men. Your spouse or partner must not get pregnant while you are getting treatment. Cancer treatment can harm your sperm and cause birth defects. Use condoms each time you have sex to prevent pregnancy.

As an extra safety measure, you and your partner may both want to use birth control. This is called the double barrier method.

Call your doctor or nurse if you have:

- Pain during sex.
- Questions about what type of birth control to use.
- Questions about when it is safe to have sex while getting treatment. If your platelet count or other blood counts go down during treatment, talk to your doctor or nurse **before** having sex.
- Concerns or questions about sexual function



Infertility

What it is and why it happens

Some cancer treatments can affect your ability to have children. Women may not be able to get pregnant and men may not be able to father children after treatment.

If you want to preserve the option to have children in the future, it's important to talk with your doctor or nurse and see a fertility doctor before starting cancer treatment.

In women, some cancer treatments may damage the ovaries. This can lower the number of healthy eggs in the ovaries. It can also lower the hormones they produce. The drop in hormones can lead to early menopause. Early menopause and fewer healthy eggs can cause infertility.

In men, some cancer treatment may damage sperm cells, and the way they work. This may cause infertility.

Whether you become infertile depends on the type of cancer treatment you get, your age, and if you have other health problems. Infertility may last the rest of your life.

Ways to manage

Talk with your doctor or nurse if you might want to have children.

Before starting cancer treatment, let your doctor or nurse know if you think you might want to have children in the future. They may talk with you about ways to preserve your eggs or sperm or refer you to a fertility doctor.

You can also talk with our Oncofertility Navigator about fertility options and resources.

Most insurance plans don't cover the cost of fertility preservation. Our fertility center can check your benefits and they have a cost savings program. Some non-profit groups or drug companies may also have programs to help with the cost.

Cancer treatment can cause birth defects. Do not get pregnant or get someone else pregnant while getting cancer treatment.

Use effective birth control to prevent pregnancy. Sometimes birth control is also needed for several months after cancer treatment is done.

Resources

UH Seidman Cancer Center Oncofertility Navigator

Email oncofertility@uhhospitals.org or call our Cancer Information Service Line at 216-844-5432.

Websites

- Alliance for Fertility Preservation – www.allianceforfertilitypreservation.org
- Save My Fertility - www.savemyfertility.org
- Livestrong Fertility – www.fertilehope.org or call 1-855-844-7777

Cancer Therapy Series: Pain

Not everyone who has cancer has pain. But, if you do have pain we want to work with you to find the best way to treat your pain.

What it is and why it happens

Pain may be caused by cancer or other problems such as an infection. Some side effects from chemo can cause pain. These include burning, numbness, and tingling or shooting pains in your hands and feet. Mouth sores, headaches, muscle pains, and stomach pains can also occur.

Doctors and nurses have ways to decrease or relieve your pain. That's why you should speak up and let your health care team know if you are having pain.

Ways to manage

Talk about your pain with a doctor or nurse. Be specific and describe:

- Where you feel pain. Is it in one part of your body or all over?
- What the pain feels like. Is it sharp, dull, or throbbing? Does it come and go, or is it steady?
- How strong the pain is. Describe it on a scale of 0 to 10, where 0 is no pain, and 10 is the worst pain you have ever had.
- How long the pain lasts. Does it last for a few minutes, an hour, or longer?
- What makes the pain better? For instance, does an ice pack, heat or certain medicine help?
- What makes the pain worse? Are there things that cause the pain?
- Which medicines you take for pain. Do they help? How long do they last? How much do you take? How often?

Be sure to tell your doctor or nurse if you have pain.

For a copy of the book, "Pain Control," from the National Cancer Institute, call 216-286-5432 or scan the QR code.



Scan me



Let your family and friends know about your pain. They need to know about your pain so they can help you. If pain is bothering you, they can call your doctor or nurse for you. Knowing about your pain can also help them understand why you may not be acting the same.

Practice pain control

- Take your pain medicine as prescribed. Keep a diary of when you take your pain medicine and how much you take. If your pain medicine is not working, call the health care provider who prescribed it and let them know.
- Try deep breathing, yoga, or other ways to relax. This can help reduce muscle tension, anxiety, and pain. You may also want to try heat, cold or changing positions.

