

**IOWA**  
HEALTH CARE

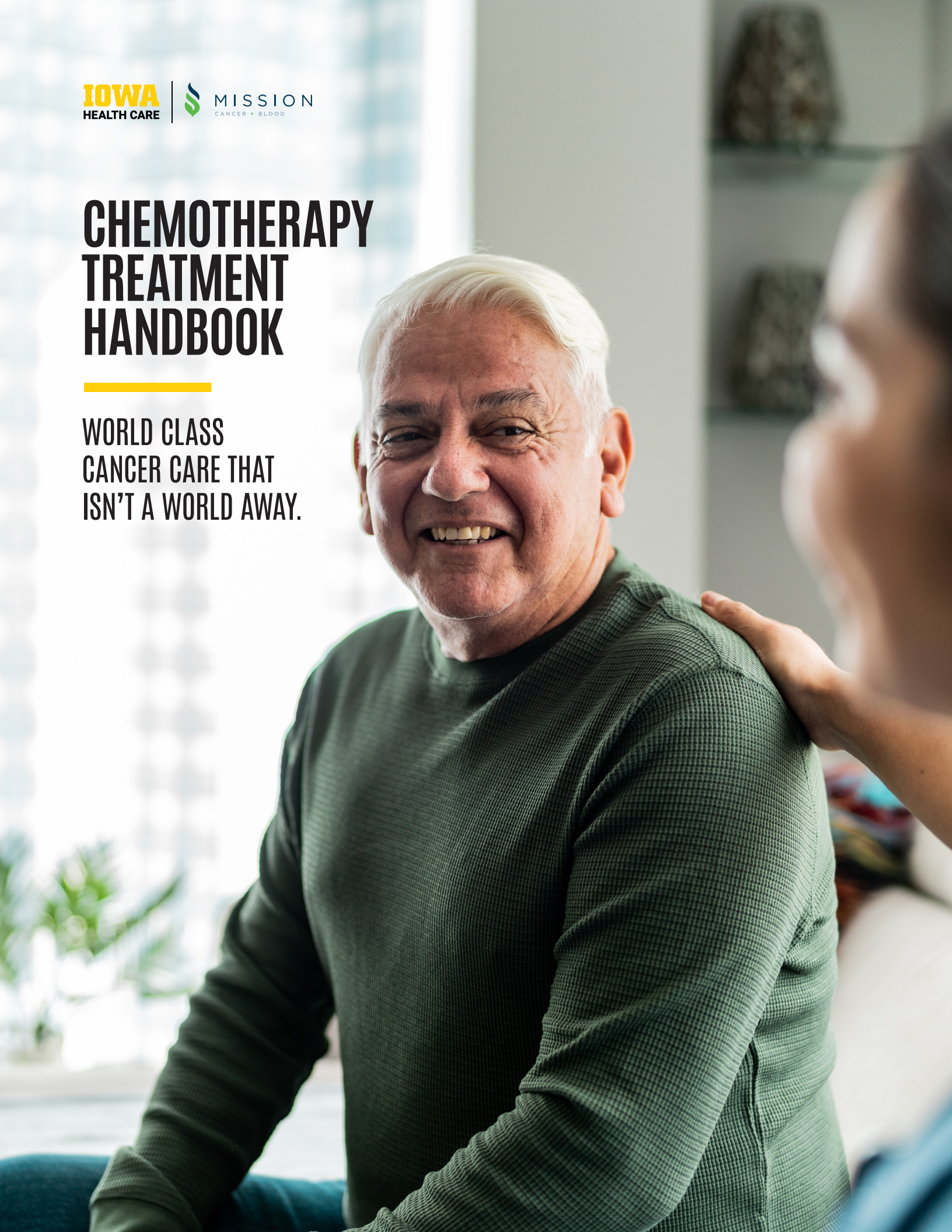


MISSION  
CANCER + BLOOD

# CHEMOTHERAPY TREATMENT HANDBOOK

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WORLD CLASS  
CANCER CARE THAT  
ISN'T A WORLD AWAY.





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# CANCER: AN OVERVIEW

A cancer diagnosis comes as a shock to most patients and can be life changing. It is a time of uncertainty for patients and their families. We are committed to helping you through this incredibly difficult chapter in your life. We acknowledge that you may be overwhelmed by the amount of information you are receiving so we will provide some basic information about cancer in hopes you will better understand what is happening.

## CANCER

It is not one disease; it is the name given to a collection of related diseases. All cancers have one thing in common – cells are dividing uncontrollably and can spread into surrounding tissues.

Normal cells grow and divide to form new cells as the body needs them and when they grow old or become damaged, they die, and new cells take their place. This process is altered when you have cancer, those old or damaged cells survive when they should die. The extra cells often accumulate to form growths called tumors. Tumors can be benign (not cancer and do not spread or invade other tissues) or malignant (cancerous and spread or invade other tissues).

When cancer spreads it is called metastasis. For example, when lung cancer spreads to the bones, it is still referred to as lung cancer because that is the site the cancer originated from. It is important to know where the cancer originated as that helps determine the treatment plan. Not all types of cancer are solid tumors, some can originate in the blood or other tissues.

**The National Cancer Institute (NCI) categorizes types of cancer as follows:**

- **Carcinoma:** Begins in the skin or tissues that line or cover internal organs.
- **Sarcoma:** Begins in bone, cartilage, fat, muscle, blood vessels or other connective or supportive tissue.
- **Leukemia:** Starts in blood-forming tissue, such as bone marrow, and causes abnormal blood cells to be produced.
- **Lymphoma and myeloma:** Begins in the cells of the immune system.
- **Central nervous system:** Begins in the tissues of the brain and spinal cord.

## WHAT CAUSES CANCER

What do we know about the causes of cancer? We know that determining whether something raises the risk is not easy. Often the certainty of risk cannot be completely determined and thus agents are sometimes classified as cancer-causing or carcinogenic. Some known cancer-causing agents are: tobacco smoke (smoking, secondhand smoke and smokeless), tanning beds, radon, and asbestos.

There isn't a comprehensive list of the agents that can cause cancer but here are some resources to check:

1. International Agency for Research on Cancer (IARC)
2. National Toxicology Program (NTP)
3. Environmental Protection Agency (EPA)
4. National Institute for Occupational Safety and Health (NIOSH)

## DIAGNOSIS

When cancer is suspected many times imaging studies (CT, MRI, X-ray, etc.) are ordered. These studies can show the presence, size and location of an abnormal mass and shows physicians the best location to perform a biopsy. A biopsy generally will provide the information necessary to diagnose the cancer type which helps determine a treatment plan. Sometimes further testing or imaging may be required for a complete diagnosis.

## TREATMENT

The extent of the cancer revealed in the diagnosis phase helps to determine the goal of the cancer treatments. The three main goals of cancer treatment are:

- **Cure:** Rid the body of the disease and prevent recurrence.
- **Control:** Stop growth or shrink the cancer helping to improve quality of life and prolong life.
- **Palliation:** Relieve symptoms and suffering and improve quality of life.

Many times, people fear the treatment side effects will decrease their quality of life but in fact, often treatments can increase quality of life and make the patient feel better.



## Guidelines for Referencing Research Data

There are many headlines and stories about the causes of cancer which can induce fear and uncertainty. It can be difficult to sort out the truthful information. Social media posts, blogs, and chain emails are often examples of inaccurate or misconstrued data.

When evaluating this data, the American Cancer Society recommends you ask the following questions:

1. Is the news based on new research?
2. Who conducted the research? Who paid for the research? Most valid research is done at universities, medical centers, or government organizations. Other research is done by other groups, such as advocacy organizations. Finding out where the study was performed and who funded the research can sometimes give you a better idea of how valid the data is.
3. What kind of research was it? Testing done in labs on animals to determine whether something causes cancer cannot always reliably transfer to human studies.
4. Has this been found before? One single study of any type is rarely enough to prove something causes cancer. The data must be combined from several studies to support these findings.
5. Where was the research reported or published? Researchers typically publish their results in medical journals and present them at conferences. Scientists give the most weight to research published in medical journals since those trials undergo review by experts in the related field. Some government agencies publish standalone documents summarizing the results of their studies. Government funded research and results are based on review through different committees composed of experts in the field.
6. What were the actual study results? Sometimes the headline grabbing post is not actually what the study was researching.

# TYPES OF CANCER TREATMENT

There are several types of treatment for cancer. The type of treatment you receive will depend on the type of cancer you have and how advanced it is. Some patients with cancer will have only one type of cancer treatment while others may receive more than one type. Examples of the types of treatment utilized are discussed below.

Our providers utilize the principles of the National Comprehensive Cancer Network to guide their treatment decision. The National Comprehensive Cancer Network (NCCN) is a not-for-profit alliance of 27 leading cancer centers who work to create clinical guidelines for care of cancer patients. There are resources available on the NCCN website to help patients understand their diagnosis as well as treatment options available to them.



