Chemotherapy Guide

Ochsner
MD Anderson
~~Cancer~~ Center
Making Cancer History®

To Our Patients and Family Caregivers,

We know that cancer treatment can feel overwhelming. Chemotherapy is one type of cancer treatment that can cause side effects. This is because chemotherapy may harm healthy cells while it is destroying cancer cells.

The most common side effects of chemotherapy (also called chemo) happen in areas where healthy cells grow quickly. This includes blood cells, hair roots, skin cells, and cells in the reproductive organs and digestive system.

The kind and severity of side effects can be different for each person. It all depends on what kind of chemo you get and how your body responds. Every patient's reaction to these medications is a little bit different.

The good news is you don't have to feel bad all the time during your treatment. We can often help reduce side effects with medicines or other treatments. We want you to have the best quality of life possible. Your cancer care team will watch you closely to help balance treatment with managing any side effects.

This guide explains some common side effects of cancer treatment. If you have a side effect not listed here or have any questions, talk to your care team.

We have included a chart at the back of this guide to help you and your family keep track of when you have side effects and how strong they are.

Sincerely,
Your Ochsner MD Anderson Cancer Center Care Team

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MyOchsner Patient Portal

Activating your online MyOchsner account is easy. See your personalized After Visit Summary (AVS) for sign-up information. If you don't have an AVS, you can still set-up a new account. Just follow these steps.

1. Go to my.ochnsner.org and click the blue "Sign up" icon.
2. If you have an activation code, enter it into the fields provided along with your date of birth. If you do not have an activation code, click "Sign up with your information."
3. Enter the requested information and submit.

If you have questions, send an email to myochsner@ochsner.org or call toll-free 1-877-339-2637.

MyOchsner is not for urgent medical needs. Messages sent through the Patient Portal are only checked during normal business hours.

If you need assistance urgently and cannot wait until the next business day, call your cancer center urgent line and ask for your provider or to speak to the medical oncologist on call.

Introducing the new MyOchsner app... there's MORE inside!

Download the MyOchsner Mobile App today!

Introduction To Systemic Cancer Treatments

Every patient's cancer journey is different. For many, the number of appointments, procedures, and terms can seem overwhelming. This guide explains some of the standard cancer treatments in use at Ochsner MD Anderson Cancer Center today.

To simplify this, let's start with an explanation about cancer.

Some cancer cells have the potential to travel throughout the body. To make sure we reach any that have moved beyond their original site, we use special treatments that can do the same thing. We call these systemic treatments. They use the bloodstream as their super-highway. That way they can affect nearly all the systems, or areas, of the body.

Chemotherapy, immunotherapy, and targeted therapies are all types of systemic treatments. You may also hear them referred to as systemic therapies. Whether the treatment consists of pills, infusions, or injections, it can be hard to feel ready for what's to come.

We hope this guide helps you feel better prepared for the journey. We are here to help you with any questions or concerns about your systemic cancer treatment. We encourage you or your family members to talk to your doctor, nurse navigator, and social worker. They can help you learn more about your treatment before it begins.

It is important to us that you know what to expect before your first treatment. We can help you find resources that may make this process easier. We can also help you cope with any side effects.

Sections in this guide

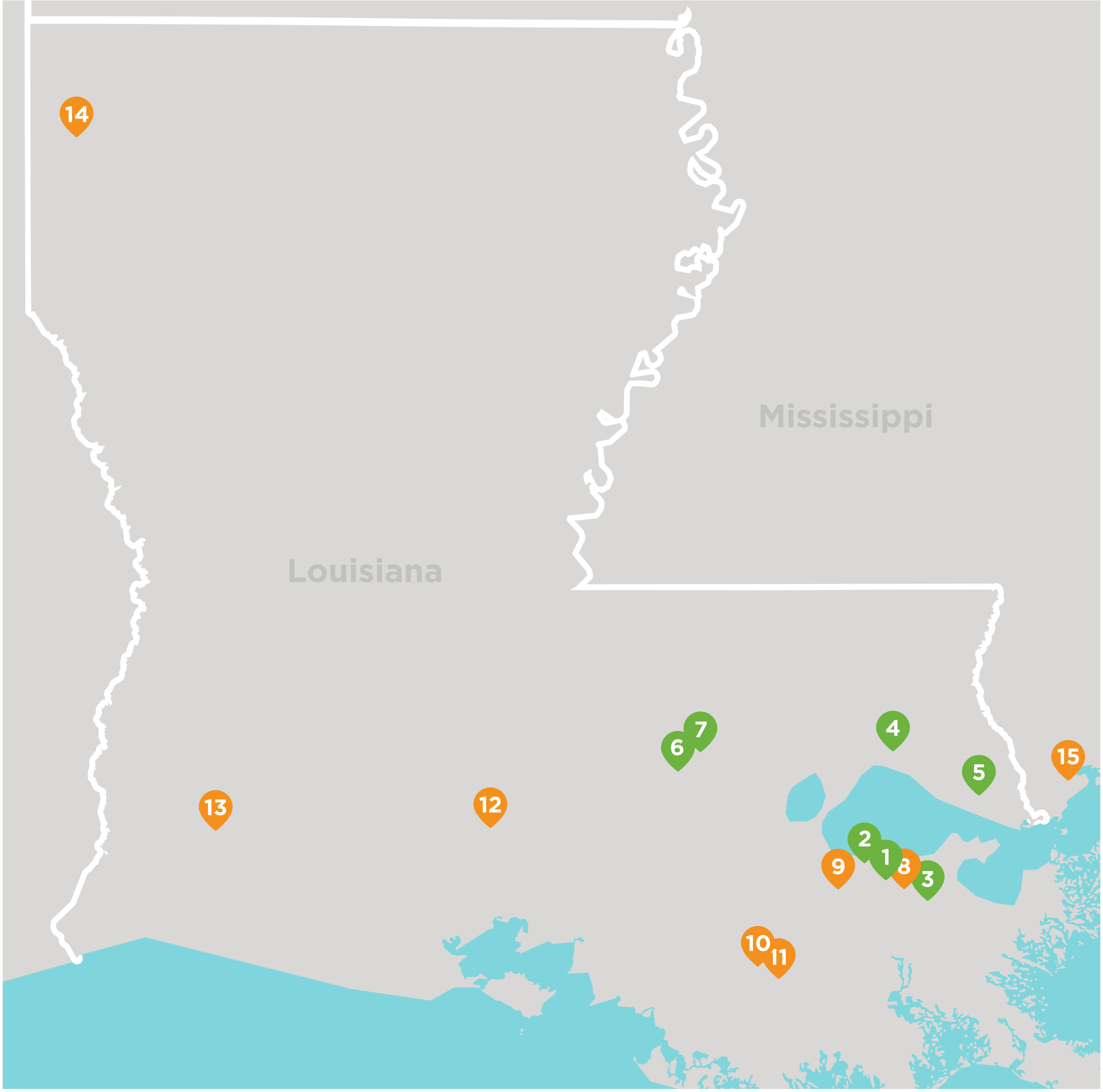
- **Infusion center locations:** Sometimes we can schedule your chemotherapy treatments closer to home. Let your oncologist know if you would like to explore this option.
- **Infusion center guidelines:** These rules help keep patients and visitors safe. Please review these guidelines and ask any questions before your first treatment.
- **Frequently asked questions about systemic therapy:** If a question you have is not listed, feel free to ask your care team.
- **Chemotherapy methods (how chemo is given):** As treatments change and grow, how a patient can receive a drug changes too. We briefly discuss each of the methods in this section.
- **Side effects guide:** This explains common side effects of cancer treatment. It also recommends ways to monitor or cope with them.
- **Nutrition and physical activity:** What to eat, what food and drink to avoid, and how to improve your appetite if you don't feel like eating. Physical activity may help you manage side effects.
- **Extra resources to learn more:** If you'd like to learn more, we recommend the resources in this section.
- **Symptom tracker:** During chemotherapy, it's important to let your provider know about any symptoms. You can use this tracker to record your symptoms between appointments.

Infusion Center Locations

We offer a variety of infusion services as cancer treatment options.

At all of our convenient locations, we strive to make the infusion experience as comfortable as possible.

The ***green points*** *on the map below are Ochsner MD Anderson Infusion Centers. The* ***orange points*** *mark other Ochsner infusion center locations.*



Ochsner MD Anderson Infusion Centers

1. Ochsner MD Anderson Cancer Center at The Gayle and Tom Benson Cancer Center

1515 River Road, New Orleans, LA 70121
504-842-3910
M-F, 7am - 7pm | Sat, 8am - 2pm

2. Ochsner MD Anderson Cancer Center at Ochsner Health Center – Kenner

200 West Esplanade Ave., Suite 200, Kenner, LA 70065
504-464-8615
M-F, 8am - 4:30pm

3. Ochsner MD Anderson Cancer Center at Ochsner Medical Center – West Bank Campus

2500 Belle Chase Hwy., 2nd Floor, Gretna, LA 70056
504-207-2727
M-F, 8am - 4:30pm | Sat by appt (if staff available)

4. Ochsner MD Anderson Cancer Center at St. Tammany Cancer Center – A Campus of Ochsner Medical Center

900 Ochsner Blvd., 3rd Floor, Covington, LA 70433
985-249-2383
M-F, 8am - 6:30pm

5. Ochsner MD Anderson Cancer Center at Slidell Regional Cancer Center – A Campus of Ochsner Medical Center

1120 Robert Blvd., Slidell, LA 70458
985-280-2902
M-F, 7am - 5pm

6. Ochsner MD Anderson Cancer Center at Ochsner Medical Complex – The Grove

10310 The Grove Blvd., Baton Rouge, LA 70836
225-761-5409
M-F, 8am - 5pm

7. Ochsner MD Anderson Cancer Center at Ochsner Cancer Center – Baton Rouge

17050 Medical Center Dr., 1st Floor
Baton Rouge, LA 70816
225-761-5410
M-F, 8am - 5pm

Other Ochsner Infusion Centers

8. Ochsner Baptist – A Campus of Ochsner Medical Center Ochsner Health Center – Baptist Napoleon Medical Plaza

2820 Napoleon Ave., Suite 210, New Orleans, LA 70115
(Located behind outpatient pharmacy)
504-842-9914
M-F, 8am - 4:30pm

9. St. Charles Parish Hospital

1057 Paul Maillard Rd., Suite A-1250, Luling, LA 70070
985-785-5644
M-F, 7am - 3:30pm

10. Terrebonne General Medical Center

This location is part of the Ochsner Health Network but will require additional appointments with a TGMC provider.

