



Inspire hope

Your guide to navigating the cancer journey



SKY LAKES
CANCER TREATMENT CENTER



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Welcome

Welcome to Sky Lakes Cancer Treatment Center

It is our privilege to join you in your journey through your cancer diagnosis and treatment. We know this can be a frightening and confusing time for most patients and their families. Please allow the staff members here to support you during your time with us. Our highly skilled and specialized teams in the cancer center will be here to educate, answer your questions, advocate, offer advice when it is asked for, provide guidance through your choices and be a listening ear when you need it.

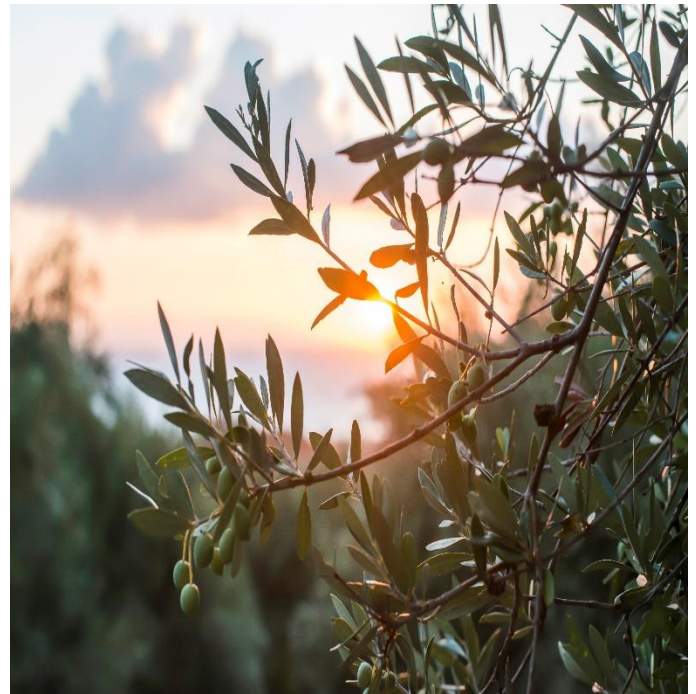
Sky Lakes Cancer Treatment Center is built on a promise of delivering treatment, services, convenience, and comfort through your time with us. Cancer prevention, early detection and treatment of cancer and blood diseases are important focuses of care here at Sky Lakes. Building on a foundation of the latest in oncologic technology, we aim for our care to be of the highest quality, precision, and effectiveness possible.

Our cancer center offers complementary support program, classes and services for patients and their families. Our physicians, oncology-certified nurses, radiation therapists, nurse navigators, oncology support specialist, and others work together to coordinate your care.

Physicians are engaged in advancing cancer research. This enables them to provide unique options for treatment.

We partner with local and regional academic institutions to provide services such as bone marrow biopsy, lymphedema treatment and palliative care.

We look forward to partnering with you. Together, we will learn to build strength and find the positives in a difficult situation. That is our commitment to you. Please let us know how we can help you.