## Surgery

Many people with cancer can be treated with surgery. Surgery usually works best for solid tumors that are contained in one area of the body. It can be used to remove all or a portion of the primary tumor. Treatment with surgery can sometimes be the only treatment needed or it can also be done before or after another treatment. Sometimes it is used in the palliative setting to help lessen symptoms affecting the patient's quality of life.



## Radiation Therapy

Radiation therapy is a cancer treatment that uses high doses of radiation to kill cancer cells and shrink tumors. When given in high doses, radiation kills or slows growth by damaging the cells' DNA. It can take several days or weeks of radiation for the treatment to be effective. Side effects of radiation may continue even after the treatment is completed. Radiation is targeted to a specific area and is more effective for some cancers than others. If your oncologist feels radiation is indicated in your situation a referral will be made to a radiation oncologist who will determine a plan for your radiation treatment.



## Chemotherapy

Chemotherapy is a treatment that uses drugs to kill cancer cells. Unlike surgery and radiation therapy, chemotherapy is a systemic treatment – meaning it works throughout the entire body. It works by stopping the growth of cancer cells, either by killing the cells or by stopping them from dividing. Chemotherapy may be given by mouth, injection, or infusion, or on the skin, depending on the type and stage of the cancer being treated. Chemotherapy can also affect normal cells which can lead to side effects.



## Theranostics

Theranostics is a new field arising from nuclear medicine. It is the combination of imaging and molecular radiotherapy. Imaging, generally positron emission tomography (PET), is used to identify the tumor. The molecular radiotherapy in this case is a radiopharmaceutical – a radioactive drug that specifically targets cancer while leaving most normal, non-target tissues alone. Unlike traditional radiation therapy, molecular radiotherapy carries the radioactivity, in the form of particles that are emitted from the radiopharmaceutical, directly to the tumor.



## Biotherapy

Biological therapy involves the use of living organisms, substances derived from living organisms, or a laboratory-produced version of these substances to treat disease. This is one of the fastest growing areas of cancer treatment. Some biological therapies for cancer stimulate the body's immune system to act against cancer cells. This type of biological therapy, sometimes referred to as "immunotherapy," does not target cancer cells directly.

Other biological therapies, such as antibodies, do target cancer cells directly. Biological therapies that interfere with specific molecules involved in tumor growth and progression are also referred to as targeted therapies.

Some types of immunotherapy only target certain cells of the immune system while others affect the immune system in a general way. Some examples of immunotherapy include cytokines, vaccines and monoclonal antibodies. Even though the treatment is systemic (works throughout the whole body) it often is a more targeted approach to each individual's cancer. These therapies do not work for every cancer. Special lab tests are often needed to determine whether a patient is a candidate for some of these treatments.

Because these drugs stimulate an immune response, the side effects are much different from traditional chemotherapy treatments. These agents are more likely to cause hypersensitivity reactions at the time of infusion which can be managed in the infusion suite by administering medications and prolonging the infusion.



## Hormone Therapy

Another therapy that can be used to fight cancer is hormone therapy. It is often used in combination with other treatments. There are two types of hormone therapy:

1. Hormones that block the body's ability to produce hormones.
2. Hormones that interfere with how hormones behave in the body.

Hormone therapy is used to lessen the chance that cancer will return, stop or slow its growth, as well as to ease symptoms of cancer. Side effects depend on the hormone involved and how your body responds to the treatment.



## Complementary and Alternative Therapy

These terms are often used interchangeably but there is an important difference:

1. Complementary medicine is treatment that is often used alongside standard medical treatments (yoga, deep breathing, meditation, massage and guided imagery).
2. Alternative medicine is treatment that is used instead of standard treatment.

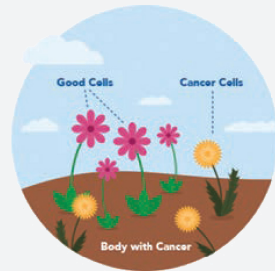
Some complementary and alternative therapies have undergone careful evaluation and have been proven to be safe and effective, while others have been found to be ineffective and possibly harmful. Please be sure to discuss any supplements/herbals you take with your provider to ensure the safest care. Some herbals can interfere with other drug therapy, rendering the drugs less effective or increasing side effect risk.

## Talk With Your Care Team

Treatment modality choices are incredibly complex, and it is important to be comfortable with your healthcare team and to educate yourself so that you know you are receiving the best care possible. It is important to be candid with your providers so they can help you manage any side effects or concerns you may be having. If you have questions about your treatment or plan of care, it is important to discuss them with your healthcare team.

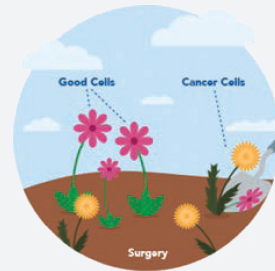
## Your Body as a Garden

Imagine your body as a garden, where the soil is your immune system. When you're healthy, the soil is rich and well tended, and the garden is green. Normally, the soil is able to prevent weeds from growing out of control.



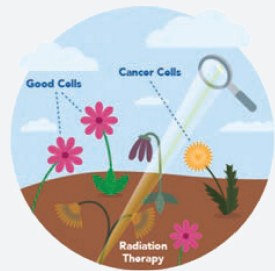
### Body with Cancer

Cancer cells are like weeds in your garden. Sometimes, the soil can allow weeds to grow and spread, and soon, the entire garden suffers as your plants compete for space and nutrients.



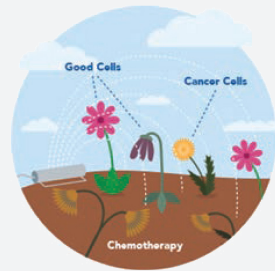
### Surgery

Surgery removes large patches of weeds and the soil around them, sometimes disturbing the good plants and leaving some weed roots behind.



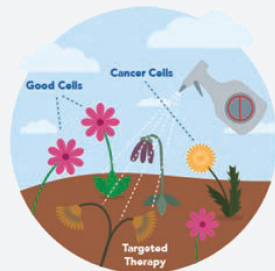
### Radiation

Radiation is like increasing the power of the sun with a magnifying glass to target and dry the weeds out, but in the process, some of the good plants can also be damaged.



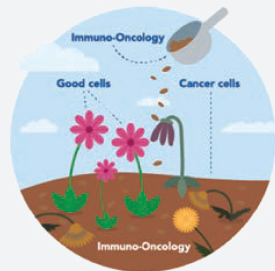
### Chemotherapy

Chemotherapy is like spraying a general weed killer on the whole garden. This approach may not kill all the weeds and may also harm some good plants.



### Targeted Therapy

With targeted therapy, weeds are directly sprayed with weed killer. Good plants may still be damaged.



### Immuno-Oncology

Instead of targeting the weeds, Immuno-Oncology is like adding a weed-control fertilizer to the soil. This fertilizer enriches the soil to help control weeds, which in turn restores the health of your garden. But too much fertilizer in the soil might harm your garden.



# Getting Ready for Your First Treatment

## Before Your First Treatment

1. Schedule a chemotherapy education visit.
2. Ask your physician if you need to do any of these things before starting treatment:
  - See a dentist.
  - Get any vaccines such as those for flu, pneumonia or chicken pox.
  - Talk with a fertility doctor about fertility options, in case you might want to have children in the future.
3. Write down any questions you may have. Talk with your doctor or nurse to get answers.

## Our Chemotherapy Suites

Although some patients receive chemotherapy in the hospital, the majority of patients receive their treatment in an outpatient setting. To be eligible to receive your chemotherapy on an outpatient basis, it first must be approved by your physician. Specially trained oncology nurses will be available to address any questions or concerns you might have.

Our limited resources and controlled environment enable us to provide outpatient services only to those individuals who are ambulatory or require minimal wheelchair assistance. If you require help with bathroom privileges or other personal cares, we ask that you bring a support person to assist you. This will enable us to provide adequate care to all patients we serve.

If you are oxygen dependent, you must bring your own oxygen to your appointments and treatments. The oxygen we have on hand is for emergency situations only.

## Treatment Time

Prior to beginning your chemotherapy treatments, you will be informed of the estimated administration time. If your chemotherapy treatment takes several hours or you anticipate being in the clinic for an extended period, please feel free to bring food and/or beverages, as these are not provided. You are also welcomed to bring your own personal items to help occupy your time. We have Wi-Fi available for cell phones and portable computer devices.

## Guests

In order to maintain a comfortable environment and meet the needs of our patients, we prefer that only one support person accompany you to the chemotherapy treatment area. The chemotherapy treatment room is not a safe environment for infants or small children. As a means of protecting your children from exposure to hazardous products or materials, we request that they remain supervised outside the treatment area.

## Treatment Cost

We understand the financial burden cancer care can have on patients and their families. That's why each patient at Mission Cancer + Blood has a designated patient financial advocate that works throughout their course of care to:

- Review insurance benefits
- Discuss available payment plans
- Introduce foundations offering assistance
- Research co-pay cards for medications and equipment
- Answer questions regarding insurance coverage and billing

Patients can meet with a patient financial advocate at any time if questions arise regarding insurance, benefits, coverage and available financial assistance.