8166 W Main St., 2nd Floor, Houma, LA 70360
985-857-8093
M-F, 8am - 4:30pm

11. Leonard J. Chabert Medical Center

1978 Industrial Blvd., 4th Floor, Houma, LA 70363
985-873-2729
M-Th, 7am - 5:30pm | Fri, 7am - 3:30pm

12. Ochsner Lafayette General Medical Center Ochsner Cancer Center of Acadiana

1211 Coolidge Blvd., Suite 100, Lafayette, LA 70503
337-289-8400
M-F, 8am - 5pm

13. Ochsner CHRISTUS Health Center – Lake Area

4150 Nelson Rd., Building G, Suite 2, Lake Charles, LA 70605
337-656-7872
M-F, 8am - 5pm

14. Ochsner LSU Health Shreveport – Feist-Weiller Cancer Center

1501 Kings Hwy., Shreveport, LA 71103
318-813-1000
M-F, 8am - 4pm

15. Ochsner Medical Center – Hancock

149 Drinkwater Rd.., 1st Floor, Bay St. Louis, MS 39520
228-467-3946
M-F, 8am - 4:30pm

Infusion Center Guidelines

The following guidelines are in place to create a relaxing and peaceful environment for all while ensuring patient safety and infection control. Feel free to speak up if something doesn't seem right. Just ask a member of our staff.

We do not deny or limit visitation based on race, color, national origin, ethnicity, religion, gender, gender identity, sexual orientation/preference, disability or financial ability to pay.

1. You have the right to choose who visits you while you get treatment. You can also decide who you do not want to visit. This follows state and federal law. **You can change your mind about visitors at any time. Just tell a member of your care team if you want to add or remove someone from your visitor list.**

2. **Appointments are made based on chair availability.** If you are early or late for an appointment you may wait longer. Our staff will do our best to meet your needs. However we cannot promise that you will get a specific chair or nurse.

3. **All Ochsner MD Anderson and Ochsner facilities are smoke free.** The use of tobacco or tobacco products, including e-cigarettes, is not permitted.

4. **Visitors need to stay next to the patient's chair during treatment.** This helps us respect everyone's privacy and helps keep the infusion center calm and safe.

5. **Visitors should stay home if they are sick.** Visitors should not enter the treatment area if they have any of these symptoms or conditions

   - fever
   - cough
   - runny nose
   - signs of a flu or cold
   - recent exposure to a contagious illness

Ochsner MD Anderson Cancer Center at The Gayle and Tom Benson Cancer Center treatment area

6. Please know that **any changes to your chemo plan or medications need approval from your insurance.** This may mean your treatment appointment will need to be rescheduled.

7. **Only one visitor per patient is allowed during treatment appointments** because space is limited. Visitors may be asked to have a seat in the waiting room until a treatment or a procedure has finished, or if there is an emergency in the department.

   For everyone's safety, if a visitor creates a safety concern and refuses to leave the treatment area when asked, we may notify security. This helps us protect patients, staff, and all visitors.

8. **Infants and children under 18 years old are not allowed** in the treatment area during appointments.

9. Chips, cookies, juices, and soup are available **for patients only.**

10. For patients whose treatments last several hours, **we recommend bringing a lunch or extra snacks.** Alcohol is not allowed.

11. **Visitors may bring food from home for a patient and themselves.** They may also buy food from our cafeterias or vending machines.

12. Help keep our treatment environment comfortable. **Please keep noise levels low. Set your phone on vibrate and avoid using the speakerphone while in the treatment area.**

13. It's a good idea to **bring books, puzzles, magazines or portable music (with earbuds)** to help pass the time. If you have a laptop or tablet, free Wi-Fi is available in the infusion area.

Please keep in mind that each center has their own infusion guidelines. We recommend asking for a copy before your treatment so you know what to expect. Things like visitor policies and private rooms may be different depending on the location.

Thank you for your cooperation in following these safety guidelines.

Visiting patients is a privilege. Infusion Center staff may limit visitor access to keep all patients safe during treatment.

Visitors who do not follow our safety rules may be asked to leave the Infusion Center. They may be escorted off the property by Security. They may also lose their visiting privileges.

Legal requirements may also cause Ochsner MD Anderson to limit or restrict visits to patients.

Frequently Asked Questions About Systemic Therapy

1. What is systemic therapy?

Systemic therapy refers to treatment in which medicine travels through the whole body (your system). It works to reach cancer cells that may have spread (metastasized) to other areas. We often use systemic therapy along with other treatments such as surgery or radiation. Sometimes, we use more than one type of systemic therapy to attack the cancer in different ways.

2. How do different types of systemic therapy work?

Chemotherapy (chemo) is a systemic therapy. Chemo uses special drugs that target and disrupt different phases of the cell life cycle. This slows or stops cancer cell growth. Chemo works by attacking cells that grow and divide quickly – like cancer cells.

Some healthy cells in your body also grow and divide quickly. These include cells in your stomach and intestines, and cells that help your hair grow. That is why chemotherapy can cause side effects like nausea, vomiting, hair loss, and others. The good news is that many side effects get better or go away after treatment ends. For more details, see the “Side Effects Guide” on page 15 for more information.

With **targeted therapies**, a specific characteristic of the cancer is used against it. Targeted therapies find specific features on the cancer cells or a pathway the cells use to grow. These therapies change or block that feature, which helps destroy the cancer cell. Sometimes, normal cells or processes in the body also use the same pathways or features. This may cause side effects during treatment.

Immunotherapies help your body’s immune system learn to find and kill cancer cells. Sometimes this also causes our own immune system to attack healthy organs and tissues, leading to side effects..

This guide focuses on chemotherapy. For more information on targeted therapies and immunotherapy, ask your provider for patient education material that explains these treatments.

3. Why is treatment given in cycles?

There must be a balance between destroying the cancer cells and protecting normal cells. Chemo is often given with rest periods between treatments. These breaks help your healthy cells recover before the next cycle begins.

4. Why can’t my appointments all occur on one day?

In some locations we practice “decoupling” chemo appointments. That means you may have your lab tests and see your provider the day before your treatment.

If your lab results need follow-up or your treatment needs to change, decoupling gives your care team time to adjust the plan without causing long delays on treatment day.

While it may seem inconvenient to come on two separate days, decoupling actually reduces the time you spend in the clinic for each round of treatment.

5. Can I have sex during chemotherapy?

If you are having sex during treatment, use barrier protection, such as condoms or dental dams (for oral sex). This helps prevent infection and passing small amounts of chemo medicine found in semen or vaginal fluid.

Some treatments can make the lining of the vagina more delicate. This can lead to injuries during vaginal sex.

If your treatment lowers certain blood cells, your doctor may tell you not to have sex until your blood counts go back up.

> ⚠ For anyone who can become pregnant, some treatments may cause birth defects. Avoid getting pregnant during treatment and for a while after. Talk to the provider you see for gynecologic care about birth control that is right for you during chemo.

6. Will my insurance cover my chemotherapy?

We know healthcare costs can be complicated, and we know patients are interested in care costs. We want to ensure you and your family can make informed choices. Here are some of the ways we can help you learn more about the cost of your treatment.

- **Pre-Authorization:** Before you get cancer treatment, we often check with your insurance. This process is called pre-authorization. It helps ensure that your insurance will pay for the medicine you receive.

- **Using Biosimilars:** Biosimilars are substitute medications. They work almost the same as the original biologic medications, such as immunotherapy. There are no major differences in how they work or help you. Sometimes insurance companies want us to use biosimilars because they cost less. Your doctor will review and approve biosimilars if they are right for you.

- **Online Cost Estimator:** Our online cost estimator tool is the most convenient way for patients to estimate care costs. The tool is available 24 hours a day, 7 days a week. It helps patients create estimates for 300 of the most common services and procedures. You can find this estimator tool at ochsner.org/billing and click Billing Estimates in the side column.

- **Personal Assistance:** Our expert financial counselors can provide a personalized cost estimate for your care. There are several ways to reach them.

  1. **Call:** 855-241-9351 to speak with an Ochsner MD Anderson financial counselor
  2. **Live Chat:** accessed through ochsner.org/billing or the MyOchsner patient portal
  3. **MyOchsner messaging:** accessed through the MyOchsner patient portal

- **Proactive Estimates for Scheduled Care:** Our financial services team proactively calls patients and sends a message through the patient portal, MyOchsner. This is to let patients know their out-of-pocket costs in advance for scheduled radiology tests, surgeries, clinic procedures, etc.

Ochsner MD Anderson offers these resources to help you and your loved ones stay focused on your health.

In addition to helping you understand care costs, we can also help you cover the cost of care. We provide interest-free payment plans. Every year we help thousands of patients complete applications for financial assistance.

Many drug companies help patients pay for medication. Our Drug Copayment Assistance Program works with patients to apply for these copayment programs.

To learn more about financial assistance, visit ochsner.org.