Ask to meet with a pain or palliative care specialist. This can be a doctor or nurse who talks with you about ways to better control your pain.

Let your doctor, nurse, or pain specialist know if your pain changes. Your pain can change over time. When this happens, your pain medicines may need to be changed.

Be aware of pain medicine side effects. Side effects from pain medicine may include constipation, nausea and sleepiness. It may not be safe for you to drive or use heavy machinery. Talk with your doctor or nurse if you have questions or concerns about these side effects.

Call your doctor or nurse if you have:

- New pain that you didn't have before or pain that feels different
- Pain that doesn't get better or go away when you take your pain medicine(s)
- No bowel movement for 2 full days
- Problems keeping food or fluids down for more than 12 hours because of nausea or vomiting
- Problems with being too sleepy, such as napping all day, or falling asleep while talking
- Questions about how much pain medicine to take or how often to take it



Anxiety and Depression

This handout is about anxiety and depression and what to do if they happen. Talk with your doctor or nurse if you have any questions or concerns after reading this.

Anxiety

It is normal to have many feelings after you learn you have cancer. These feelings can change from day to day, hour to hour and minute to minute. One feeling you may have is anxiety. Anxiety is a feeling of distress, worry, fear or panic. It is normal to feel anxious before, during and after treatment for an illness. Your body may react to the stress and worry about your health. You may notice that you:

- Don't feel like eating, or you eat more
- Have headaches or muscle pains
- Feel sick to your stomach or have diarrhea
- Feel shaky, weak, dizzy or your heart beats faster
- Have a tight feeling in your throat or chest or it's hard to breath
- Sleep too much or too little
- Find it hard to concentrate
- Have more pain
- Feel restless
- Find it hard to cope or keep your normal routine

Stress can keep your body from fighting disease as well as it should, so it's important to find ways to help manage anxiety. The next page suggests some things you can do.

Things you can do help manage anxiety

- **Talk with your doctor, nurse or social worker about how you feel.**

Tell us if you would like to speak with our spiritual care coordinator or someone who has special training in mental health.

- **Think about doing deep breathing, progressive relaxation, meditation and/or exercise.** These things may help. A basic breathing technique is to sit or lie down in a comfortable position. Breathe in slowly through your nose. Hold your breath for a few seconds, and then do a long, slow exhale through your mouth. Do this breathing technique for 10 minutes, 2 to 3 times a day.

- **Listen a guided imagery CD or recording.**

- **Do things that you enjoy and that take your mind off your illness.**

You might choose to listen to music, watch a favorite movie, spend time outdoors or talk to friends on the phone.

- **Find a quiet place to rest.**

- **Spend time in prayer or meditation.**

Your doctor may order a medicine to relieve your anxiety. Be sure to tell your doctor or nurse how this medicine is working for you and if you have any side effects from it.

Ways caregivers can help

- Stay with the patient when they are anxious. Be calm and reassuring.
- Talk about and focus on other things you would have talked to your loved one about before they were diagnosed with cancer.
- Speak with a doctor, nurse or social worker if you need help giving support to the person you care about.

Depression

Many people with cancer feel sad or depressed. It is normal to feel sad, worried or depressed some days. But, if you have more than a day here and there where you feel sad and hopeless, this may be a sign of depression. When you're depressed, you may have very little energy, feel tired, get little joy from things that used to make you happy, or not want to eat.

Depression is sometimes a serious problem. If feelings of sadness and hopelessness seem to take over your life, you may have depression. Depression can be treated but you must speak up. If your health care team does not know you are depressed, they cannot help you feel better. When depression is not treated, people may have more problems. This is because they do not have the energy and concentration to follow through with all of the things their health care team asks them to do.

8 common signs of depression are listed below. Let your doctor or nurse know if you have one or more of these signs almost every day.

Early signs of depression

- A feeling that you are helpless or hopeless, or that life has no meaning
- Loss of interest in the hobbies, things you used to enjoy or being with family or friends
- Loss of appetite or no interest in eating
- Crying for long periods of time, or many times each day
- Sleep problems, either sleeping too much or too little
- Changes in your energy level
- Problems thinking, concentrating or making decisions
- Thoughts of killing yourself. This includes making plans or taking action to kill yourself, as well as frequent thoughts about death and dying.