Sky Lakes Cancer Treatment Center

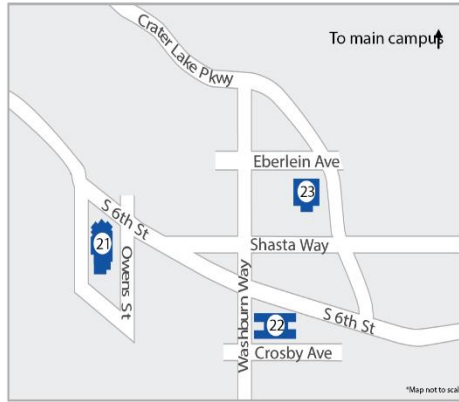
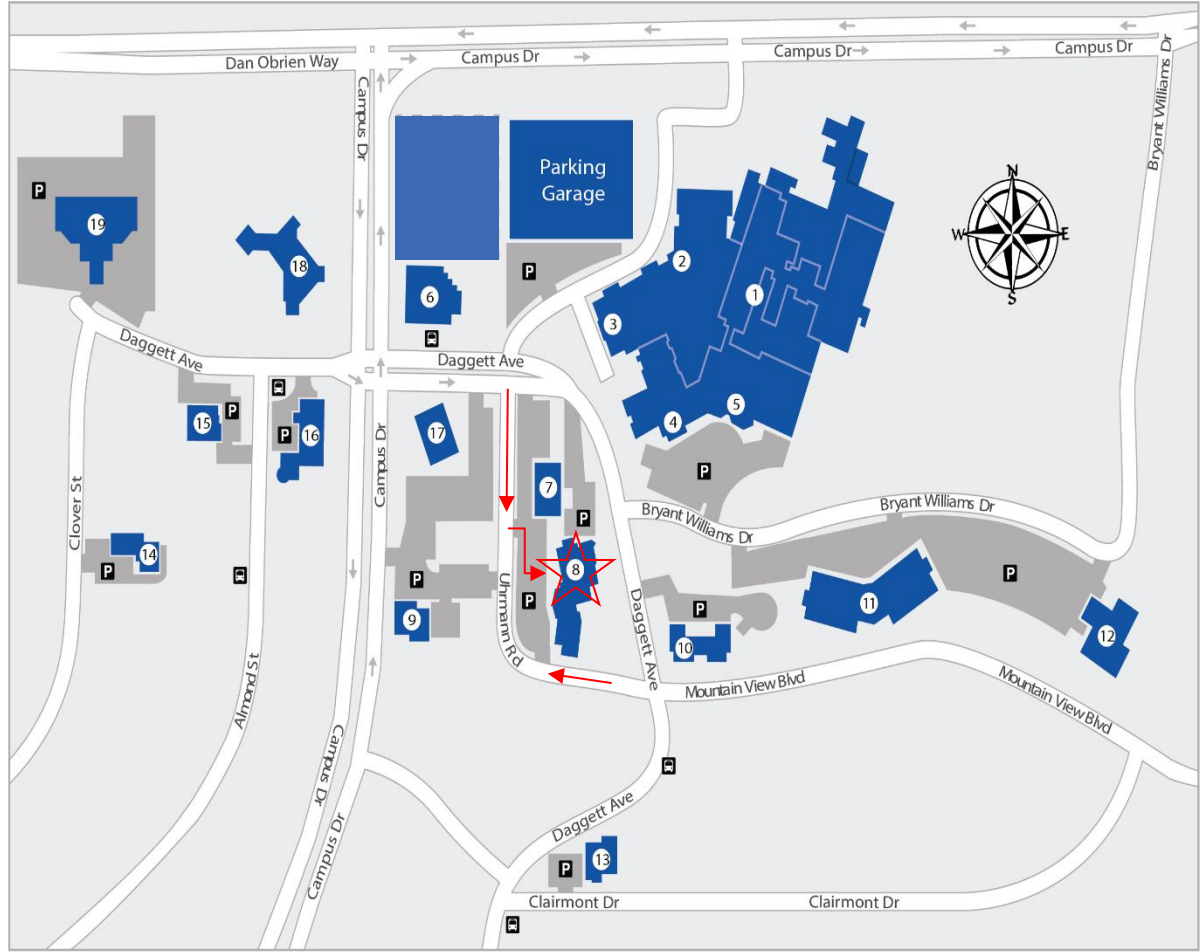
Sky Lakes Cancer Treatment Center