# Your Treatment Plan

Treatment Regimen and Medications: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Supportive Medications: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Schedule of Treatment Administration: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Planned Duration of Treatment: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Goals of Treatment: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Plan for Missed Doses: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

# Oral Chemotherapy

Oral chemotherapy medicines are given by mouth in the form of capsules, tablets, or liquid. These safety tips will help you understand what to do when you are taking oral chemotherapy.

**Please note:** if you are on a clinical trial, you may be given special instructions.

## How to Take This Drug

- Swallow each tablet or capsule whole. Do not break, crush, or chew.
- Prepare your drug away from food and food prep areas.
- If you miss a dose, take it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. If you are unsure, please contact our office.
- Do not double the dose.
- If you are on a clinical trial, you will be given special instructions if you miss a dose.
- If you are unable to swallow the pill, speak with your nurse or pharmacist about other ways to take your medication.
- If you vomit or throw up your medication, call your physician for further instructions.
- Wash your hands after taking the medication. Avoid handling crushed or broken pills (tablets or capsules).
- Take your medication as close to the same time as possible each day.

## Storage

Most oral chemotherapy medicine is stored at room temperature, away from excess heat and moisture. You will be told if the medication you are taking needs special storage or handling. Keep this medicine in its original container, in a safe place, away from other family medications. All medications need to be kept out of the reach of children and pets.



## Disposal

If you have unused oral chemotherapy pills (tablets or capsules), please return them to the pharmacy where the prescription was filled or our office. Do not flush down the toilet, dump in the sink, or throw away in the trash.

## MID Mission Statement

Mission MID works side-by-side with your physician care team to ensure safe and convenient medication use while also providing personalized education at your point of care. Our friendly staff will provide your medications as quickly and cost-effectively as possible.

## Safe Handling of Body Waste in the Home After Chemotherapy

Chemotherapy stays in the body for hours or even days, and is found in vomit, urine, stool, and sweat (body wastes). Special care must be taken to prevent the patient's body waste from coming into accidental contact with the patient or caregiver.

### Body Waste

- You can use the toilet (septic tank or city sewage) as usual. There is no research to support double flushing to prevent accidental contact (although this may be suggested for certain medications). Ask your doctor or nurse what they suggest for your medication.
- Wash your hands well with soap and water after using the toilet. If urine, vomit, or stool gets on your body, wash with soap and water. Always wear disposable gloves when cleaning equipment, disposing waste from a commode, or cleaning up accidents with body fluids. Discard gloves immediately after use.
- Pregnant caregivers should not handle patient body waste.
- The drugs may be present in all body fluids, including urine, stool, vomit, blood, tears, semen and vaginal secretions. It is important for the patient, caregivers and other household members to avoid physical contact with body fluids for the first 48 hours after treatment to prevent accidental exposure to chemotherapy medications.
- Avoid unprotected sexual intercourse for 48 hours after chemotherapy.
- In general, safe handling precautions are recommended when handling a patient's body fluids for at least 48 hours after the last dose of intravenous chemotherapy.
- Patients receiving oral chemotherapy will have chemotherapy residue in their excreta the entire time they are on the therapy and for at least 48 hours after the last dose.

### Laundry

- Always wear disposable gloves when handling sheets or clothes that have been soiled with body waste.
- Soiled items should be kept and washed separately from the other laundry.
- If you do not have control of your bladder or bowels: To absorb urine or stool, use a disposable, plastic-backed pad, diaper, or sheet. Change it immediately when soiled. Then wash skin with soap and water. If you have an ostomy, you or your caregiver may want to wear gloves when emptying or changing appliances.

# Chemotherapy Side Effects

## What are side effects?

Side effects are problems caused by cancer treatment. Some common side effects from chemo are fatigue, nausea, vomiting, decreased blood cell counts, hair loss, mouth sores and pain. It is important to understand that not all chemotherapy will cause all side effects.

## What causes side effects?

Chemo is designed to kill fast-growing cancer cells; but it can also affect healthy cells that grow quickly. These include the cells that line your mouth and intestines, cells in your bone marrow that make up your blood cells and cells that make your hair grow. Chemo causes side effects when it harms these healthy cells.

## Will I get side effects from chemo?

You may have a lot of side effects, some or none. It all depends on the type and amount of chemo you receive and how your body reacts to it. Before you start chemo, your health care team will talk to you about which side effects to expect.

## How long do side effects last?

How long side effects last depend on your health and the type of chemo you are given. Most side effects will resolve after chemo is completed but sometimes it can take months or years for them to go away. Sometimes chemo can cause long term side effects that do not go away. These may include damage to your heart, lungs, nerves, kidneys or reproductive organs. Some types of chemo may cause a second cancer years later. Feel free to talk with your doctor or nurse about your chance of having long term side effects from your treatment.

## What can be done about side effects?

Our health care professionals have many ways to prevent or treat chemotherapy side effects. Make sure to let your healthcare team know about any changes you notice as they may be a sign of a side effect.



# Your Possible Side Effects

Below is a list of common side effects that chemotherapy may cause.

Discuss this list with your health care team and ask which side effects may affect you. Mark the side effects you may experience, and refer to the corresponding page number(s) for additional information.

Side Effect	May Effect You	Page
Infection (low white blood cell count)	<input type="checkbox"/>	18
Bleeding (low platelet count)	<input type="checkbox"/>	20
Anemia (low red blood cell count)	<input type="checkbox"/>	22
Mucositis (painful or sore mouth)	<input type="checkbox"/>	23
Nausea and Vomiting	<input type="checkbox"/>	24
Diarrhea	<input type="checkbox"/>	25
Constipation	<input type="checkbox"/>	26
Loss of Appetite/Taste Changes	<input type="checkbox"/>	27
Hair Loss	<input type="checkbox"/>	28
Skin and Nail Changes	<input type="checkbox"/>	29
Hand Foot Syndrome (Plantar Palmar Erythema PPE)	<input type="checkbox"/>	30
Fatigue	<input type="checkbox"/>	31
Peripheral Neuropathy	<input type="checkbox"/>	32
Pain	<input type="checkbox"/>	33
Sexual Concerns	<input type="checkbox"/>	34
Fertility/Pregnancy During Treatment	<input type="checkbox"/>	35
Immunotherapy	<input type="checkbox"/>	36



## Neutropenia (Low White Blood Cell Count)

### What it is and Why it Occurs

White blood cells help your body fight germs that cause infection which can make you ill. Cancer treatments can make you more likely to get infections because your white blood cell count can be lowered. When this happens, your body might not be able to fight off infections like it normally could. Any type of infection may become serious quickly.

### Signs and Symptoms

Signs and symptoms to look for are listed here. Call the office if you develop any of these:

- Check your temperature twice daily or if you feel feverish
- Shaking chills
- Any area with redness, pain or swelling
- Cough, sore throat, nasal congestion or shortness of breath
- Burning, itching or pain with urination or new lower back pain
- Blood in your urine
- Pain in your rectal area
- Worsening diarrhea, watery, loose stools or a change in the odor of your stool
- Rash, redness or swelling of the skin
- Soreness or swelling in your mouth or throat, ulcers or white patches in your mouth, or a change in the color of your gums

### What to Look for and When to Call

Infections that happen during cancer treatment can often be treated, but 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 and 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.

→ **If you have a fever of 100.0 degrees Fahrenheit (37.8 degrees Celsius) that lasts for 48 hours, call our office. If you develop a fever of 101 degrees Fahrenheit (38.3 degrees Celsius) or above or have hard shaking chills, you must call your physician's office immediately, day or night.**

It is important to receive antibiotics in a timely fashion since your body is immunocompromised and unable to fight some infections on its own.

### When am I Most at Risk for an Infection?

You are likely to have a higher chance or risk of getting an infection when your white blood cell counts are at their lowest. This period of time is called your nadir, meaning lowest point. The **nadir** often occurs 7 to 14 days after you finish each chemo treatment, 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 are most at risk for infection.**

### How Can I Help Prevent Infection?

- Washing your hands is the most important way you can help prevent infections. Use soap and water, scrubbing for 20 seconds, to wash your hands. Dry them fully with a clean paper towel and use it to turn off the faucet. Use an alcohol-based hand sanitizer if you are not near soap and water.
- Do not take acetaminophen (Tylenol) or aspirin to reduce a fever without talking to your physician first.
- Avoid large crowds where you may come in contact with germs.
- Avoid anyone who is sick (including cold or flu).
- Avoid children or adults who have recently received live vaccines (measles, mumps, rubella-MMR combined vaccine, rotavirus, smallpox, chickenpox, yellow fever).
- Do not handle animal waste (including cat litter, bird cage waste, fish tank water, etc.).
- Cook your food thoroughly to kill any potential microorganisms on raw food.
- If you have a central line (Port, PICC, Hickman) use caution to keep it clean and dry. Check the area for redness or tenderness daily.
- Bathe daily and carefully dry your skin. Use a heavy emollient cream to moisturize to prevent skin cracking and eczema.
- Follow an oral hygiene regimen (rinsing after meals to clear out bacteria).
- Wear sunscreen to prevent sunburn.
- Use only electric razors to avoid cuts that can become infected.
- Avoid constipation and straining to have a bowel movement by using a medication that softens the stool. Do not use rectal suppositories or enemas unless directed by your provider.
- Do not have dental work without first talking with your healthcare team. Advise your dentist you are receiving treatment for cancer.
- Do not get any vaccines without first talking with your healthcare team.