7. What is Advance Care Planning?

Advance Care Planning allows you to make decisions about your medical care before a time when you might not be able to speak for yourself. There are specific documents that help you put your choices into writing so others understand and can carry out your decisions. These documents are often referred to Advance Directives. They consist of two main parts.

- **Power of Attorney for Healthcare Decisions:** This form allows you to name the person you want to make healthcare decisions for you when you are not able to make them for yourself.
- **Living Will:** This form allows you to state what you wish and do not wish to be done if you are unable to speak for yourself and have a terminal and irreversible condition.

Visit **PrepareForYourCare.org** or **theConversationProject.org** to learn more. These websites have information to help patients and caregivers make medical decisions more easily.

You may also want to visit **ochsner.org/advancecareplan** for more help. The MyOchsner portal also has Power of Attorney and Living Will forms for your use.

Completing these documents

Anyone 18 years or older who is able to make his or her own decisions can complete an advance directive. You do not need a lawyer to complete the forms. The forms will need to be dated and signed by the patient or healthcare representative. They must also be signed by two witnesses not related to the patient by blood or marriage. They cannot be witnessed by anyone entitled to any portion of the patient's estate.

At Ochsner MD Anderson we encourage you to share your healthcare wishes early. A member of your care team can help you fill out these forms if you need help.

If you do complete these forms, share them with people who help with your care.

Give copies to your doctor, family, or anyone involved in your care. Always bring a copy when you go to the hospital or to treatment. You can also email your completed advance directives to Ochsner MD Anderson. Send a clear photo or scanned copy to HIM@ochsner.org.

8. What are clinical trials?

Many people ask about clinical trials. Here are some commonly asked questions about clinical trials.

What is a clinical trial?

- A way for doctors and scientists to learn new ways to help patients
- Designed to answer specific health questions
- May test new drugs, devices, or treatment options
- Helps find better ways to prevent, diagnose, or treat a disease or illness
- May also be called a Research Study or Clinical Study

What are some of the possible benefits?

- You may get a new treatment that is not available to others.
- The new treatment may be safer or work better.
- Doctors and staff check on you carefully at every step.
- You may be among the first to benefit from a new treatment.

Why are clinical trials important?

- The FDA requires all new drugs and devices to go through clinical trials.
- If a new treatment is safe and works well, it may become a new standard treatment.
- Everyday medicines are available because people took part in clinical trials.
- Without people to volunteer to join clinical trials, new drugs and devices would never be approved for use.

What are some of the risks involved?

- A new treatment may not work better than what is already in use.
- There can be unexpected side effects. Sometimes these may be serious.
- Some side effects may be worse than current treatments.
- Risks depend on the study. Some studies are very low risk, like surveys.
- Someone will explain the risks before you decide to join.
- If you do have problems, doctors and staff will make sure you get the care you need.
- You will get direct contact information for help any time, 24/7.

What do I need to do to participate in a clinical trial?

- You may spend more time than for a regular treatment
- This may include extra trips to the clinic or hospital
- You may need to keep a diary or take medicine in a special way
- You may have more treatments or hospital stays
- All of this will be explained to you before you decide to join.

What are my rights and protections?

- You have the same legal and ethical rights as in any medical care.
- Clinical research follows strict federal rules to protect anyone who joins.

Informed Consent means you get all the facts before you decide. The researchers will explain all the risks and benefits. You must sign to show you agree.

You can change your mind or stop at any time. Your choice is always voluntary.

If you decide to leave a study, you can talk with your doctor about other treatment options.

An **Institutional Review Board (IRB)** checks every study to protect you. The IRB includes doctors, scientists, clergy, and local community members. They make sure the risks are reasonable and all rights are protected.

How do I get more information?

- Ask your provider during your next Clinic or Hospital visit.
- Call the Ochsner Clinical Research Department at 504-608-4707.
- Visit ClinicalTrials.gov to see trials in your area or for a specific condition.
- Visit FDA.gov/science-research for easy-to-read information about clinical trials.

Write down any other questions you want to ask at your next appointment.

Chemotherapy Methods

Cancer treatments can be given in a variety of ways or devices. The type of device depends on the type of drugs you are receiving, your physician's preference, and the condition of your veins.

This section covers common methods of chemotherapy. Remember to write down any questions you may have and bring them to your next appointment.

How is Chemotherapy Given?

The most common way we give chemotherapy is **through an IV (intravenous line)**. This means the medicine goes directly into a vein. A thin needle is inserted into a vein on your hand or lower arm at the start of the treatment session and removed at the end.

Sometimes, your chemotherapy will include other devices

- **Catheter:** a soft, flexible tube is placed in a large vein for longer-term use
- **Port:** a small, round device placed under the skin and connected to a vein. A catheter can be attached to a port. The port can be used to give medicine or take blood
- **Pump:** A machine controls how fast the medicine goes through a catheter or port

Chemotherapy may also be given

- **Orally:** in pill, capsule, or liquid which is swallowed
- **By injection:** a needle or syringe injects the drug into the muscle or under the skin

Pills

Some cancer medications are given in pill form (oral chemo). You will either take them every day or in a series of days with breaks in between.

Use extra care handling any chemo medications. **Wash your hands carefully before and after touching them**, or wear gloves. Try pouring the pill straight into a cup to take it.

Do not crush, split or change chemo pills in any way. Be careful with these pills at home so they are not broken. Try pouring the pill straight into a cup to take it.

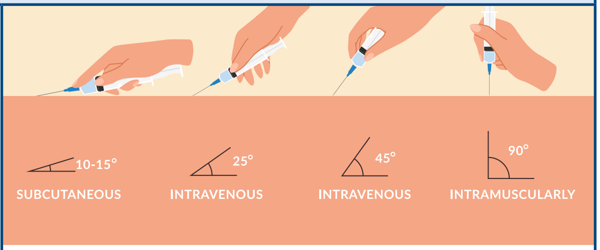
Be sure to follow all instructions for their use. If you have extra pills after your treatment is complete, check with your Ochsner MD Anderson pharmacy to find out how to dispose of them properly.

Make sure to follow directions to store any home chemo medications. Keep them out of the reach of children or pets.

Injections

Chemo and other cancer treatments can be given by injection, or shots. These are given in one of several ways

- into the fat (subcutaneous)
- under the skin (intradermal)
- into the muscle (intramuscular)

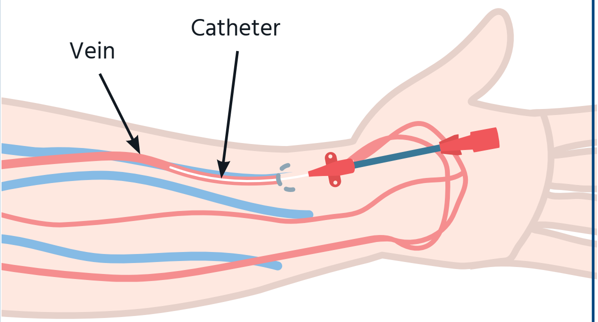


Peripheral Intravenous (IV) Catheter

A short catheter placed in the arm delivers chemotherapy directly into the veins. This is the only method that is fully removed after every treatment.

Peripheral IVs cannot be used if the chemotherapy damages tissues (also called a vesicant). It also cannot be used in patients who have weak or difficult veins in their arms.

Sometimes, even if you have healthy veins when you start treatment, your chemo rounds can cause the veins to weaken. If this happens, your provider may switch to another method.



Mediport

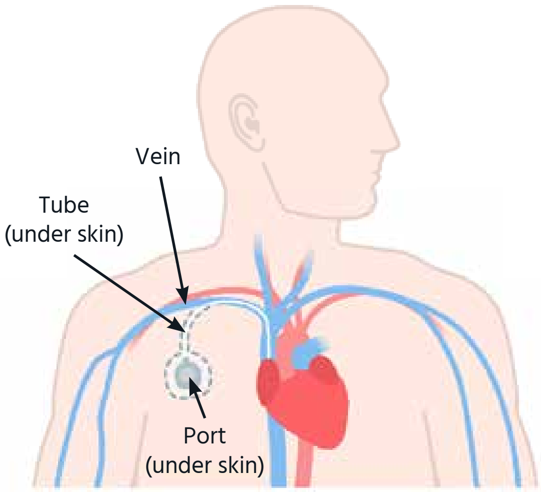
The mediport, also known as a “port-a-cath,” or “port,” is a small device inserted under the skin. It attaches to an internal catheter that leads right to the main vein that enters the heart.

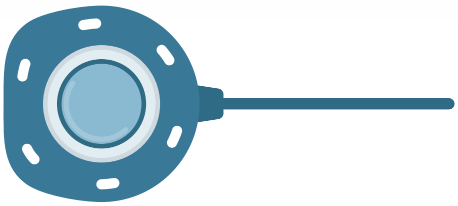
A needle is inserted into the device under the skin. Mediports can be used to give IV fluids, give chemotherapy, or draw blood. The needle used to access the port is removed after each treatment session. The port itself can remain in the body for years if needed and only requires occasional flushing when not in use.

When you do not have a needle in the port, your skin covers the device. You don’t have to worry about getting it wet or caught on anything.

Before inserting the needle into the port, the nurse will clean the area well and wear a mask to prevent any risk of infection or contamination. The nurse may also ask you to turn your head away. Wear loose clothing that you can lift out of the way of your port.

Your physician may write a prescription for **EMLA Cream**, a type of numbing cream that can be applied before your port is accessed. Talk to your oncologist about this before your first treatment. That way you can have some on hand the first time your port is used.





Using EMLA Cream

When to apply

- 30-60 minutes before your scheduled port access. Check with your clinic about what timing is best for you.