If you ever feel like you will harm yourself or others, go to the nearest Emergency Room (ER), call 911 or contact the National Suicide Prevention Lifeline by calling or texting 988, or chatting online at www.988lifeline.org

Depression can be treated but you must speak up. Tell us if you feel really down or if feelings of sadness or despair seem to take over your life.

Call your doctor, nurse, social worker or mental health counselor right away if you:



- Have anxiety or panic that doesn't go away, gets worse or cannot be controlled
- Feel down, depressed or like you can't cope
- Feel that you are helpless or hopeless, or that life has no meaning
- Lose interest in hobbies, things you used to enjoy or being with family or friends
- Have a loss of appetite or no interest in eating
- Cry for long periods of time, or many times each day
- Have sleep problems, either sleeping too much or too little
- Have changes in your energy level
- Think often about death and dying
- Have depression that gets worse or comes back after getting better

Go to the nearest Emergency Room or call 911 right away if you:

- Have thoughts or plans of harming yourself or someone else
- Make plans or take action to kill yourself
- Have chest pain, problems breathing or a rapid heart rate



To reach the National Suicide Prevention Lifeline, call or text 988 or chat online at www.988lifeline.org.

Relaxation Techniques

Relaxation techniques can be helpful because they can reduce feelings of stress, pain and anxiety and may help boost immune function. This handout explains some common ways to relax, but you may find others that are helpful. Trying these techniques for just a few minutes each day can promote a sense of peace and calmness. They may also help when you are trying to fall asleep, or if you wake up in the middle of the night.

Before you start

Find a quiet place where you can be comfortable sitting or lying down.

Deep breathing

- 1. Place your hands on the bottom of your ribcage (diaphragm).**
- 2. Breathe in (inhale) slowly and deeply through your nose, making your chest rise.** You should feel your hands rising as you inhale.
- 3. Breathe out (exhale) slowly through your mouth.**
- 4. Keep your breathing at an easy and steady rate.**
Make sure it's not too fast or too slow. Keep doing this deep breathing exercise until you feel calm, which can vary from person to person. The techniques below can be added to help.

Repeating a mantra

A mantra is a word or phrase that you find calming.

- Choose a phrase such as “All will be well,” or “Shalom, ” or “peace” to repeat to yourself.
- Be aware of your breathing. Repeat the phrase in your head as you breathe in and out.
- If you have unwanted thoughts, do not fight them. Gently refocus on your breathing or repeat your phrase.

Guided imagery

This technique is a way to relax by forming pictures in your mind. It can be done alone or with someone who can talk you through a scene such as a beach or your backyard.

- 1. Picture a place in your mind that is easy for you to recall details.** Allow your mind to revisit the sounds, smells, tastes and feelings of being in that place.
- 2. Use music if it is calming for you.** If you picture a beach, use a CD with waves splashing in the background. Think about the way that the beach looks. See the waves, sun or the clouds. Smell the salt in the air and taste it on your lips. Feel the sand beneath your toes, while the warm breeze gently blows against your face. Hear the squawk of the seagulls as they soar above your head.

There are many guided imagery apps for your phone or tablet, plus CDs. These CDs can be found at local libraries or online.

After any relaxation technique

Take 3 slow, deep breaths. Let yourself become used to the space around you in the room.

Get up slowly and only when you are ready. Make sure you don't stand up too fast.

To learn more about relaxation techniques



- **Call the Connor Integrative Health Network -**
Some of their programs or classes may have a cost or co-pay.
To learn more, call 216-285-4070 or visit uhconnorintegrativehealth.org.
- **Ask to talk with a social worker, or our Spiritual Care Coordinator**
- **Find out if a local cancer support center offers free services or programs**
 - The Gathering Place in Beachwood and Westlake. Call 216-595-9546 or visit touchedbycancer.org
 - Stewart's Caring Place, serving Summit, Medina, Stark, Portage and Wayne counties. Call 330-836-1772 or visit stewartscaringplace.org
 - Yellow Brick Place in Youngstown. Call 234-228-9550 or visit yellowbrickplace.org