## Thrombocytopenia (Low Platelet Count)

### What it is and Why it Occurs

Platelets are the cells that make your blood clot when you bleed. Chemotherapy treatments may lower the number of platelets because it changes your bone marrow's ability to produce these cells. The risk of bleeding increases with fever and infection, especially when platelets are low.

### What to Look for and When to Call

A low platelet count is called thrombocytopenia. This may cause bruises (even when you have not been hit or bumped into something), bleeding, or a rash of tiny red or purple dots on your skin. If your platelet count is too low, you may require a platelet transfusion. If you have a nosebleed that does not stop with pressure, you have a cut that bleeds longer than usual, you develop small red/purple spots on your arms, legs or chest, you have bleeding gums, blood in your stool or urine, call your physician. If you develop a very severe headache, a change in your vision, stiff neck or unusually heavy menstrual flow call our office immediately.

### When am I Most at Risk for a Low Platelet Count?

Platelets may decrease after each treatment with some types of chemotherapy. The lowest point, nadir, usually occurs 10-14 days after treatment.

### Signs and Symptoms

Signs and symptoms to look for are listed here. Call the office if you develop any of these:

- Excessive bruising of your skin
- Tiny, pinpoint red/purple spots on your skin called petechiae (usually on legs and feet)
- Bleeding gums or blood blisters in your mouth
- Nosebleeds that will not stop
- Excessive bleeding from a small cut or bleeding that won't stop even after pressure has been applied
- Vomiting blood (this can be dark and look like coffee grounds or bright red)
- Coughing up blood or feeling short of breath
- Dark colored urine or blood in your urine
- Blood from your rectum, blood in your stool or black, tarry stools
- Menstrual bleeding that is heavier than normal, lasts longer than usual or occurs between periods
- Changes in vision
- Severe headaches, increased weakness, difficulty waking up or disorientation
- Pain in joints and muscles

### How Can I Help Prevent Bleeding?

- Keep your mouth clean and moist. Brush your teeth with a soft bristle toothbrush.
- Rinse your mouth after each meal with a baking soda solution (2 tsp. baking soda to 8 oz. water).
- Do not use dental floss or toothpicks.
- Avoid mouthwashes that contain alcohol as it can dry your mouth out.
- Do not take aspirin, aspirin-containing products, ibuprofen or naproxen without first speaking with your oncologist.
- Blow your nose gently with your mouth open.
- Use an electric shaver instead of a razor.
- Keep your bowels regular and try not to strain with bowel movements. Do not use rectal thermometers, suppositories or enemas.
- Use stool softeners or laxatives (as directed by your doctor) to prevent constipation.
- Do not play sports or do other activities during which you could be hurt.
- Wear shoes or slippers at all times to protect your feet.
- Avoid deep tissue massages.



## Anemia (Low Red Blood Cell Count)

### 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. This causes your heart to work harder to try and oxygenate tissues throughout your body. Two lab tests, hemoglobin and hematocrit, are used to measure the red blood cell count. When these levels are low you are anemic. Chemotherapy makes it more difficult for your bone marrow to produce new red blood cells.

### What to Look for and When to Call

Being anemic may cause you to feel very tired or weak. If you notice that your heart pounds or you are short of breath easily when moving, call our office. Signs and symptoms are listed here. Call our office if you develop any of these:

- Dizziness or lightheadedness
- Excessive fatigue
- Pale skin tone
- Extreme weakness
- Headaches
- Heart palpitations
- Feeling cold, especially in your hands and feet

### When am I Most at Risk for Becoming Anemic?

Anemia can happen anytime during your chemotherapy treatments. If your hemoglobin becomes too low, you may be given red blood cells by vein (a blood transfusion).

### How Can I Help Prevent or Manage Anemia?

- Get plenty of rest both at night and during the day.
- Limit your activities to save your energy. Avoid prolonged or strenuous activities.
- Accept help from family and friends.
- Stand up slowly to prevent dizziness or lightheadedness.
- Eat a healthy diet and drink plenty of fluids.
- Take iron supplements only if your provider tells you to.



## Mucositis (Painful or sore mouth)

### What it is and Why it Occurs

Mucositis may also be called mouth sores, oral mucositis or esophagitis. It can range in severity from a red, tender mouth and/or gums to very painful open sores causing an inability to eat. Patients receiving radiation therapy to the head and neck as well as those receiving certain types of chemotherapy are at high risk of developing mucositis. Oral mucositis has a significant effect on the patient's quality of life and can be dose limiting (requiring a reduction in subsequent doses of chemotherapy). In order to prevent a sore mouth, you may be given ice chips to chew or suck on while you receive certain types of chemotherapys.

### What to Look for and When to Call

If you develop sores, a burning sensation, or white patches in your mouth, call our office. Signs and symptoms are listed here. Call our office if you develop any of these:

- Red, shiny or swollen mouth and gums that lasts for more than 48 hours
- Blood in your mouth or bleeding gums
- Sores in the mouth or on the gums or tongue
- Difficulty or pain with swallowing or talking
- Soft, whiteish patches in the mouth or on the tongue
- A dry mouth with little or no saliva

### When am I Most at Risk for Developing Mouth Sores?

Mouth sores can develop at any time during your treatment. Generally, they will heal on their own but if they are interfering with eating and swallowing your oncologist may prescribe a mouth rinse. If weight loss becomes a concern you may be referred to a dietitian.

### How Can I Help Prevent or Manage Mucositis?

- Ask your doctor if you need to see a dentist before starting treatment.
- If you have poorly fitted dentures, get them corrected.
- Practice good oral hygiene and mouth care. Do not floss if your platelet count is low to prevent bleeding.
- Check your mouth and tongue each day.
- Keep your mouth moist. Drink water and other fluids throughout the day.
- Use a soft bristled toothbrush.
- Rinse your mouth frequently with a mild salt-water solution. Avoid mouthwashes that contain alcohol.
- Choose foods that are moist, soft and easy to swallow.
- Avoid: sharp or crunchy foods; spicy food; citrus fruits or juices; sugary food and drinks; beer, wine and other alcohol.
- Do not use toothpicks.
- Avoid lemon and glycerin swabs as these can be drying.
- Avoid tobacco products such as cigarettes, pipes, cigars and chewing tobacco.

## Nausea and Vomiting

### What it is and Why it Occurs

Nausea is a sick or queasy feeling in your stomach. Vomiting or “throwing up” often accompanies nausea. Some causes of nausea/vomiting are some types of chemotherapy, radiation therapy, the cancer itself, certain medicines, anxiety related to the treatment, illness and infection. Fortunately, there are many anti-nausea medications to use with chemotherapy treatments to help manage this side effect.

### What to Look for and When to Call

If you develop nausea or vomiting that is not controlled by your prescribed medications call our office. Signs and symptoms are listed here. Call our office if you develop any of these:

- Uncontrolled nausea or vomiting for 12 hours
- Inability to eat or drink for 12 hours
- Nausea that lasts for more than 1-2 days or you vomit more than 1-2 times a day for 2 days
- Unable to keep anti-nausea medications down
- Bloody or coffee-ground appearing vomit
- Dizziness, lightheadedness, or excessive weakness
- Dark yellow urine

### When am I Most at Risk for Developing Nausea or Vomiting?

Nausea or vomiting may develop a few hours to a day or two after your treatment is given. The length and severity of nausea and vomiting varies from person to person. Some treatments are more likely to cause nausea and vomiting than others.

### How Can I Help Prevent or Manage Nausea or Vomiting?

- Take your anti-nausea medications as instructed.
- Eat a light meal before your treatment.
- Choose bland, easy to digest foods (crackers, toast, gelatin).
- Avoid spicy or greasy food.
- Drink plenty of fluids without caffeine: water, broth, sports drinks, fruit juices, popsicles, or ginger ale.
- Suck on mints or hard candies. Keep your mouth clean and moist.
- Eat foods and drinks that are warm or cool (not hot or cold).
- Eat small, frequent meals rather than three large meals each day.
- Do not eat your favorite foods when you are nauseated.

## Diarrhea

### What it is and Why it Occurs

Many types of treatment for cancer, infections and medications can cause diarrhea as they can harm healthy cells in the lining of your large and small bowel. Diarrhea is defined as three or more loose or watery stools in 24 hours. When food and liquids pass through the bowel too quickly your body cannot absorb enough nutrients and water which can lead to dehydration, electrolyte imbalances, weight loss and fatigue. If this happens, you may need IV fluids to replace lost water and nutrients.