How to apply

1. Wash your hands thoroughly with soap and water.
2. Find the port site – the raised bump under your skin, usually on your chest. Clean the skin if needed.
3. Squeeze a nickel-sized amount (1-2 grams) directly over the port site.
4. Do not rub it in. Just let it sit thick on the site.
5. Gently cover with Tegaderm™ dressing or plastic wrap. This helps seal it in and absorb. It also keeps the cream from wiping off on your clothes.
6. Wait 30 to 60 minutes. Keep the cream covered at least 30 minutes before your appointment. It usually takes 60 minutes to reach full numbness. At your appointment, your nurse will remove the dressing and cream before accessing the port.

Other important things to know about your chemotherapy

Plan for extra time around your infusion appointment

Your chemotherapy medicine must be mixed in the pharmacy. This usually happens the same day as your treatment. This helps make sure we do not waste any important medication. We may wait to order the medication until

- You are sitting in your infusion chair
- We check your vital signs

Your visit may take longer than you expect. There are many important reasons that you may have to wait before or during your infusion appointment. These might include new instructions from your provider, time to adjust and mix your chemo, or availability of an infusion chair, among other reasons. Thank you for your patience.

Keeping others safe after chemotherapy

Chemotherapy drugs may be transmitted through bodily fluids. This means they can leave your body in your urine, stool (feces), or vomit. For about 48 hours (2 days) after treatment your body will break down or get rid of most chemo drugs.

You can help keep others in your home safe. Follow these guidelines.

- **If you use bedpan or a container to throw up, be careful not to splash or spill.**
- Slowly pour the waste into the toilet.
- If the bedpan or container used for vomit is not something you can throw away, **rinse it with dishwashing or laundry detergent** and water.
- Pour the rinse water in the toilet.
- Flush the toilet with the lid down.
- Rinse any basin or container you throw up in with dishwashing or laundry detergent and water.
- **Wash clothes or bed linens with body waste on them as soon as possible.**
  - Use hot water and laundry detergent.
  - Wash these items separately from other laundry.
  - If you cannot wash these items right away, put them in a sealed plastic bag until you can.

Caregiver guidelines

- Always wear rubber or disposable waterproof gloves when you clean or handle containers used for body waste.
- After you take off the gloves, wash your hands well with soap and water.
- If you get body waste or chemotherapy on your skin, wash the area with soap and water for 5 minutes.
- Check the skin for the next 7 days. If you see any redness or irritation, contact your doctor.

Side Effects Guide

Fatigue

Fatigue – feeling tired and lacking energy – is the most common symptom experienced by people receiving chemotherapy or radiation.

Fatigue from cancer treatment feels different from the fatigue of everyday life. Chemotherapy or radiation fatigue can appear suddenly. Some people describe it as a total lack of energy, feeling drained or wiped out. Chemo fatigue may last days, weeks, or months. This fatigue usually goes away gradually as your body responds to and recovers from treatment.

How to take care of yourself

- Plan time to rest throughout the day.
- Take several short naps or breaks, rather than one long one.
- Try easier or shorter versions of activities you enjoy.
- Take short walks or do light exercise (with your doctor’s approval).
- Allow others to help you with daily responsibilities.
- Do the things that may give you energy, such as relaxing, listening to music, enjoying nature, or things that make you laugh.
- Eat well-balanced meals high in protein and calories. Avoid caffeine and alcohol.
- Focus on maintaining as normal a lifestyle as is possible. Do what you enjoy, but listen to your body – if you feel tired, rest.
- Increase your daily water intake to help with hydration.

Bone Marrow Suppression

Chemotherapy can affect your bone marrow. This is called bone marrow suppression, also known as myelosuppression.

What is bone marrow?

Bone marrow is the soft tissue inside of some bones. Bone marrow produces

- **White blood cells** to fight infection (leukocytes or WBCs)
- **Red blood cells** to carry oxygen (erythrocytes or RBCs)
- **Platelet cells** to help stop bleeding (platelets)

You have bone marrow in your breastbone (sternum), hips, thigh bones (femur), and upper arm bones (humerus).

How does chemo affect bone marrow?

As you have learned in this guide, chemotherapy attacks cancer cells that grow quickly. Chemo can slow down or stop your bone marrow from making new blood cells. This is because bone marrow cells grow quickly, just like cancer cells. When this happens, your lab tests will show a drop in your blood cell counts.

Here's what you need to know about how chemo affects bone marrow:

- Blood cell counts usually don't drop right away after starting chemo.
- Chemo does not destroy the blood cells you already have.
- Chemo stops your body from making new blood cells.

Your care team will watch your blood counts closely during your treatment. If the counts get too low, they will help you manage it.

Each type of blood cell has an average life span. This has an impact on when each type of blood cell reaches its lowest levels, called the nadir. The average life spans are

- Red blood cells: 120 days
- White blood cells: 6 hours
- Platelets: 10 days

Low White Blood Cell (WBC) Counts (Leukopenia or Neutropenia)

Blood normally has between 4,000 and 10,000 WBCs. Their main function is to help the body fight infection. Sometimes your WBCs are measured by the "absolute neutrophil count" or ANC. This count can help us predict how many white blood cells are being made in your body during treatment.

Because white blood cells play such an important role, your care team will monitor your WBC and ANC levels carefully. If your WBC count falls (called leukopenia or neutropenia), your risk of getting an infection is higher.

IMPORTANT: Watch for these signs and symptoms of a possible infection.

- Fever greater than 100.4° F
- Shaking or chills
- Sore throat
- Shortness of breath
- A new cough
- Nasal congestion
- Burning feeling during urination
- Redness, swelling and warmth at site of an injury
- Diarrhea

You may be at higher risk of developing an infection when your WBC counts are low if you

- Are getting strong doses of chemotherapy and/or radiation
- Already have low white blood cell counts
- Have a medical condition that affects your white blood cell count
- Are 70 years old or older
- Have frequent urinary tract infections (also called UTIs or bladder infections)
- Have a history of a stroke or TIAs (transient ischemic attacks)
- Have a history of depression or anxiety
- Have a history of blood clots in your legs or lungs
- Have problems with your lungs (asthma, emphysema)

How to reduce your risk of infection

- Wash your hands often during the day. Always wash them before you eat, after going to the bathroom and after touching animals.
- Keep hand sanitizer with you at all times in case you cannot wash your hands.
- Stay away from children who have recently received “live virus” vaccines such as chicken pox or oral polio.
- Take good care of your mouth, gums, and teeth.
- Do not eat raw fish, seafood, meat or eggs.
- Clean cuts and scrapes right away and daily until healed.
- Report any signs of infection to your doctor immediately.
- No manicures or pedicures at a salon.
- Do not eat at a buffet or salad bar.
- Talk to your oncologist before any dentist appointments.

How immunizations can help

Some cancers and treatments reduce your body’s ability to fight infection. You may need vaccines to help prevent infections.

Your doctor may recommend vaccines against

- the flu (influenza virus)
- COVID
- bacteria that cause pneumonia, Haemophilus B infections, and meningococcal disease

Talk to your doctor about what vaccines you should get.

Do not come in close contact with children who have received the oral polio vaccine for 30 days after they have received it. The oral polio vaccine contains a live virus. This increases your chances of becoming infected with the virus and developing polio. If you are often in close contact with children who have not had the polio vaccine yet, those children should get the injectable polio vaccine.

Treatment

If your WBC count drops during treatment, your care team may try to prompt the body to make more blood cells. This is done using medications that act like your natural hormones. They tell your bone marrow to make more white blood cells. These medications are called growth factors.

There are two main types of growth factors used for this purpose: short-acting and long-acting. Each type also has alternatives called biosimilars. Your insurance may ask your provider to use a biosimilar growth factor if that is less expensive or more available.

Filgrastim – short-acting growth factor

- Brand names: Neupoge®, Granix®
- How it works: stimulates the bone marrow to make more WBCs.
- How it's given: usually as a daily injection for several days after chemo
- Biosimilar versions:
  - filgrastim-sndz (Zarxio®)
  - filgrastim-aafi (Nivestym®)
  - filgrastim-ayow (Releuko®)

Pegfilgrastim – long-acting growth factor

- Brand name: Neulasta®
- How it works: Similar to filgrastim but lasts longer in the body, so it usually requires only one dose per chemotherapy cycle.
- How it's given: One injection, typically the day after chemotherapy.
- Biosimilar versions:
  - pegfilgrastim-cbqv (Udenyca®)
  - pegfilgrastim-jmdb (Fulphila®)
  - pegfilgrastim-bmez (Ziextenzo®)
  - pegfilgrastim-apgf (Nyvepria®)

Low Red Blood Cell (RBC) Counts (Anemia)

Blood normally has between 4 million and 6 million RBCs. Red blood cells carry oxygen to all parts of your body. A low level of red blood cells is called anemia. If your red blood cell count drops, you may experience

- Fatigue
- Dizziness
- Feeling faint
- Shortness of breath
- Feeling as if your heart is "pounding" or beating very fast (heart palpitations)
- Chest pain
- Nausea and vomiting

How to take care of yourself

- Get plenty of rest: sleep more at night and take naps during the day.
- Limit your activities.
- Ask for help when you need it.
- Eat a diet rich in protein and iron. These foods help your body make red blood cells.
- When sitting, get up slowly.
- When lying down, sit first and then stand.

Treatment

Occasionally a patient will require a blood transfusion to improve their red blood cell count.

Low Platelet Counts (Thrombocytopenia)

Platelets are the blood cells that help stop bleeding by making your blood clot.

A low platelet count is called thrombocytopenia. The normal range for platelet counts is between 150,000 and 350,000. Signs that your platelet count is low include

- Easy bruising
- Heavy or longer menstrual periods
- Bleeding longer than usual after minor cuts or scrapes
- Bleeding gums or nose bleeds
- Developing large bruises (ecchymoses) and multiple small bruises (petechiae)

How to take care of yourself

- Avoid bruising or bumping yourself.
- Wear hard-soled shoes, gloves, or thick pants.
- Use sponge toothbrushes if your gums bleed.
- Use an electric razor.
- Use a nail file instead of nail clippers to avoid cutting skin/nails too short.