Spirituality and Cancer Resources

Books

When Things Fall Apart: Heart Advice for Difficult Times (2016) Pema Chodron

Being Well (Even When You're Sick): Mindfulness Practices for People with Cancer and Other Serious Illnesses (2012) Elana Rosenbaum

Kitchen Table Wisdom: Stories that Heal, 10th Anniversary Edition (2006)
Rachel Naomi Remen

No Cure for Being Human: (And Other Truths I Need to Hear) (2021) Kate Bowler

Zen Cancer Wisdom: Tips for Making Each Day Better (2014) by Suzanne Friedman

Broken Open: How Difficult Times Can Help Us Grow (2005) Elizabeth Lesser

Fear: Essential Wisdom for Getting Through the Storm (2014) Thich Nhat Hanh

Apps

Day One - award-winning digital journal app that helps build awareness, gratitude, and reflection skills.

Calm - offers guided and unguided meditations that focus on relaxing and keeping steady in tough times.

Headspace - teaches you how to meditate and live mindfully. Includes exercises on everything from managing anxiety to stress relief to breathing.

Healthy Minds Program – free app that centers on 4 key ideas: Awareness, Connection, Insight and Purpose.

Websites

American Society of Clinical Oncology - Go to www.cancer.net and click on the Coping with Cancer tab at the top. Click the Physical, Emotional and Social Effects of Cancer button in the middle, and the Spiritual Support When you have Cancer tab on the left.

National Cancer Institute - offers information on the benefits of spirituality in cancer care. Go to www.cancer.gov, then type in spirituality in the search box.

This information is not meant to take the place of medical advice or professional counseling. If you have questions, please talk to your doctor, nurse, chaplain, or social worker.

Services we provide	Who can help	Ways they can help	For more info
Cancer Information	<ul style="list-style-type: none"> • Cancer Information Service line • Puck Learning Resource Center (Library) 	<ul style="list-style-type: none"> • Answer questions about cancer • Provide books and information about cancer • Perform searches on health topics 	<ul style="list-style-type: none"> • Call or visit the Puck Learning Resource Center* (Library) 216-286-4636 • <i>Located at main campus of UH Seidman Cancer Center –open to all patients</i> • Call the Cancer Information Service line 1-800-641-2422
Symptom Management and Supportive Care	<ul style="list-style-type: none"> • Symptom Management and Supportive Care Clinic* • Inpatient Palliative Care team (for patients in the hospital) 	<ul style="list-style-type: none"> • Talk with you about your values, goals for care & treatment choices • Provide added support to help manage: <ul style="list-style-type: none"> – Pain – Fatigue (feeling tired) – Shortness of breath – Depression – Anxiety (worry) – Loss of appetite – Problems sleeping – Constipation – Nausea/Vomiting 	<ul style="list-style-type: none"> • Speak with your doctor or nurse
Coping and Emotional Support	<ul style="list-style-type: none"> • Social workers • Symptom Management & Supportive Care team • Psychiatrists • Inpatient Palliative Care team (for patients in the hospital) 	<ul style="list-style-type: none"> • Talk with you and your family about your concerns, worries or upset feelings • Provide the support you need • Address concerns about sexuality, self-image and/or changes in family roles 	<ul style="list-style-type: none"> • Speak with your doctor or nurse
Help with Day-to-Day Needs	<ul style="list-style-type: none"> • Social workers 	<ul style="list-style-type: none"> • Counseling and talking about your concerns • Referrals to local resources • Support for children dealing with the illness of a parent or grandparent 	<ul style="list-style-type: none"> • Speak with your doctor or nurse