### What to Look for and When to Call

If you develop diarrhea (five or more loose bowel movement in 24 hours) call our office. Signs and symptoms are listed here. Call our office if you develop any of these:

- Five or more loose bowel movements in 24 hours
- Have watery or bloody bowel movements, severe abdominal pain and cramping
- Fever of 100.5 degrees Fahrenheit (38 degrees Celsius) or higher
- Dizziness, lightheadedness or extreme weakness
- Do not pass urine for 12 hours or if urine becomes dark yellow in color
- You have been told to take medicine to control your diarrhea, and it is not working
- You are unable to keep liquids down for more than 12 hours

### When am I Most at Risk for Developing Diarrhea?

Diarrhea may develop anytime during your treatment. Some treatments are more likely to cause diarrhea than others.

### How Can I Help Prevent or Manage Diarrhea?

- Slowly drink 6 to 8 glasses of non-caffeinated liquid each day.
- Consider drinking fluids that replace minerals and electrolytes such as sport drinks or soup broth.
- Eat small amounts of food 5 to 6 times throughout the day instead of 3 large meals.
- Eat low fiber foods like plain or vanilla yogurt, white toast, white rice, eggs, saltine crackers, puddings, cottage cheese, bananas, applesauce, mashed potatoes and instant oatmeal.
- Consume food and drinks that are not too hot or too cold.
- Avoid caffeine drinks (cola, coffee, tea), alcohol, milk or milk products.
- Avoid spicy, fatty, fried or greasy foods.

## Constipation

### What it is and Why it Occurs

Constipation is a decrease in the number of daily bowel movements and/ or the difficult passage of hard stool. You may also feel bloated, have nausea, stomach cramps, pain or discomfort in the rectal area. Common causes of constipation include pain medications, some chemotherapy anti-nausea medications, cancers of the digestive system, decreased activity, decreased intake of fluids, and dietary changes.

### What to Look for and When to Call

If you do not have a stool for two more days over what is normal for you, call our office. Signs and symptoms are listed here. Call our office if you develop any of these:

- You have not had a bowel movement for two more days beyond your normal.
- Have abdominal pain, bloating or cramping.
- Blood in the stool or on the toilet tissue.
- Rectal pain.
- Leaking small amounts of soft or liquid stool from the rectum.
- No bowel movement within one day of taking a laxative prescribed by your doctor.

### When am I Most at Risk for Developing Constipation?

Constipation may develop anytime during your treatment because there are many causes of constipation.

### How Can I Help Prevent or Manage Constipation?

- Keep track of your bowel movements as your healthcare team may ask you for this information.
- Treatment of constipation will vary, depending on the cause. If your constipation is not relieved by laxatives (Senokot, Milk of Magnesia, Metamucil, Dulcolax) or stool softeners (docusate sodium, Colace, Metamucil, Surfac), you may be given a prescription laxative.
- Allow time to have a bowel movement at the same time each day.
- Increase physical activity as much as possible.
- Drink 6 to 8 glasses of fluid each day. Fruit juices such as prune, apple, peach and pear juices may help.
- Increase intake of high fiber foods.
- DO NOT use enemas or suppositories without asking your healthcare team first.
- If you need help finding a constipation remedy talk with your doctor or nurse.

## Loss of Appetite/Taste Changes

### What it is and Why it Occurs

Loss of appetite is when you do not feel hungry, have no desire or interest in eating. It is important to keep yourself well-nourished and to maintain your weight as much as possible. It is imperative that you keep well hydrated.

Patients going through cancer treatment often have changes in taste. Food may taste bitter or have a metallic taste, you may have an aversion to certain foods, or your favorite foods may taste different. Taking sips of a tart drink such as cranberry juice or lemonade between bites may help to lessen the metallic taste. You can also try using plastic silverware when eating to lessen the metallic taste.

### What to Look for and When to Call

If you have no desire to eat and are losing weight, call our office.

### When am I Most at Risk for Developing Loss of Appetite?

Loss of appetite may develop anytime during your treatment. There can be many contributing factors such as constipation, pain, nausea, depression and anxiety.

### How Can I Help Prevent or Manage Loss of Appetite/Change of Taste?

- Eat high calorie foods and beverages. Avoid diet and low-fat foods.
- Eat small, frequent meals throughout the day.
- Eat high calorie snacks such as shakes, smoothies, peanut butter, cheese, ice cream, pudding, nuts, breakfast bars, yogurt, cottage cheese, hard boiled eggs.
- Try different foods and drinks. Foods you dislike one day may be appealing another day.
- Eat when you feel hungry.
- Eat soft foods as they are easier to digest.
- Try to do some physical activity before meals, take a stroll or stretch.
- Rinse your mouth before meals with saltwater or brush your teeth.
- Add herbs, marinades, or spices to food.
- If you have a metallic taste in your mouth try lemon drops, sugar free hard candy, mints or gum.
- Drink high protein supplements such as Boost, Ensure or Glucerna.
- Discuss referral to a dietitian with your provider if you are interested in talking with them.

## Hair Loss

### What it is and Why it Occurs

Hair loss (alopecia) can happen with some, but not all chemotherapy medications. The chemo drugs attack the fast-growing cells of the body which includes hair cells, causing hair loss. Hair loss is not dangerous but is distressing to most people. Your health care team can help identify resources for purchasing a wig if desired.

### What to Look for and When to Call

Scalp hair is the most frequently affected, but loss of eyelashes, eyebrows, facial, pubic and body hair may also occur. You do not need to call the office for hair loss as it is expected.

### When am I Most at Risk for Developing Hair Loss?

Hair loss usually begins about 2 weeks after your first treatment and is usually complete in 3-7 days. Achiness or tingling of the scalp may occur as the hair loss begins. Chemotherapy induced hair loss is usually temporary. Your hair will start to regrow approximately 6-8 weeks after your treatments are complete. It is not uncommon for hair to grow back curlier and a different color.

Small studies have shown that products marketed as “cold caps” can reduce or prevent chemo induced hair loss. They work by decreasing the blood flow to the scalp during treatment. Some physicians are concerned that cold caps may prevent chemotherapy from reaching cancer cells that may be in the scalp area. If you are interested in using a cold cap, please discuss this with your oncologist for advice and direction.



### How Can I Manage Hair Loss?

- Use a soft bristle brush.
- Use a gentle, pH balanced shampoo such as baby shampoo.
- Avoid hair dryers, hot rollers, curling or flat irons.
- Avoid bleaching or coloring your hair. Avoid permanent waves.
- Some people find it easier to deal with hair loss by shaving their heads before the hair starts to fall out.
- It is wise to wear a hat or wig when outdoors to help avoid sunburn or to retain body heat (depending on the season).

## Skin and Nail Changes

### What it is and Why it Occurs

Depending on the type of treatment you are receiving you may notice changes in your skin or nails. Common skin changes noted during radiation can include: redness, blistering, peeling, increased sensitivity to sunlight and thin or fragile skin. Skin changes you may notice during chemotherapy include changes in skin tone/pigmentation, dry skin, redness, rashes, peeling and increased sensitivity to sunlight.

Some chemotherapy drugs may cause skin reactions that resemble acne-like rashes which can be red and itchy as well as cause pain and inflammation. Areas commonly affected by these rashes include: the face, upper chest, back, arms and legs. Your veins may look darker when you receive chemo through an IV. This is normal.

Your fingernails, and possibly toenails, may develop ridges, become discolored, become weak, break or lift off the nail bed. These changes are temporary for most people and the nails will grow back to normal over a period of time after treatment is completed.

### What to Look for and When to Call

Call the office if you develop a severe skin rash, cracking peeling skin, or if you have areas of redness that are painful or blistering. Notify your healthcare provider if you suspect an infection of your nails (red, swollen, oozing puss).

### When am I Most at Risk for Developing Nail and Skin Changes?

Skin rashes may occur a few days after the start of therapy, but most commonly occur after 2-3 weeks. Nail disorders usually start 4-8 weeks after the start of treatment. These changes can take as long as 6 months to resolve once treatment is completed.

### How Can I Help Prevent or Manage Skin and Nail Changes?

#### Skin

- Wash with warm water and a mild non-perfumed, non-deodorant soap. Use bath or shower oils instead of sheer gels and soaps which can be more drying. Dry yourself by patting your skin with a soft towel, rather than rubbing vigorously. Take showers or short, cool baths instead of long, hot baths.
- Wear loose fitting cotton clothes where possible next to the skin, rather than wool, synthetic fibers or rough clothing. Wash clothes in mild detergent.
- Protect your skin from extreme cold or heat. Wear gloves in cold weather. Avoid sun exposure if possible. Use sunblock of SPF 30 (or higher) and protective clothing.
- Use moisturizers daily and after bathing and doing water related tasks (washing dishes). Be sure to include your lips. Do not use lotions or gels that contain alcohol. Use an emollient that is lanolin based (Neutrogena Norwegian Formula Hand Cream, Vaseline Intensive Care Advanced Healing Lotion).
- If you develop an acne-like rash DO NOT use steroid creams as these make the rash worse.
- Keep hands and feet moisturized to prevent cracking. Lanolin-based lotions (Udderly Smooth) are better during the day. Petroleum-based lotion/creams (Bag Balm, Aquaphor) are better to apply at nighttime. Cover with socks and/or cotton gloves.