Medications may affect clotting. It is important to avoid aspirin, aspirin-containing products, and aspirin-like products, unless instructed by your doctor.

Read all labels carefully. Ask your pharmacist if you have questions about the contents of any medications.

Treatment

Sometimes a platelet transfusion is needed to increase platelet counts.

Hair Loss (Alopecia)

Hair loss, or alopecia, is a common side effect of chemotherapy. It can also occur in the area treated with radiation.

Hair loss usually occurs between 10 and 21 days after treatment. It may happen suddenly and in large amounts or hair may fall out gradually. Hair loss is temporary. Your hair should grow back after treatment ends.

Not all chemotherapy drugs or radiation cause hair loss. Talk with your doctor to see if your treatment may cause hair loss.

How to take care of yourself

- Use a mild shampoo.
- Use a soft hair brush.
- Use low heat when drying your hair.
- Have your hair cut short. A shorter style will make your hair look fuller and thicker.
- Use sunscreen, sun block, a hat, or a scarf to protect your scalp from the sun.
- Avoid perms, relaxers, hair color and dye.
- Keep your head covered in the winter to prevent heat loss.

Treatment

Hair loss can be very upsetting. Many people buy a wig or hairpiece. You can also use hats or scarves to cover your head.

If you buy a wig because of cancer treatment, it is a tax-deductible expense. It may be partially covered by your health insurance.

Cooling caps may help reduce the effects of chemo on your hair roots. There are multiple types of cooling caps to choose from. Not all are covered by insurance and may involve additional cost to the patient.

Ask your provider or nurse navigator for more information about cooling caps.

Nausea and Vomiting

Nausea and vomiting are common side effects of several chemotherapy drugs.

Chemo can irritate the lining of the stomach and the first section of the small intestine (duodenum). The irritation stimulates nerves connected to the vomiting center of the brain. This results in nausea and vomiting.

Everyone is different. Certain drugs are more likely to cause vomiting than others.

Many things can determine whether you have nausea or vomiting. These can also affect how severe this side effect is

- Previous motion sickness
- Previous bad experiences with nausea and vomiting
- Being young
- Heavy alcohol intake
- Still having a menstrual period

How to take care of yourself

- Drink liquids at least one hour before or after meals. **Not with your meal.**
- Stay hydrated. Take sips of 7-Up, ginger ale, fruit juice, tea, broth or bouillon, or tonic water.
- Use the anti-nausea medication ordered by your doctor.
- Try simple foods
  - rice and noodles
  - scrambled eggs
  - toast and crackers
  - Cream of Wheat®
  - bananas
  - applesauce
  - mashed potatoes
  - ice cream
  - custard
  - canned fruit, such as peaches, pears
  - apple juice or fruit nectars

- Avoid strong smelling foods.
- Avoid hot, spicy foods.
- Avoid sweet, fried, greasy, or fatty foods.
- Avoid highly acidic foods.
- Caffeine can make you more dehydrated. Limit the number of drinks with caffeine if you are not drinking much.
- Eat and drink slowly.
- Eat several small meals throughout the day instead of one, two, or three larger meals.
- Use relaxation techniques, acupuncture, or hypnosis to help control nausea and vomiting. Ask your ask your nurse, doctor, or social worker for more information.
- Breathe deeply and slowly when you feel nauseated.
- Rest for at least two hours after a meal. Do not lie flat.
- Try ginger tablets or ginger ale. Ginger may reduce nausea
- Some patients find essential oils or certain smells, such a peppermint, can help reduce nausea.
- Wear loose-fitting clothes.

Treatment

Some medications can help reduce nausea caused by cancer treatment. These are called anti-nauseants or anti-emetics. Talk with your doctor to see which medication is right for you.

Constipation

Constipation happens when you don't have bowel movements often. Your stool (feces or poop) may be dry, hard, or hard to pass. Some people get constipated because they

- Do not eat enough fruit and fiber
- Do not exercise or get enough activity
- Do not drink enough fluids

Most people should drink at least 8 glasses (64-80 ounces) of water or other non-alcoholic drinks per day. You can also think about this as 4 16.9-ounce bottles of water or one 2-liter.

Certain medical conditions and medications may cause constipation. This includes some chemotherapy drugs and many pain medications.

During treatment, you can help prevent or relieve constipation. Your doctor may also recommend medication.

Everyone is different. There is no normal schedule for going to the bathroom. Normal is based on your own usual routine. Going more or less is only a problem if it is different from what is normal for you. If you usually go to the bathroom (have a bowl movement) once a day, going less may mean you are constipated. **Constipation is when your schedule changes for more than just one day.**

Other signs of constipation

- Hard or dry poop (stool) that is hard to pass
- Small, round pieces of poop like marbles
- Feeling like you still need to go after you try

How to take care of yourself

- Eat foods high in fiber like fruits (pears, prunes), cereals, and vegetables.
- Drink 2 liters of non-alcoholic fluids (water, juices) each day. (This is equal to four 16.9-ounce bottles of water.) If your doctor tells you something different, follow those instructions.
- Exercise 20 to 30 minutes most days of the week. Be sure to listen to your body and to your provider about how much you should exercise. Walking is an easy way to be active and helps you stay regular.
- If you have been prescribed a "bowel regimen," make sure you follow it exactly.

Treatment

Your doctor may recommend one or more of these options to prevent or treat constipation. Talk with your doctor or nurse to see which would be best for you.

- Senna (Senokot®)
- Bisacodyl (Dulcolax®)
- Docusate sodium (Colace®)
- Polythylene glycol (Miralax®)
- Magnesium citrate
- Magnesium hydroxide (Milk of Magnesia®)

If your constipation seems related to your chemo, contact your provider if you

- Have pain in your stomach
- Have a fever
- Are unable to pass gas
- Have nausea and/or vomiting with your constipation
- If you have not had a bowel movement in 3 days, even after you've done what your care team suggests
- If your stomach looks swollen and/or feels hard to the touch

Diarrhea

Diarrhea means you have many bowel movements that are loose or watery. It can come out through the body's natural opening (anus) or a surgical opening in the belly (ostomy).

Diarrhea is not a disease itself. It is a symptom that can be caused by another problem or treatment, like chemo or radiation.

Diarrhea can be caused by

- Radiation to abdomen or pelvis
- Anxiety or stress
- Surgery on the small or large bowel or pelvis
- Infection
- Antibiotics, antacids containing magnesium, anti-nausea medicines, laxatives, or stool softeners
- Lactose intolerance
- Irritable or inflammatory bowel syndrome (IBS)
- Malnutrition

How to take care of yourself

Drink 8-10 glasses per day of clear fluids, such as

- Gatorade®
- broth
- Jello®
- water

Eat small amounts of soft, bland low-fiber foods often. These include

- banana
- rice
- noodles
- white bread
- chicken without skin
- turkey
- mild white fish

Limit foods and drinks with caffeine. Limit drinks that are extremely hot or cold. Avoid foods such as

- Greasy, fatty, or fried foods
- Raw vegetables or fruits
- Strong spices
- Whole grains breads and cereals, nuts, and popcorn
- Gas-forming foods & beverages (beans, cabbage, carbonated beverages)
- Products, supplements, or alcohol that contain lactose

Treatment

Your provider may recommend over-the-counter medications to prevent or treat diarrhea. Talk with your doctor or nurse to see what is best for you. Read the label to make sure you can take this medication.

Some over-the-counter medicines that may help

- Loperamide (Imodium®)
- Kaopectate®II caplets
- Maalox® anti-diarrheal caplets
- Pepto® Diarrhea Control (follow instructions on container)

Avoid herbal supplements such as

- milk thistle
- cayenne
- ginseng
- saw palmetto
- others that say they may cause stomach upset

If you have diarrhea several times a day, notify your nurse or doctor. They may give you a prescription medication to control or alleviate diarrhea.

If you have diarrhea, clean the skin around the anus gently with warm water and soft cloth. Dry this skin gently and completely. You may apply a barrier cream (such as Desitin®) to irritated skin. Allow the irritated skin to be exposed to open air as much as possible.

If you suspect that chemotherapy is causing your diarrhea, call your care team if you have

- Fever 100.4° F (38° C) or higher
- Moderate to severe abdominal cramping, pain, straining or bloating
- Dizziness
- Dark (concentrated) urine
- Dry mouth and skin
- Black stools or blood in stools
- Sudden rapid or irregular heart beat
- Frequent loose stools
- If dietary measures and medication do not decrease the diarrhea

Nerve Problems (Peripheral Neuropathy)

Cancer treatment can cause problems with the nerves that carry messages between your brain, spine, and body. This is called peripheral neuropathy.

You may feel these in your hands, feet, or both

- Tingling or "pins and needles" feeling
- Numbness
- Burning or shooting pain
- Skin that is extra sensitive to touch or to hot and cold
- Hard time doing small tasks, like buttoning a shirt
- Depression

How to take care of yourself

- Prevent falls
  - Use handrails.
  - Make sure rugs have non-slip backs.
  - Wear shoes with extra support.
  - Don't walk barefoot.
- Help your hands
  - Use utensils with large handles.
  - Be careful of hot water.
  - Use sharp tools very carefully.
  - Wear gloves when it's cold outside.
  - Use oven mitts when cooking or handling hot items.