Ways We Can Help

Services we provide	Who can help	Ways they can help	For more info
Diet and Nutrition Support	<ul style="list-style-type: none"> • Dietitians 	<ul style="list-style-type: none"> • Answer your diet questions • Help you choose the best food and drinks during and after treatment 	<ul style="list-style-type: none"> • Speak with your doctor or nurse
Billing Questions	<ul style="list-style-type: none"> • Financial counselors 	<ul style="list-style-type: none"> • Answer your billing questions • Discuss our financial aid programs 	<ul style="list-style-type: none"> • Call 1-866-771-7266
Discharge Planning	<ul style="list-style-type: none"> • Care coordinators • Case managers • Social workers (inpatient) 	<ul style="list-style-type: none"> • Make plans for extra care and items you may need at home once you leave the hospital • Work with your insurance company during your hospital stay 	<ul style="list-style-type: none"> • Speak with the doctor or nurse caring for you in the hospital
Cancer Rehab	<ul style="list-style-type: none"> • Occupational therapists • Physical therapists • Speech therapists • Physical medicine and rehabilitation doctors 	<ul style="list-style-type: none"> • Use exercise and activity to help regain your strength and movement • Suggest ways to avoid falls and injuries • Manage the effects of lymphedema 	<ul style="list-style-type: none"> • Speak with your doctor or nurse
Art Therapy Music Therapy	<ul style="list-style-type: none"> • Art therapist • Music therapists 	<ul style="list-style-type: none"> • Provide ways to reduce pain and stress, express your feelings and help you cope • Work with you and/or your family 	<ul style="list-style-type: none"> • Call 216-844-5432
Pet Pals	<ul style="list-style-type: none"> • Pet Pals volunteers 	<ul style="list-style-type: none"> • Provide ways to reduce pain and stress, express your feelings and help you cope 	<ul style="list-style-type: none"> • Call 216-844-1504
Integrative Oncology	<ul style="list-style-type: none"> • Integrative Oncology Team Doctor and Nurse Practitioner 	<ul style="list-style-type: none"> • Provide ways to reduce pain and stress, express your feelings and help you cope 	<ul style="list-style-type: none"> • Speak with your doctor or nurse
Spiritual Care	<ul style="list-style-type: none"> • Spiritual care coordinator • Clergy 	<ul style="list-style-type: none"> • Talk with you about your faith or spirituality • Offer prayer, listening and scripture reading 	<ul style="list-style-type: none"> • Call 216-286-3871 or • Speak with your doctor or nurse
Help with Advance Directives	<ul style="list-style-type: none"> • Social workers 	<ul style="list-style-type: none"> • Answer questions and help you complete a Living Will and/or Healthcare Power of Attorney 	<ul style="list-style-type: none"> • Speak with your doctor, nurse or social worker

Some Helpful Tips:

- Talk to your cancer doctor before taking medicines that contain aspirin or ibuprofen. These medicines can cause bleeding problems.
- Drink 6 to 8 cups of fluids each day to help avoid dehydration. Limit your intake of liquids with caffeine to 2 to 3 servings a day.
- Avoid alcohol and tobacco.
- Don't forget to eat. It may be easier to eat 5 or 6 small meals a day. If you have questions about what to eat and drink, ask to speak with a dietitian.
- Avoid long naps during the day. It may disrupt nighttime sleep.
- Try to maintain as much of your normal routine as you can.
- It is your duty to know what medicines you are taking. Please keep a current medicine list with you at all times.



If you have any new health problems or concerns, call your cancer doctor's office. Your care team can help you figure out what is or isn't an emergency.

Ask questions.

The only bad question is the one you don't ask!

Searching Online for Health Info

Be Aware

Many people want to search online for answers after getting a cancer diagnosis. There is a lot of health info online, but what can you trust? Here are some tips you may find useful.

Ask these questions when looking at a website:

- **Purpose: Is the website selling a product or giving free info?** Does it support what your doctor says, or does it want to replace it? Nothing should replace seeing a doctor or other health professional who can give you advice that is specific to your health situation.
- **Author:** Is the website sponsored by an honest, trusted group or person? Or is it written by someone who just has their own experience with the topic? Is the author upfront about who they are? If the author is listed, ask yourself—is this person an expert in the field? Does this person work for an organization and, if so, what are the goals of the organization?
- **Current:** Is the website up-to-date? You don't want to make decisions about your care based on old health info.
- **Personal Info: Does the website respect your privacy?** Or do you have to sign-in to get info? Read the website's privacy policy. It is usually at the bottom of the page or on a separate page titled "Privacy Policy" or "Our Policies." If a website says it uses "cookies," your information may not be private.