#### Nails

- Keep your nails trimmed and clean. Avoid cutting or pushing back your cuticles.
- Manicures and pedicures are recommended prior to beginning therapy to minimize cracking of nails and tearing of cuticles.
- Wear rubber or cotton lined gloves for washing dishes, housecleaning and gardening to minimize damage and prevent infection.
- Nail polish and imitation fingernails should not be worn until the nails have grown out and returned to normal.
- Do not wear tight fitting shoes.
- Keep your hands moisturized.

## Hand-Foot Syndrome (Palmar Plantar Erythema–PPE)

### What it is and Why it Occurs

Hand-foot syndrome is a skin reaction that appears on the palms of the hands and/or soles of the feet as a result of certain chemotherapy drugs. PPE can start as a feeling of burning, tingling or numbness in the palms and/or soles which can progress to redness, peeling skin, tenderness and pain. It is very important to notify your care team when these signs first appear. If the treatment is not adjusted the symptoms can progress to blisters and pain which can interfere with simple activities of daily living.

### What to Look for and When to Call

Call the office if you develop redness, tingling, cracking, peeling or blistering of skin on your palms and/or soles. Do not wait and see if the symptoms improve on their own.

### When am I Most at Risk for Developing PPE?

Symptoms may occur during the first two cycles of chemotherapy or at any time during your treatment. Do not stop taking your medications without talking to your provider.

### How Can I Help Prevent or Manage PPE?

- Avoid hot baths, showers or hot tubs one day prior to treatment.
- Elevate the hands and feet as much as possible which may help decrease swelling.
- Avoid excessive rubbing and prolonged pressure to elbows, knees, hands and feet.
- Avoid wearing tight fitting clothing, shoes, belts or elastic bands.
- Avoid vigorous exercise or activities that place undue stress on the hands and feet.
- Minimize trauma to the hands and feet.
- Avoid hot water in the bathtub, shower or doing dishes for three days following treatment.
- Keep hands and feet moisturized to prevent cracking. Apply moisturizers gently.
- Manicures and pedicures are recommended prior to beginning therapy to minimize cracking of nails and tearing of cuticles.

## Fatigue

### What it is and Why it Occurs

Fatigue during cancer treatment is different from “feeling tired.” Everyone gets tired, it is an expected feeling after strenuous activities or at the end of the day. Getting a good night’s sleep will resolve this tiredness. Fatigue is a lack of energy; feeling weak; worn out; heavy; or slow; which is not resolved with sleep. It can be acute (lasting a month or less) or chronic (lasting from 1 month to 6 months or longer). Fatigue can have a profound negative impact on a person’s ability to function and their quality of life.

Cancer-related fatigue (CRF - sometimes simply called “cancer fatigue”) is a common side effect of cancer and its treatments. Usually, it comes on suddenly, does not result from activity or exertion, and is not relieved by rest or sleep. It may continue after treatment is complete.

### What to Look for and When to Call

Discuss your fatigue with your healthcare providers at your appointments. If you experience dizziness or loss of balance, trouble breathing, trouble walking or falling call our office.

### When am I Most at Risk for Developing Fatigue?

Fatigue may occur at any point during your treatment and can take months to years to resolve once treatment is completed. Possible causes of fatigue include:

- Chemotherapy, radiation therapy, biologic therapy
- Combination of more than one treatment
- Low red blood cell count (anemia)
- Pain or medications
- Appetite loss/poor nutrition
- Trouble sleeping
- Lack of activity or too much activity/stimulation
- Stress, depression, anxiety
- Infection or other medical conditions

### How Can I Help Prevent or Manage Fatigue?

- Exercise, be active – exercise is the best way to lessen fatigue. Regular moderate exercise can help a person feel energetic and stay active. Even during cancer therapy, it is often possible to continue exercise. Types of exercise to consider: walking, yoga, swimming, pedaling on a stationary bike, and chair exercises.
- Plan time to rest during the day and sleep 8 hours each night.
- Relax when you can – mind-body interventions such as meditation, prayer, yoga, guided imagery or music therapy might be helpful.
- Eat and drink well to maintain good nutrition.
- Choose to do activities that are important to you and delegate others to your family and friends.
- There is no single medication available to treat fatigue. However, there are medications available that can treat some of the underlying causes. Make sure you speak with your health care provider if you are feeling fatigued.

## Peripheral Neuropathy

### What it is and Why it Occurs

The body's nervous system is made up of two parts. The central nervous system (CNS) includes the brain and the spinal cord. The peripheral nervous system (PNS) connects the nerves running from the brain and spinal cord to the rest of the body; the arms and hands, legs and feet, internal organs, joints and even the mouth, eyes, ears, nose, and skin.

Peripheral neuropathy occurs when nerves are damaged or destroyed and can't send messages from the brain and spinal cord to the muscles, skin and other parts of the body. Some chemotherapy drugs can cause peripheral neuropathy.

### What to Look for and When to Call

Symptoms of peripheral neuropathy can include: numbness, tingling (feeling of pins and needles) of hands and/or feet, burning of hands and/or feet, pain when walking, loss of sensation to touch, weakness, leg cramping or any pain in hands and/or feet, difficulty picking things up or buttoning clothes. Notify your health care professional if you are experiencing the above symptoms or unrelieved pain.

### When am I Most at Risk for Developing Peripheral Neuropathy?

Peripheral neuropathy can develop at any time during treatment and can last months to years after treatment has finished. Sometimes the damage can be permanent, so it is very important that you honestly discuss any symptoms you are having with your healthcare team.

### How Can I Help Prevent or Manage Peripheral Neuropathy?

- Contact your care team if you have any of the symptoms listed.
- Avoid falling – walk slowly, hold onto handrails, use no-slip bath mats in your tub or shower, make sure there are no rugs or cords to trip over.
- Use care when handling knives, scissors, and other sharp objects.
- Test the temperature of water with an area of the body not affected by neuropathy before bathing and washing dishes.
- Wear gloves when cooking, washing dishes or working in the garden.
- Visually check your feet at the beginning and end of each day. Look for redness, blisters or open sores as you may not feel these developing.
- Call or talk with your provider if you are experiencing pain from the neuropathy.

## Pain

### What it is and Why it Occurs

Not everyone who has cancer has pain. But if you experience pain, we want to work with you to find the best way to treat your pain. Pain may be acute or chronic. Acute pain is temporary and usually lasts for a relatively short time. Chronic pain lasts for long periods of time. The longer that you have pain, the more at risk for depression, anxiety and extreme tiredness (fatigue) you will be. Uncontrolled pain can lead to decreased appetite, decreased activity and problems sleeping.

### What Causes Pain?

Some common causes include:

- Cancer putting pressure on organs, nerves or bones
- Cancer treatments like surgery, radiation, some chemotherapy agents and growth factors
- Other diseases
- Infections
- Blocked blood vessels

### When am I Most at Risk for Developing Pain?

Pain can develop at any time. Our physicians, APP's and nurses are specially trained to help you relieve and manage your pain. You should let your health care team know if you are experiencing pain.

### How Can I Help Prevent or Manage Pain?

Pain is most often managed with medications. Do not take any medications, even over the counter medications, without first checking with your provider. Take medications only as prescribed. Do not share them with others. Do not stop them abruptly without discussing with your provider first.

### What to Look for and When to Call

Call our office if you develop any of these:

- New pain, especially if it is severe or persistent
- An increase in the amount or frequency of pain
- Pain that does not get better after taking your pain medicine or comes back before your next scheduled dose
- If you experience problems with side effects from pain medications such as nausea, constipation, or excess sleepiness/drowsiness
- Notify your doctor immediately if you notice these symptoms of spinal cord compression:
  - A band-like pain around your waist or chest
  - New, severe back pain
  - Numbness and tingling down your legs
  - Weakness and decreased sensation of the lower extremities
  - Loss of bowel and/or bladder control.

### When You Call

Your provider will want to know the answers to the following questions:

- **Onset** – when did the pain start?
- **Quality** – what does it feel like (stabbing, knifelike, dull, constant, throbbing, intermittent, sharp)?
- **Location** – where do you feel the pain?
- **Intensity** – how bad is the pain on the 0 (no pain) to 10 (worst pain you can imagine) scale?
- **Duration** – how long have you had the pain?
- **Aggravating factors** – what makes the pain worse?
- **Relieving factors** – what makes the pain go away or what lessens the pain?

## Sexual Concerns

Intimacy and sexuality are very important to human beings. We all need to love someone or something, and we hope the love we give will be returned. Intimacy and sexuality are intricate, they are emotional and physical in nature. We need to feel good about ourselves, with good self-esteem, and be physically able to perform acts of intimacy. While you are receiving chemotherapy or other forms of cancer treatment your sexuality may be challenged due to changes in your body, your body image and your self-esteem. This is a normal part of adapting to what is going on in your body and environment. Chemotherapy may cause many changes to your body image and self-esteem, with both physical and emotional changes occurring at the same time.