Treatment

Talk to your provider about your nerve pain. Your provider may prescribe one of these options

- gabapentin (Neurontin®)
- pregabalin (Lyrica®)
- duloxetine (Cymbalta®)
- amitriptyline (Elavil®)
- acupuncture, which may help manage symptoms
- B vitamins (only if your provider tells you to take them)
- cooling gloves or socks (only if your provider says they're okay)

Your provider might also suggest over-the-counter medicines, such as

- lidocaine or EMLA cream (Aspercreme® with lidocaine, BenGay®, AneCream®, Tegaderm®)
- capsaicin cream (Capzasin®, Zostrix®, Salonpas®)

Similar to cooling caps, cooling gloves and socks may help decrease or prevent the numbness and tingling that some patients experience. Ask your provider or nurse navigator for more information.

Mouth, Gum, and Throat Sores

Mucositis means irritation or sores in the lining of your mouth, throat, and esophagus. Some chemo drugs can cause this side effect.

Chemotherapy may also cause

- sores and swelling in the mouth (stomatitis)
- changes in your throat (pharyngitis)
- changes in your esophagus (esophagitis)

Mucositis is usually temporary. It should go away a few weeks after treatment ends.

How to take care of yourself

- Brush your teeth and gums after every meal. Use a soft toothbrush and a gentle touch. Brushing too hard can damage soft mouth tissues.
- Rinse your mouth 4 to 5 times a day. Mix and rinse with
  - ½ to 1 teaspoon of baking soda in 8 ounces of water OR
  - ½ to 1 teaspoon of salt in 8 ounces of water
- Avoid toothpaste and mouthwash that contains alcohol.

- Eat soft, soothing foods
  - ice cream
  - milkshakes
  - baby food
  - soft fruits (bananas and applesauce)
  - mashed potatoes
  - oatmeal or Cream of Wheat®
  - soft-boiled or scrambled eggs
  - yogurt or cottage cheese
  - macaroni and cheese
  - casserole dishes
  - soup or stew
  - pudding
- Puree cooked foods in the blender. This will make them smoother and easier to eat.
- You can also blend casseroles, soups, and stews.
- Avoid irritating foods or juices
  - tomato juice
  - orange juice (or other citrus)
  - spicy or salty foods
  - rough or coarse foods
  - raw vegetables
  - granola
  - popcorn
  - toast

Treatment

Talk to your provider if you notice mouth or throat sores. They can give you medication to help ease the pain.

Skin Reactions/Changes

Chemotherapy can also affect your skin. Talk to your nurse or doctor if you notice any changes near the site of an injection or treatment, such as

- Redness
- Pain
- Swelling
- Sores

Chemo can also cause other side effects to your skin

- Itchy skin
- Scaly skin
- Redness
- Skin peeling
- Acne (breakouts)
- Darker color skin or nails
- Darker skin over a vein
- Hard skin (especially where you've had surgery)
- Slow healing where you've had surgery

These skin changes are usually temporary. They will go away a few weeks after treatment ends.

Talk to your provider about any changes you see or feel. Call your doctor right away if you notice

- Pain, redness or swelling at the injection site
- Blisters or open sores at the injection site
- Eye soreness
- Hives (swelling)
- Severe itching
- Rash

How to take care of yourself

- Keep your skin clean and dry.
- Bathe or shower daily.
- Try moisturizing lotion with
  - aloe vera
  - lanolin
  - vitamin E
- Protect yourself from the sun. Use sunscreen of SPF 30 or higher and wear a hat. Be sure to re-apply sunscreen.
- Do not use tanning beds.

! If you are getting or have had radiation therapy, check with your doctor or nurse before using certain lotions.

Treatment

Depending on the condition of your skin, your doctor may order creams or special washes.

Sexuality and Fertility

Sexuality is an intimate form of communication. It can involve touch, verbal expression, and other displays of affection. No treatment for cancer can destroy a person's sexuality. But physical or emotional changes connected to cancer treatment can alter how a person feels about their sexuality.

Chemotherapy can affect reproductive and sexual health.

Whether this happens depends on

- Your age at the time of treatment
- How much and how long you receive treatment
- The specific chemo drugs used

Talk to your provider about any concerns or questions. They can explain what to expect.

Your provider can suggest ways to help protect your reproductive health. Each person is different. You may experience one or two side effects or you may experience none. Don't feel embarrassed to talk with your provider about your concerns.

For women

- Ovaries may be damaged, either temporarily or permanently
- Periods may become irregular or stop
- Early menopause symptoms (hot flashes, vaginal dryness, tightness during sex)
- Dryness or irritation of the vagina
- Higher risk of vaginal infections

For men

- Lower sexual desire
- Trouble getting or keeping an erection
- Possible damage to sperm – ask your doctor about freezing sperm before treatment

If you notice any of these changes or have questions, talk to your provider. They can help you understand what to expect and what can be done to help.

Treatment

Treatment is based on your symptoms. Your care team may give you

- Medicine for infections
- Creams or gels for dryness
- Treatments to reduce itching

Always tell your provider if you notice new symptoms or symptoms get worse. Early care can help you feel more comfortable.

Changes in Thinking or Memory (Chemo Brain)

Some people getting chemotherapy notice changes in how well they think or remember things. You may have

- Trouble concentrating
- Short attention span
- Difficulty with simple tasks
- Memory problems

Doctors call this "chemo brain." Many things can cause these problems

- Low blood counts
- Aging
- Depression
- Menopause
- Certain medications

Researchers are learning that some chemo drugs may increase these symptoms.

If you notice thinking or memory changes, tell your care team. They can help you find ways to manage them.

How to take care of yourself

- Avoid distractions.
- Practice tasks.
- Ask people to repeat information.
- Get organized and write things down. Use post-it notes, organizer, or a journal.

- Do crossword puzzles or use rhymes to exercise your memory.
- Manage stress.
- Get plenty of rest and sleep.
- Exercise when possible.
- Ask for help when needed.

Treatment

Treatment is based on your symptoms. Memory problems sometimes improve on their own after a few days. If these symptoms last or get worse, talk to your provider. They can help you find ways to cope or adjust.

Cough

A cough can be common if you have cancer. It can happen because of treatment, an infection, or other reasons. It’s not always serious, but it’s important to manage it and know when you call your provider.

A cough may be caused by

- Radiation or chemo that affects the lungs
- Immune treatment (immunotherapy) that causes lung swelling
- Infections
- Cancer (tumor) in the lungs or airways
- Acid reflux (GERD)
- Dry mouth or throat from medication
- Allergies or post-nasal drip

How to take care of yourself

- Drink warm fluids, like tea or water with honey.
- Use a humidifier to add moisture to the air.
- Suck on lozenges or hard candy.
- Sleep with your head raised.
- Avoid smoke, strong smells, and dust.
- Use an inhaler (if your doctor prescribes one).
- Take any medications your doctor recommends.

Treatment

Your doctor may prescribe or recommend medication to help your cough. These may be

- Inhaled medication to open your airways
- Steroids (like prednisone) to reduce swelling

- Strong cough medicine with one or more of these ingredients
    - benzonatate
    - codeine (may make you sleepy)
    - dextromethorphan (cough suppressant)
    - expectorant (helps you cough up phlegm or mucus)
    - guaifenesin (helps relieve congestion)
    - decongestant or alpha/beta agonist (helps relieve congestion)
- Antihistamines
- Antibiotics if you have an infection

Pain

Many people with cancer may have pain at some point during their diagnosis, treatment, or recovery.

> ! Not everyone who gets chemotherapy has pain. Always tell your provider about any pain you feel.

Your comfort is very important. We can help manage or control your pain. There are lots of options to address pain.

Pain can come from

- The cancer itself (pressing on bones, nerves, or organs)
- Treatments – surgery, chemotherapy, radiation, immunotherapy
- Side effects such as mouth sores, nerve pain (neuropathy) or swelling

Pain can be

- Short-term (acute)
- Long-lasting, more than 3 months (chronic)
- Sudden or severe, even with medication (breakthrough)

Treatment

Your provider has many options that can help control or manage your pain. They may recommend

Medication

- Non-opioids – acetaminophen (Tylenol®) or NSAIDs (ibuprofen)
- Other medicines, such as
    - Medicines for nerve pain (gabapentin, antidepressants)
    - Steroids for swelling
    - Muscle relaxers
    - Prescription opioids (see more opioid information on page 34)

Opioid analgesics can be very effective but they must be used carefully because of their side effects. Addiction is rare in patients who use these medications appropriately for pain control.

Non-medication options

- Physical therapy
- Acupuncture or massage
- Relaxation or meditation
- Heat or cold packs
- TENS unit (mild electrical stimulation)

Supportive care

- Palliative care helps manage pain and improve quality of life.
- Pain specialists offer advanced options if pain is hard to control.

Helpful Tips

1. **Don't wait** – take pain medication as directed.
2. **Tell your provider** if pain options don't work or cause side effects.
3. **Prevent constipation** – use stool softeners or laxatives regularly if you take prescription pain medicine.
4. **Don't worry** – when used correctly, prescription pain medicines are safe and effective.