Any website that makes promises like these below should **not** be trusted:

- "Treats all forms of cancer"
- "Makes cancers go away"
- "Shrinks malignant tumors"
- "Avoids surgery, radiation, chemo, or other normal treatments."

Be careful if a website tells you to use their product instead of what your doctor suggests.

Helpful Websites for Online Searches

National Institute on Aging - nia.nih.gov/health

This site has a large online library of health topics from Alzheimer's to Vitamins.

Medical Library Association – mla.org - click on For Patients

Tips for finding health info online. Also includes links to many reliable health websites.

Trusted Websites for Cancer Info

These websites can help you find cancer info online. Always talk with your doctor, nurse, or social worker if you have any questions or concerns.

General Cancer Sites

American Cancer Society

1-800-ACS-2345 (227-2345)

Offers info about specific cancers.

cancer.org

National Cancer Institute (NCI)

1-800-4-CANCER (1-800-422-6237)

Offers a wide range of cancer info.

cancer.gov

National Center for Complementary and Alternative Medicine

Offers info about Complementary and Alternative Medicine (CAM).

nccam.nih.gov

Cancer.Net

Sponsored by the American Society of Clinical Oncology (ASCO). Offers info about cancer, treatment, clinical trials, support, and symptom management.

cancer.net

Clinical Trials

UH Seidman Cancer Center

1-800-641-2422

Offers info about clinical trials and lets you search for trials at our center.

UHSeidman.org/clinicaltrials

National Cancer Institute (NCI)

1-800-4-CANCER (1-800-422-6237)

Offers a database of active clinical trials across the country.

cancer.gov/clinicaltrials/search

To Learn More

- **Talk with your doctor, nurse, or social worker.**
- **Call the UH Seidman Cancer Information Line at 1-800-641-2422.**
Talk with one of our nurses about cancer, clinical trials, treatments and doctor referrals.



Words to Know

Acupuncture (AK-yoo-PUNK-cher): The technique of inserting thin needles through the skin at set points on the body to control nausea, vomiting, pain and other symptoms.

Adjuvant chemotherapy (AD-joo-vant KEE-moh-THAYR-uh-pee): Chemo used to kill cancer cells after surgery or radiation.

Alopecia (A-loh-PEE-shuh): The lack or loss of hair from areas of the body where hair is most often found. Alopecia can be a side effect of chemo.

Anemia (uh-NEE-mee-uh): A problem in which the number of red blood cells is lower than normal.

Antiemetic (AN-tee-eh-MEH-tik): A drug that prevents or reduces nausea and vomiting.

Antinausea: A drug that prevents or reduces nausea and vomiting. Also called antiemetic.

Biological therapy (BY-oh-LAH-jih-kul THAYR-uh-pee): Treatment that uses substances made from living organisms to treat disease. These substances may occur naturally in the body or may be made in the lab. Some biological therapies stimulate or suppress the immune system to help the body fight cancer, infection, and other diseases. Others attack specific cancer cells, which may help keep them from growing or kill them. They may also lessen certain side effects caused by some cancer treatments.

Blood cell count (blud sel kownt): A measure of the number of red blood cells, white blood cells, and platelets a sample of blood. Also called CBC or complete blood count..

Bone marrow (bone MAYR-oh): The soft, sponge-like tissue in the center of most bones. It makes white blood cells, red blood cells, and platelets.

Cancer clinical trial (KLIH-nih-kul TRY-ul): Type of research study that tests how well new medical approaches work in people. These studies test new methods of screening, prevention, diagnosis, or treatment of a disease. Also called clinical study or research study.

Catheter (KA-theh-ter): A flexible tube used to give fluids into or withdraw fluids from the body.

Chemotherapy (KEE-moh-THAYR-uh-pee): Treatment with drugs that kill cancer cells.

Constipation (KON-stih-PAY-shun): When bowel movements become less frequent and are hard, dry, and difficult to pass.

Diarrhea (dy-uh-REE-uh): Frequent bowel movements that may be soft, loose or watery.

Dry heaves: When you body tries to vomit even though your stomach may be empty.

Fatigue (fuh-TEEG): A problem of extreme tiredness and inability to function due lack of energy.