### What Concerns Could Arise:

#### For Women

- Not wanting to have sex or feeling too tired to have sex
- Feeling too worried, stressed or sad to have sex
- Inability to achieve orgasm
- Pain during sex
- Not finding sex to be pleasurable
- Hot flashes, vaginal dryness, irregular or no monthly periods
- Bladder or vaginal infections
- Vaginal discharge or itching

#### For Men

- Loss of desire for sex
- Feeling too worried, stressed or sad to have sex
- Inability to achieve or maintain an erection
- Inability to reach orgasm
- Change in orgasm (duration, intensity or dry ejaculation)
- Pain during sex
- Not finding sex to be pleasurable

### Can I Have Sex During Treatment?

Ask your provider 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 chemotherapy may be found in vaginal fluid or semen after receiving chemo. It is unknown if these small amounts can harm a sexual partner. To help protect your partner we recommend that you use a barrier during sex (vaginal, oral or anal) for 7 days after each IV chemo treatment. If you take chemo pills (oral chemo) we recommend you always use a barrier during sex. You may stop using a barrier 7 days after your last dose of oral chemo.

Certain cancer treatments can cause low white blood cell counts which may increase your chances of getting an infection or a low platelet count which may increase your bleeding risk. You may need to refrain from sexual activity that involves vaginal or anal penetration during the period of time these counts are low.

If you have questions about sex before, during or after your treatments please discuss them with your physician.

## Fertility and Pregnancy

### Fertility Concerns

Fertility is the ability to reproduce. Infertility is often a major concern to men and women of childbearing age, who are undergoing treatment for their cancer. If you think you may want to have children in the future, it's important to talk with your doctor **before starting cancer treatment**.

### Common Causes of Infertility in Patients With Cancer Include:

- **Chemotherapy** - related to the type of drug, dose and length of treatment.
- **Radiation** - due to pelvic radiation in males and females. This is also dependent on the dose of radiation that was received, and the age during therapy.
- **Cancer-related surgery** - in women, with cancer of the endometrium, or ovaries, who may have had a hysterectomy- infertility may result depending on the type of surgery. Men who have received a penectomy, orchiectomy, removal of the prostate gland, or seminal vesicles (which produce semen), may experience infertility.
- **Age** - also an important factor, more so for women than men. Women who are older are more likely to go into an early menopause (the stopping of monthly periods) from their treatment, than younger women.

For women, the ability to retrieve eggs and egg storage may be an option. Egg retrieval should be completed prior to the start of cancer treatment. For men, therapeutic sperm banking may be an option. Sperm banking should also be completed prior to the start of cancer treatment.

### Pregnancy During Treatment

#### For Women

You must not get pregnant while receiving certain cancer treatments such as chemotherapy and immunotherapy. Chemotherapy may harm the unborn fetus causing birth defects, stillbirths, miscarriages or spontaneous abortions. If you still have menstrual periods or spotting talk to your physician about using birth control for pregnancy prevention. If your menstrual cycles have stopped due to treatment talk to your physician about using birth control. If you are or think you might be pregnant notify your physician immediately. Before starting any method of birth control talk with your physician.

#### For Men

Your spouse or partner must not get pregnant while you are receiving treatment. Cancer treatment can harm your sperm and cause birth defects.

#### For Women and Men

Two methods of contraception, such as condoms and spermicides, are suggested. The chance of developing birth defects following chemotherapy may last **at least 1 year** after chemotherapy treatment.

## ADDITIONAL CONCERNS

### Immunotherapy Side Effects

#### Common Side Effects

These side effects are common but may not occur in all people or with all types of immunotherapies.

- Feeling tired (fatigue)
- Diarrhea
- Fever
- Shortness of breath
- Rash and/or blisters, covering less than 10% of the body
- Nausea
- Vomiting
- Itching
- Headache
- Weight loss
- Difficulty falling or staying asleep
- Decreased appetite

#### Dangerous Side Effects

Severe side effects can be life threatening. They may occur right away or up to 2 years after treatment ends. If you are treated with immunotherapy, it is important that you are aware of these side effects and that you call your doctor right away if they occur. If caught early, they can be treated. The list below describes dangerous side effects and their symptoms.

#### Inflammation of the Lung (Pneumonitis)

- New or worsening cough
- Shortness of breath
- Chest pain

#### Inflammation of the Liver (Hepatitis)

- Yellowing of skin (jaundice)
- Severe nausea or vomiting
- Pain on the right side of your stomach area
- Drowsiness
- Tea-colored urine
- Bleeding or bruising
- Feeling less hungry than usual

#### Inflammation of the Colon (Colitis)

- Diarrhea (loose stools) or more bowel movements than normal
- Blood in stools or black, tarry, or sticky stools
- Severe abdominal pain or tenderness

## RESOURCES



# Missed Appointment Policy

## Appointment Reminders



**Phone call or text message**

Our appointment reminder system will call or send a text message two days prior to your appointment. If you are added on as a same-day or next-day appointment, you will receive a reminder call or text (patient preference) that same day.



**Appointment confirmed and tracked**

Confirmed appointments on the schedule are tracked in our online check-in system.



**Reminder message**

We will leave a message for you to confirm appointments, as needed. If an appointment time has changed due to a provider changing it, our staff will reach out at least three times and then send appointment information in the mail if unable to reach you by phone.



**Missed appointment**

On the day of scheduled visits, we will call you if you miss an appointment to determine the reason and to reschedule.

## Canceled Appointments

1. All cancellation phone messages from patients will be received by scheduling staff.
2. Your appointment will then be changed to 'canceled' in our scheduling system.
3. The reason for cancellation will be documented in our scheduling system.
4. The physician nurse will be notified of the no-show/cancellation.
5. If they feel another appointment is needed, our scheduling team will contact you.
6. We will make three attempts to reach you within two weeks of a canceled appointment. Each telephone attempt (date, time, results) will be documented in your medical record.
7. After three unsuccessful attempts are made to reschedule your appointment, a letter will be sent asking for you to contact our office in an attempt to reach you.
8. The physician nurse or physician will be notified when this letter has been sent to you.

## No Shows

1. The staff at the registration desk identifies each patient that misses an appointment.
2. Your appointment will then be changed to a 'no-show' in the scheduling system.
3. The physician nurse will be notified of the no-show appointment.
4. If another appointment is needed, our scheduling team will contact you.
5. Three attempts will be made in an attempt to reach you within two weeks of the missed appointment. Each telephone attempt (date, time, results) will be documented in your medical record.
6. A letter will be sent to you after three unsuccessful attempts to reach you.
7. A copy of the letter is to be kept in your electronic medical record.
8. The physician and physician nurse will be notified by scheduling that a letter has been sent to you.

## Repeated Appointment Cancellations

Every missed appointment is time taken away from other patients who might need care in our office. It is critical that you keep your scheduled appointments or notify our office more than 24 hours in advance to cancel if you cannot keep your appointment.

Patients who consistently no-show (defined as having missed two or more consecutive appointments or three or more appointments in the previous year), our team will:

- |   |   |  |
|---|---|--|
| A) Initially contact you by telephone regarding the need to attend scheduled appointments, treatments and procedures. | B) Communicate with you by mail regarding the need to attend scheduled appointments, treatments and procedures. | C) When it is decided to terminate the patient-physician relationship, we will notify you in writing (certified mail with return receipt requested) of the decision and the reason and provide adequate notice for you to secure care from another provider. |
|---|---|--|

All patient contact will be documented in the medical record.



# Frequently Asked Questions

## 1. Do I need to fast before I have my labs drawn?

Typically, the labs we do for our treatments do not require fasting. However, if you have been told to fast by your provider please follow those instructions.

## 2. Can I eat before my chemo treatment?

You may eat before and during your treatment. We suggest light meals until you know how your treatment is going to affect you.

## 3. Can I eat sugar?

Sugar doesn't make cancer grow faster. All cells, including cancer cells, depend on blood sugar (glucose) for energy. But giving more sugar to cancer cells doesn't speed their growth. Likewise, depriving cancer cells of sugar doesn't slow their growth. We suggest you eat foods that sound good and that you can tolerate. This is not the time to make drastic diet changes.

## 4. Can I drink alcohol?

It is best to abstain from alcohol during chemotherapy treatments, but it is ok to have one drink per day.

## 5. Should I stop smoking?

Yes. We recommend everyone stop smoking. However, this stressful time may not be the best time to try to stop smoking.

## 6. Can I take aspirin, acetaminophen (Tylenol) or Ibuprofen (Advil, Motrin)?

Please check with your doctor before taking these medications while on chemotherapy.

## 7. Can I be around other people?

Can I be around small children? Yes, you can be around your family and friends. We recommend you stay out of large crowds and avoid being around anyone who is sick.

## 8. Can I drive myself to and from treatment?

You may want to have a driver for the first treatment until you know how it will affect you. This can depend on the treatment being given, so feel free to ask your chemo nurse if your treatment requires a drive.