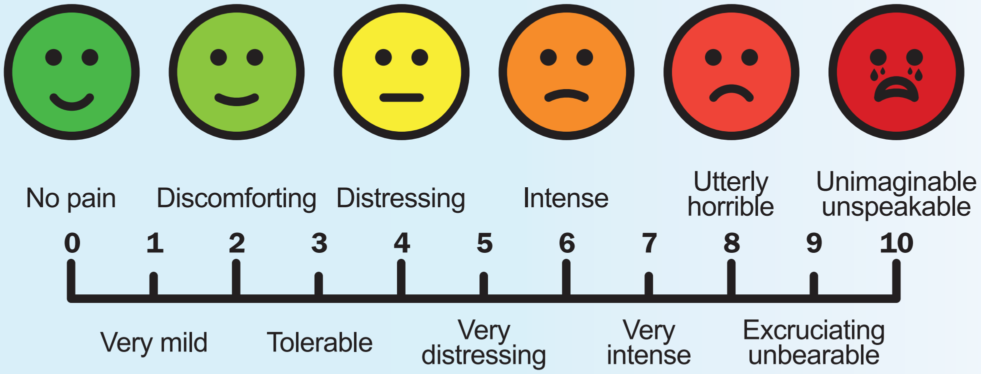
Call your provider if you have

- New pain, or pain gets worse
- Taken medication correctly but it doesn't help
- Confusion, trouble breathing, or severe constipation
- Signs of infection like fever, redness, or swelling

How to talk about your pain

Your care team needs details to help manage your pain. Tell your provider

- Where you feel pain
- How bad your pain is (use the FACES scale below, if it helps)



- What type of pain you have
  - Sharp
  - Burning
  - Aching
  - Throbbing
  - Stabbing
- When does it happen? How long does it last?
- What makes it better or worse

If you can, **keep a pain chart like the one below** to record these answers.

Date/Time	Area of Pain	Pain Level	Pain Type	Duration	Notes
Sept. 12 3:20 pm	Neck	5	Aching	1 hour	Laying down with heating pad eased pain
Sept. 16 8:45 am	Throat	2	Burning, Cough	10 min	Sucking on hard candy didn't help. Drinking hot tea and honey helped.

Safe Use of Prescription Pain Medicine (Opioids)

Our goal is to help you manage pain safely. Good pain control helps you sleep, move around, and heal faster.

Your doctor may recommend different ways to help with pain. This may include a short course of prescription pain medication. These medications are also called opioids or narcotics.

When taken the right way, opioids are very good for pain. But they can be misused. Follow these instructions to take opioids safely and keep others safe.

Managing Your Pain

It is normal to have pain after surgery. At Ochsner MD Anderson, we want to help you manage pain safely. Good pain control helps you sleep, move around, and heal faster.

Your provider may give you different ways to help with pain. This may include prescription medicine for short-term use. These medicines are called opioids or narcotics. When used the right way, opioids are very good for pain. But they can be dangerous if misused.

How to Take Opioids Safely

- **Follow directions.** Take the medicine exactly as your doctor or pharmacist tells you.
- **For you only.** Never share your prescription. It is illegal and unsafe.
- **Check other medicines.** Talk to your provider about other medicines you take. Some drugs should not be taken with opioids. These include
  - Anti-anxiety medicines such as alprazolam (Xanax®), diazepam (Valium®), or lorazepam (Ativan®)
  - Seizure medicines
  - Muscle relaxers
  - Psychiatric medicines
- **Tell your doctor about other conditions.** Share if you are pregnant, have sleep apnea, mental health issues, or a history of drug or alcohol use.
- **No alcohol or drugs.** Don’t use alcohol, sleeping pills, or illegal drugs while on opioids.
- **Be careful.** Don’t drive or use heavy machines until you know how the medicine affects you.

How to Store Opioids Safely

- **Keep in the original container.** This helps you know what it is and who it is for.
- **Keep away from children.** Store in a locked cabinet or on a high shelf.

How to Dispose of Opioids Safely

- **Get rid of unused medicine.** When your pain is gone, dispose of leftover medicine right away.
  - Find a local "take back" site: FDA Drug Take Back Locations
  - If flushing is allowed, check the FDA Flush List.
  - If not on the flush list, mix with something like coffee grounds or kitty litter. Seal in a bag and throw in the trash. Remove or scratch out your personal info on the container.

Know the Risks

- Opioids can be as dangerous as illegal drugs if misused.
- Misuse can cause dependence, addiction, overdose, or death.

Call 911 or get medical help right away if
- You took too much medicine.
- You have trouble breathing.
- You feel very weak or sleepy.
- You have nausea or vomiting that won't stop.

Ochsner MD Anderson's Opioid Prescription Policy

Because opioids can be misused, Ochsner MD Anderson providers are very careful about opioid prescriptions and refills. We have strict policies to keep patients and those around you safe.

- Some opioid prescriptions cannot be refilled at the pharmacy without a clinic visit. This helps us manage your pain safely.
- We only consider refills 3 days (or less) before you run out.
- We prescribe opioids only for surgery or certain other uses. For other types of pain, we offer help from Pain Management specialists, physical therapy, and other services.
- Ochsner MD Anderson does not prescribe medical marijuana, CBD, or THC products.

Learn More or Get Help

- **National Institute on Drug Abuse:** www.drugabuse.gov
- **SAMHSA:** www.samhsa.gov or call 1-800-662-HELP (4357)
- **FDA Resources on Drugs:** www.fda.gov/drugs/resources-you-drugs

Talk to your Ochsner MD Anderson provider if you have questions.

Nutrition and Physical Activity

Good nutrition and dietary habits will help you keep up your strength and weight during chemo and healing from your disease. Here are some suggestions that many patients find helpful.

What to eat

The best diet for cancer patients and survivors contains

- Fruits and vegetables
- Whole grains
- Foods rich in healthy fats like omega-3 and monounsaturated fats
- Healthy proteins like chicken, turkey and beans

At every meal, you should have a healthy balance of foods.
Plan your plate into these sections

- ½ of your plate with vegetables and/or fruits
- ¼ of your plate with healthy meats or proteins
- ¼ of your plate with whole grains or starchy vegetables
- A small amount of healthy fats
- Plenty of water

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What to avoid

- Avoid proteins that are raw or undercooked, such as
  - Meat
  - Fish
  - Shellfish
  - Poultry
  - Eggs
  - Hot dogs
  - Tofu
  - Sausage
  - Bacon
  - Cold, smoked fish
  - Lox
  - Pickled fish
  - Sushi
- Avoid unpasteurized and raw milk products.
- Do not drink store-bought fruit or vegetable juices that are unpasteurized.
- Avoid raw sprouts such as alfalfa sprouts or Mung beans.

- Avoid aged cheeses, such as
  - Camembert
  - Blue Roquefort
  - Stilton
  - Feta
  - Soft cheeses
- Avoid moldy or outdated foods of any kind.
- Avoid spicy foods.
- Avoid all recalled foods, or foods mentioned in news reports about food poisoning.
- Do not eat food from salad bars or buffets.

How to prepare and store food safely

Follow these guidelines during your cancer treatment.

Preparing food

- Wash your hands thoroughly before and after preparing food and eating.
- Rinse all raw fruits and vegetables (peeled and unpeeled) under running water for about 2 minutes. They do not need to be peeled.
- Prepare food on a cleaned and sanitized cutting board. Clean and sanitize knives or utensils before using and between types of food.
- Do not soak raw fruits and vegetables in water.
- Serve hot food HOT (150° or more) and cold food COLD (40° or lower).

Storing food

- Store prepared food in the refrigerator within 2 hours of preparation. Do not eat any food that has been out of the refrigerator more than 2 hours.
- Keep your refrigerator temperature at 40° or lower. Heat all poultry products, stuffing, dressing, and leftovers to at least 165°.
- Store leftover food in 1-Qt containers or smaller. Eat within 3 days.
- Refrigerate cheese-based salad dressings found in the produce section or refrigerator section.

Suggestions for when you have a poor appetite

1. **Eat several small meals**

   Eat several small meals throughout the day (every 2-3 hours, 6 times per day).

2. **Eat high-calorie, high-protein foods**

   Eggs, ice cream, whole milk, yogurt, and cheese are high-calorie and high-protein.

3. **Add calories**

   Add extra calories and protein to foods by including ingredients such as

   - Butter
   - Gravy
   - Protein powder
   - Peanut butter
   - Heavy cream
   - Whole milk

4. **Drink supplement drinks**

   High-calorie, high-protein supplement beverages can help when you don’t feel like eating. Boost® Plus, Ensure® and others will help keep up your calories.

5. **Hydrate**

   Drink fluids every 1-2 hours. Drink at least 4 16.9-ounce bottles of water every day.

You may also find foods or drinks do not taste the same. This is another possible side effect of some chemotherapy drugs. This will return to normal once the treatment has finished.

Drink enough fluids

You will need to be sure to drink enough fluids. When your body loses too much water and doesn’t have enough fluids to work well, you are dehydrated.

If dehydration gets very bad and is not treated, you may need care in the hospital. It is very important for people getting cancer treatment to drink enough fluids every day.

If you become dehydrated, you may have

- Dry mouth
- Little or no urine output
- Dark, colored urine
- Dry, loose or crinkled skin
- Confusion/disorientation
- Fatigue (this may be the first sign of dehydration)

A lab test can reveal how much fluid someone has lost.

How to take care of yourself

- Drink 2 liters of fluids per day (this equals four 16.9-ounce bottles of water). This can be in the form of
    - Clear fluids
    - Popsicles
    - Gelatin desserts
    - Ice cubes
    - Soups
    - Flavored water
    - Lemonade
    - Juices
    - Snowballs
    - Sodas

- Avoid alcoholic drinks, colas, coffee, and teas. These tend to add to dehydration.
- Manage nausea, vomiting and diarrhea to reduce the risk of dehydration.

Treatment for dehydration

You will be given fluids to replace the water your body has lost. You may also get electrolytes, which are minerals the body needs to function well. Your doctor will decide if you can get these in the clinic or you need to go to the hospital.

Loss of Appetite or Anorexia

Many chemo drugs can make you lose your appetite. You may not feel like eating at all. Everyone is different, so it is hard to know how it will affect you. Some people lose a little weight. Some lose more. Sometimes this leads to malnutrition.

The good news is this side effect of chemo is usually temporary. Your appetite should come back after your chemotherapy ends. It may take a few weeks to return.

Chemotherapy can also change how food tastes or smells. This can make eating even harder. Your sense of taste and smell should go back to normal a few weeks after your treatment ends.