Words to Know

Healthy cells: Noncancerous cells that function the way they should.

Hormone (HOR-mone): One of many substances made by glands in the body. Hormones circulate in the bloodstream and control the actions of certain cells or organs.

Impotence (IM-puh-tents): Not being able to get or keep an erection. Also called erectile dysfunction.

Immune System (ih-MYOOON SIS-tem): A complex network of cells, tissues, organs, and the substances they make that helps the body fight infections and other diseases. The immune system includes white blood cells and organs and tissues of the lymph system, such as the thymus, spleen, tonsils, lymph nodes, lymph vessels, and bone marrow.

Infertility (IN-fer-TIH-lih-tee): the inability to produce children.

Injection (in-JEK-shun): Use of a syringe and needle to push fluids or drugs into the body; often called a shot.

Intra-arterial (IN-truh-ar-TEER-ee-ul): Within an artery. Also called IA.

Intraperitoneal (IN-truh-PAYR-ih-toh-NEE-ul): Within the peritoneal cavity. Also called IP.

Intravenous (IN-truh-VEE-nus): Into or within a vein. Also called IV.

Metastatic (meh-tuh-STA-tik): The spread of cancer from the primary site (place where it started) to other places in the body.

Monoclonal antibody (MAH-noh-KLOH-nul AN-tee-BAH-dee): A type of protein made in the lab that can bind to certain targets in the body, such as antigens on the surface of cancer cells.

Nausea (NAW-zee-uh): When you have an upset stomach or queasy feeling and feel like you are going to throw up.

Neoadjuvant (NEE-oh-AD-joo-vant): Treatment given as a first step to shrink a tumor before the main treatment, which is often surgery.

Neutropenia (noo-troh-PEE-nee-uh): An abnormal decrease in the number of neutrophils (a type of white blood cell).

Neutrophil (NOO-troh-fil): A type of white blood cell that is one of the first cell types to travel to the site of an infection. Neutrophils help fight infection.

Outpatient (OWT-pay-shunt): A patient who visits a health care facility for diagnosis or treatment without spending the night.

Words to Know

Palliative (PA-lee-uh-tiv kayr) **care**: Care given to improve the quality of life of patients who have a serious or life-threatening disease.

Peritoneal cavity (PAYR-ih-toh-NEE-ul KA-vuh-tee): The space within the abdomen that contains the intestines, stomach, liver, ovaries and other organs.

Platelet (PLAYT-let): A type of blood cell that helps form blood clots to slow or stop bleeding, and to help wounds heal. Also called thrombocyte.

Port: An implanted device through which blood may be withdrawn and drugs may be given without repeated needle sticks. Also called port-a-cath or Mediport.

Pump: A device used to give a precise amount of a drug at a specific rate.

Radiation therapy (RAY-dee-AY-shun THAYR-uh-pee): The use of high-energy radiation from x-rays, gamma rays, neutrons, protons, and other sources to kill cancer cells and shrink tumors.

Recurrent cancer (ree-KER-ent KAN-ser): Cancer that has recurred (come back) after not being detected for a period of time.

Red blood cells: Cells that help carry oxygen to all parts of the body. Also called RBC.

Side effect (side eh-FEKT): A problem that occurs when treatment affects healthy tissues or organs.

Standard treatment: Treatment medical experts agree is appropriate, accepted and widely used.

Targeted therapy (TAR-geh-ted THAYR-uh-pee): A type of treatment that uses drugs or other substances to identify and attack specific types of cancer cells with less harm to normal cells. Some targeted therapies block the action of certain enzymes, proteins, or other molecules involved in the growth and spread of cancer cells. Others help the immune system kill cancer cells or deliver toxic substances to cancer cells and kill them.

Thrombocytopenia (THROM-boh-sy-toh-PEE-nee-uh): A decrease in the number of platelets in the blood that may result in easy bruising and excessive bleeding from wounds or bleeding in mucous membranes and other tissues.

Vomiting: When you throw up.

White blood cells: (hwite blud sel): Cells that help the body fight infection and other disease. Also called leukocyte and WBC.



To view our online patient education items,
visit www.uhhospitals.org/seidmaneducation
or scan the QR code.