## 9. Do I need to bring my own oxygen?

Yes. You must bring your own oxygen to your appointments and treatments. The oxygen we have on hand is for emergency situations only.

## 10. Can I bring my pet to my treatment?

Only service animals (a dog or miniature horse that has been trained to perform disability-related tasks or do work for the benefit of a person with a disability) are allowed in our offices.

## 11. What are the hours of the chemo infusion area?

Our offices are open Monday through Thursday 8 a.m. – 5 p.m. and Friday 8 a.m. – 4 p.m. An on-call provider is available 24 hours a day, 7 days a week.



# Resources and Support

## Cancer/Blood Disorder by Type:

### Bladder

**Bladder Cancer Advocacy Network**  
bcan.org | 888-901-BCAN or 1-301-215-9099

**Society of Urologic Nurses & Associates (SUNA)**  
suna.org | 888-827-7862

**American Bladder Cancer Society**  
bladdercancersupport.org | 888-413-2344 or 413-684-2344

**The American Urological Association Foundation**  
urologyhealth.org | 800-828-7866 or 410-689-3700

**United Ostomy Associations of America, Inc.**  
ostomy.org | 800-826-0826

### Blood Disorders

(Anemia, Sickle Cell Disease, Iron Deficiency Anemia, Bleeding Disorders)  
**American Society of Hematology**  
hematology.org | 202-776-0544 or 866-828-1231

### Brain

**National Brain Tumor Society**  
braintumor.org | 617-924-9997

**American Brain Tumor Association**  
abta.org | 800-886-2282 or 773-577-8750

### Breast

**Breastcancer.org**  
breastcancer.org | 610-642-6550

**Living Beyond Breast Cancer**  
LBBC.org | 855-807-6386 or 610-645-4567

**Young Survival Coalition**  
www.youngsurvival.org | 877-972-1011

**Susan G. Komen for the Cure**  
komen.org | 877-465-6636

**ABCD After Breast Cancer Diagnosis**  
abcdbreastcancersupport.org | 800-977-4121

### Metastatic Breast

**Metastatic Breast Cancer Network**  
mbcn.org | 888-500-0370

### Cervical

**Foundation for Women's Cancer**  
foundationforwomenscancer.org | 312-578-1439

**National Cervical Cancer Coalition**  
nccc-online.org | 800-685-5531

### Colorectal

**Fight Colorectal Cancer**  
fightcolorectalcancer.org | 877-427-2111 or 703-548-1225

**Colon Cancer Alliance**  
ccalliance.org | 877-422-2030 or 202-628-0123

**The Susan Cohan Colon Cancer Foundation**  
coloncancerfoundation.org | 914-305-6674

### Esophagus

**Esophageal Cancer Awareness Association**  
ecaware.org | 800-601-0613

**Esophageal Cancer Education Foundation**  
fightec.org | 732-446-8520

**Esophageal Cancer Action Network**  
ecan.org | 410-358-3226

### Gynecologic

**Foundation for Women's Cancer**  
foundationforwomenscancer.org | 312-578-1439

### Hemochromatosis

**Hemochromatosis.org**  
hemochromatosis.org

### Kidney

**Kidney Cancer Association**  
kidneycancer.org | 800-850-9132

**Action to Cure Kidney Cancer**  
ackc.org | 212-714-5341

**American Kidney Fund**  
kidneyfund.org | 800-638-8299 or 866-300-2900

### Laryngeal

**The Oral Cancer Foundation**  
oralcancerfoundation.org | 949-723-4400

**SPOHNC-Support for people with oral/head/neck cancer**  
spohnc.org | 800-377-0928

### Leukemia

**Be The Match**  
bethematch.org | 800-627-7692 or 888-999-6743

**The Bone Marrow Foundation**  
bonemarrow.org | 800-365-1336 or 212-838-3029

**Leukemia and Lymphoma Society**  
lls.org | 800-955-4572 or 888-557-7177

# Resources and Support

### Liver

**American Liver Foundation**  
liverfoundation.org | 212-668-1000

**Global Liver Institute**  
globalliver.org | 800-845-5910

### Lung

**Lung Cancer Alliance**  
go2.org | 800-298-2436 or 202-463-2080

**LUNGevity Foundation**  
lungevity.org | 312-407-6100 or 844-360-5864

**American Lung Association**  
lung.org | 800-586-4872 or 515-309-9507

### Lymphoma - Hodgkins and Non-Hodgkins

**Leukemia and Lymphoma Society**  
lls.org | 800-955-4572 or 888-557-7177

**Cutaneous Lymphoma Foundation**  
clfoundation.org | 248-644-9014

**Be The Match**  
bethematch.org | 800-627-7692 or 888-999-6743

**Lymphoma Research Foundation**  
lymphoma.org | 212-349-2910 or 800-500-9976

**The Bone Marrow Foundation**  
bonemarrow.org | 212-838-3029 or 800-365-1336

### Melanoma

**Aim at Melanoma**  
aimatmelanoma.org

**Melanoma Research Foundation**  
melanoma.org | 800-673-1290 or 202-347-9675

# Resources and Support

## Mesothelioma

### MesotheliomaGuide

mesotheliomaguide.com/mesothelioma | 888-385-2024

### Mesothelioma Hub

mesotheliomahub.com | 833-997-1947

### Mesothelioma Hope

mesotheliomahope.com | 855-887-2766

## Multiple Myeloma

### Multiple Myeloma Research Foundation

themmrf.org | 203-229-0464

### Be The Match

bethematch.org | 800-627-7692 or 888-999-6743

### The Bone Marrow Foundation

bonemarrow.org | 800-365-1336 or 212-838-3029

### International Myeloma Foundation

myeloma.org | 800-452-2873 or 818-487-7455

### National Bone Marrow Transplant Link

nbmtlink.org | 800-546-5268

## Myeloproliferative Neoplasms

### Voices of MPN (Polycythemia Vera, Myelofibrosis, Essential Thrombocythemia)

www.voicesofmpn.com

## Oral

### SPOHNC-Support for People with Oral/Head/Neck Cancer

sponhnc.org | 800-377-0928

### American Head and Neck Society

ahns.info | 310-437-0559

### The Oral Cancer Foundation

oralcancerfoundation.org | 949-723-4400

## Ovarian

### National Ovarian Cancer Coalition

ovarian.org | 888-682-7426 or 214-273-4200

### Ovarian Cancer Research Alliance

ocrahope.org | 866-399-6262 or 202-268-1002

### Facing Our Risk of Cancer Empowered

facingourrisk.org | 866-288-RISK (7475)

### SHARE-Self-Help for Women with Breast/Ovarian Cancer

sharecancersupport.org | 212-719-0364 or 844-275-7427

## Pancreas

### Hirshberg Foundation for Pancreatic Cancer Research

pancreatic.org | 310-473-5121

### The Lustgarten Foundation

lustgarten.org | 866-789-1000 or 516-737-1550

### National Pancreas Foundation

pancreasfoundation.org | 866-726-2737 or 301-961-1508

### Pancreatica

pancreatica.org | 831-658-0600

### Pancreatic Cancer Action Network

pancan.org | 877-272-6226

## Prostate

### Prostate Cancer Foundation

pcf.org | 800-757-CURE (2873) or 310-570-4700

### Prostate Conditions Education Council

prostateconditions.org | 866-477-6788

### ZERO – The Project to End Prostate Cancer

zerocancer.org | 202-463-9455 or 844-244-1309

## Stomach

### No Stomach for Cancer, Inc.

nostomachforcancer.org | 608-692-5141

## Thyroid

### American Thyroid Association

thyroid.org | 703-998-8890

### Light of Life Foundation

lightoflifefoundation.org | 609-409-0900

### ThyCa Thyroid Cancer Survivors' Association Inc.

thyca.org | 877-588-7904

## Uterine

### Foundation for Women's Cancer

foundationforwomenscancer.org | 312-578-1439

## General Cancer Information

### American Cancer Society (ACS)

cancer.org | 800-227-2345

### American Society of Clinical Oncology (ASCO)

asco.org | 888-282-2552 or 703-299-0158

### Cancer.Net – Sponsored by ASCO

cancer.net | 888-651-3038 or 571-483-1780

### CancerCare, Inc.

cancercare.org | 800-813-HOPE (4673) or 212-712-8400

### National Cancer Institute (NCI)

cancer.gov | 800-4-CANCER (422-6237)

### National Comprehensive Cancer Network (NCCN)

nccn.org | 215-690-0300

## Genetics

### Bright Pink

brightpink.org

### Facing Our Risk of Cancer Empowered (FORCE)

facingourrisk.org | 866-288-7475

### Genetic Alliance, Inc.

geneticalliance.org | 202-966-5557

## Lymphedema

### National Lymphedema Network

lymphnet.org | 800-541-3259







**IOWA**  
HEALTH CARE



MISSION  
CANCER + BLOOD

→ 515-282-2921

→ [missioncancer.com](https://missioncancer.com)