> Your body needs good nutrition to fight cancer and handle chemotherapy. Eating enough helps you stay strong. If you do not feel like eating or you lose your appetite, talk to your doctor or nurse. There are medicines that can help you feel more like eating.

How to take care of yourself

- Eat small, frequent meals throughout the day, instead of one, two, or three large meals.
- Drink before or after meals, not while eating. This ensures you don't get full of liquids.
- Don't prepare, cook, or clean food for others when your appetite is low.
- Eat foods high in protein, such as
  - Eggs
  - Peanut butter
  - Nuts or nut butter
  - Dairy products
  - Tuna
  - Beans
- Find ways to make eating more enjoyable. Eat with friends in a relaxing environment.
- Some patients find metal utensils can change how food tastes. Plastic utensils may help.
- Breakfast may be the meal you tolerate best. Try to eat at least one-third of your calories in this meal.
- Weigh yourself and record your weight each week. Tell your doctor about any changes.

Treatment

You may be given medications to help stimulate your appetite.

Alcohol and Chemotherapy

Can I drink alcohol while I am having chemotherapy?

Whether you drink alcohol during your course of chemotherapy will partly depend on the particular drugs you are taking. Alcohol can interfere with the way some chemotherapy drugs work. Your care team will be able to give you specific advice about whether drinking alcohol is safe for you.

> ! Some drugs have a specific reaction with alcohol. Examples of these drugs are procarbazine and lomustine. If your chemo includes either of these, talk to your doctor or chemo nurse about what you should not eat and drink.

Excessive drinking is not a good idea, no matter what kind of chemotherapy you receive. Some people also develop sore mouths while having chemotherapy. You may find that alcohol stings, particularly spirits.

What problems could occur if I drink alcohol while I am having chemotherapy?

- Lack of appetite
- Anxiety
- Electrolyte imbalance
- Central nervous system toxicities
- Dehydration
- Heartburn
- Liver problems
- Mouth sores
- Sexual problems

If you are used to drinking a lot and find it very difficult to cut down, you may want to discuss this with your doctor.

Alcohol increases the risk of cancers of the mouth, pharynx, larynx, esophagus, liver, and breast. Regular consumption of even a few drinks per week is associated with an increased risk of breast cancer in women.

People who drink alcohol should limit their intake to no more than 2 drinks per day for men and 1 drink per day for women.

A drink is defined as 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of 80-proof distilled spirits (liquor).

Physical Activity

Physical activity and exercise are important during cancer treatment. Some kind of physical activity each day can enhance your physical well-being, minimize side-effects, and help recovery. We encourage patients to get moderate exercise when they feel well enough.

Benefits of Physical Activity and Exercise

- Increases muscle strength, joint flexibility, and overall conditioning
- Relieves stress and anxiety
- Decreases fatigue related to chemotherapy and radiation treatment
- Minimizes risks of developing lymphedema and decreases lymphedema symptoms if present
- Aids weight loss

An effective exercise program consists of

- Aerobic conditioning or cardiopulmonary exercise to increase heart rate and lung capacity
  - Walking
  - Jogging
  - Swimming
  - Bicycling

- Strength training to tone and build muscles
    - Weight lifting
    - Weight machines
    - Exercise bands
- Stretching exercises to keep joints and muscles flexible

Exercise Goal

Perform 30 minutes of moderate intensity exercise 5 days a week.

Talk to your provider before you start any exercise to be sure it’s safe for you. Don’t exercise if you don’t feel well or have a fever.

Ochsner MD Anderson-Approved Cancer Websites

We know many patients want to read and learn as much as they can about their cancer. On the next pages, you will find a list of helpful cancer websites.* These may be useful for you and your family.

If you do not have the Internet at home, you can visit the Ochsner Medical Library. It is on the first floor of Ochsner Medical Center on Jefferson Highway.

> These websites are usually good sources of information. But always double-check what you read. They can help you learn more, but they don't replace talking to your provider.

Ochsner's website can be a good place to start your research. Visit ochsner.org/services/cancer-care, then click on Cancer Resources and Support.

**Ochsner MD Anderson Cancer Institute does not support or recommend any specific group listed in this guide.*

General Cancer-Related Organizations and Informative Websites

American Cancer Society .... cancer.org
Information about all types of cancer and treatments and is regularly updated with new medical news and treatment breakthroughs

American Cancer Survivors Network .... csn.cancer.org
A website dedicated to cancer survivors to share personal stories, discussions, and expressions of caring

American Institute for Cancer Research .... aicr.org
Information on diet, nutrition, and foods that can fight cancer

American Society of Clinical Oncology .... asco.org
Information on types of cancer, support organizations, clinical trials, and side effects

Cactus Cancer Society .... cactuscancer.org
A website for young adults with cancer

CancerCare .... cancercare.org
Free support services for anyone affected by cancer

Cancer Hope Network .... cancerhopenetwork.org
Support information, a bulletin board and volunteer information, online support groups, telephone support groups, and more

Clinical Trials .... clinicaltrials.gov
A registry of federal and privately supported clinical trials

MedlinePlus .... medlineplus.gov
Authoritative information from the National Library of Medicine, the National Institutes of Health, and other health-related organizations

National Cancer Institute .... cancer.gov
Information on types of cancer, current treatments, a medical dictionary, NCI drug dictionary, statistical information, and clinical trials

Complementary and Alternative Medicine .... cancer.gov/about-cancer/treatment/cam
Government resource relating to cancer prevention, diagnosis, treatment, and symptom management

Patient Advocate Foundation .... patientadvocate.org
Resources specifically for solving insurance and healthcare access problems

Susan G. Komen .... komen.org
Information on the causes and cures of breast cancer, breast cancer issues, patient information and more

U.S. Food & Drug Administration .... fda.gov/drugs
Safety information on drugs and other FDA-regulated products

Chemotherapy Education .... chemocare.com or oncolink.org
Information about a variety of chemotherapy and cancer medications, with printable educational packets

Cancer and Careers .... cancerandcareers.org
Empowers and educates cancer patients to thrive in their workplace

Websites for Caregivers

AARP Resources .... aarp.org/caregiving
A treasure trove of resources across all areas of caregiving: financial, emotional, educational

Caregiver Action Network .... caregiveraction.org or 855-227-3640
Operates a support line and offers many other resources

Caregiver Support Groups .... care.com/c/caregiver-support-groups
A roundup of top caregiving support groups

How-To Caregiving Videos .... aarp.org/pri/initiatives/home-alone-alliance
A collection of educational videos for family caregivers (some in Spanish)

I Am Not Alone Care (ianacare) .... ianacare.com
Free app for coordinating caregiver support and community care

How to Become a Paid Caregiver for a Family Member .... careforth.com/blog/how-to-become-a-paid-caregiver
A step-by-step guide to how to qualify (via Medicaid) for pay for family caregiving

VA Caregiver Support .... caregiver.va.gov
Explains programs that pay family caregivers of veterans

Rare Disease Caregiving .... rarecaregivers.org
Resources for family caregivers of loved ones with rare diseases

Support for Mesothelioma Caregivers .... asbestos.com/support/caregivers
Resources and information for caregivers supporting loved ones suffering from mesothelioma, a rare cancer primarily caused by asbestos exposure

Paid Family Leave Laws by State .... bipartisanpolicy.org/explainer/state-paid-family-leave-laws-across-the-u-s/
Offers a breakdown of state paid family leave laws

Caregiver Podcasts .... blog.feedspot.com/caregiver_podcasts
A big list of podcasts by and for caregivers

Websites for Specific Cancers

- **Brain Tumors** .... abta.org
- **Breast Cancer** .... breastcancer.org
- **Colon Cancer** .... ccalliance.org
- **Kidney Cancer** .... kidneycancer.org
- **Leukemia and Lymphoma** .... bloodcancerunited.org
- **Lung Cancer** go2.org
- **Ovarian Cancer** .... ovarian.org
- **Oral Cancer** .... oralcancerfoundation.org
- **Oral, Head and Neck Cancer** .... spohnc.org
- **Pancreatic Cancer** .... pancan.org
- **Prostate Cancer** .... zerocancer.org
- **Sarcoma** .... sarcomaalliance.org
- **Thyroid Cancer** .... thyca.org

Symptom Tracker

Use this list to record details and dates of any symptoms you experience. An example tracker is provided below that you can copy or use as a guide to create your own tracker. Bring this information to your next appointment or treatment session.

Symptom	Date and Description of Problem
☐ abdominal pain	____
☐ arm swelling	____
☐ blood in stool/urine	____
☐ bone pain	____
☐ chest pain	____
☐ constipation/diarrhea	____
☐ cough	____
☐ dizziness	____
☐ fever or chills	____
☐ headaches	____
☐ heart palpitations	____
☐ hot flashes	____
☐ indigestion	____
☐ leg swelling	____
☐ low energy	____
☐ nausea/vomiting	____
☐ new lumps or redness on chest	____
☐ numbness or tingling	____
☐ sexual difficulties	____
☐ shortness of breath	____
☐ sleeping difficulties	____
☐ urinary burning/urgency/frequency	____
☐ vision problems	____
☐ unusual pain	____
☐ other: _____________________	____

Some side effects are short-lived and minor. Others may be a sign of serious problems. Don't try to determine the difference yourself. **Tell your doctor right away** if you suffer from

- Fever of 100.4°f or greater for 1 hour
- Bleeding or unexplained bruising
- Rash or allergic reaction
- Intense chills
- Unusual, intense headaches
- Shortness of breath or trouble breathing
- Long-lasting diarrhea or vomiting
- Bloody stool or blood in your urine

Notes

Notes pages can help you organize your thoughts. This way all your information related to this experience/diagnosis can be kept in one place, including the things you write down on your own.

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Making Cancer History®

1-866-OCHSNER | ochsner.org