2610 Uhrmann Rd, Klamath Falls, OR 97603 | (541) 274-4171



B BUS STOP **P** PARKING

1. SKY LAKES MEDICAL CENTER
2865 DAGGETT AVE
2. MAIN ENTRANCE
3. EMERGENCY ROOM ENTRANCE
4. FAMILY BIRTH CENTER ENTRANCE
5. SURGERY ENTRANCE
6. CASCADES EAST FAMILY MEDICINE
2800 DAGGETT AVE
7. SKY LAKES WOMEN'S HEALTH CLINIC (UPPER LEVEL)
2850 DAGGETT AVE
MEDICAL OFFICE BUILDING (LOWER LEVEL)
2680 UHRMANN RD
- ★ 8. SKY LAKES CANCER TREATMENT CENTER
2610 UHRMANN RD
9. SKY LAKES UROLOGY CLINIC
2360 CAMPUS DR
10. HUGH CURRIN HOUSE
2601 DAGGETT AVE
11. SKY LAKES OUTPATIENT REHAB
SKY LAKES UROLOGY CLINIC ON BRYANT WILLIAMS
SKY LAKES RHEUMATOLOGY CLINIC
SKY LAKES OUTPATIENT SURGERY CENTER
(SOUTH CASCADE SURGERY CENTER)
2200 BRYANT WILLIAMS DR
12. SKY LAKES GENERAL SURGERY CLINIC
MARC ORLANDO, MD, SKY LAKES GENERAL SURGERY
SKY LAKES EAR, NOSE AND THROAT CLINIC
3000 BRYANT WILLIAMS DR SUITE A
13. SKY LAKES PULMONOLOGY CLINIC
2301 CLAIRMONT DR
- 14.
15. SKY LAKES PRIMARY DERMATOLOGY CLINIC
2617 ALMOND ST
16. SKY LAKES OUTPATIENT IMAGING
2900 DAGGETT AVE
17. SKY LAKES PEDIATRIC THERAPY
2686 CAMPUS DR
18. CASCADE HEALTH ALLIANCE/CASCADE
COMPREHENSIVE CARE
SKY LAKES BUSINESS OFFICE
2909 DAGGETT AVE
19. LOWER LEVEL
SKY LAKES ADULT MEDICINE CLINIC
SKY LAKES FAMILY MEDICINE CLINIC
3001 DAGGETT AVE
20. SKY LAKES COMMUNITY HEALTH EDUCATION CENTER
2220 N ELDORADO BLVD
21. SKY LAKES OUTPATIENT CARE MANAGEMENT
1946-1998 S 6TH ST
22. KLAMATH-LAKE CHILD ABUSE RESPONSE AND
EVALUATION SERVICES (CARES),
SKY LAKES HOME HEALTH
2605 CROSBY AVE
23. RECOVERY ZONE PHYSICAL THERAPY, A DIVISION OF
SKY LAKES REHAB SERVICES
2846 EBERLEIN AVE
24. LIVE YOUNG SKY LAKES WELLNESS CENTER
128 S 11TH ST



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Welcome to Infusion Services



Our expert staff in the CTC infusion room want to provide you with compassionate, supportive care.

Here are six tips for making your time here more comfortable for you and other patients.

- **Avoid fragrances.** As you know, some patients receiving treatment have a heightened sensitivity to odors. Please don't wear perfume or any fragrant lotions or oils.
- **Arrive early to your appointment.** Early arrival allows time for the admission process to be completed.
New Patients, arrive 30 minutes early.
Follow-up patients, arrive 15 minutes early.
- **Have a snack with you.** Be sure to eat prior to your infusion appointment. Feel free to bring snacks and drinks with you. Keep in mind that some of the other patients do not feel well, so please **don't bring foods with strong odors (including, french fries and burgers with onions).**
- **If you have a feeding tube:** Please bring your cartons and supplies needed. We have curtains to place around your chair to provide privacy. Please talk with your nurse about any support you may need.
- **Bring medications.** Take or bring all your regularly scheduled medications as prescribed unless told otherwise by your oncologist. Bring your pain medications with you, and any medication you may need while you are here with us.
- **Bring oxygen if needed:** If you use portable oxygen, please bring your own oxygen tank, supplies, and concentrator. If you need a breathing treatment, please take one prior to coming for infusion, or bring your nebulizer and medication with you. Please talk with your nurse about any support you may need.
- **Wear a loose-collared shirt.** Patients with a port are encouraged to wear a loose-fitting shirt. This helps the nurses access your port easily and without stretching your shirt collar. Button-up shirts, low V-neck shirts or low scoop-neck shirts are the best. If you have a PICC line, please wear a shirt that allows easy access to the PICC.

Infusion Services FAQs

How long will my infusion take?

The length of your infusion will depend on the medications you are receiving and your reaction to them. We will do our best to give you an accurate length of your infusion time, but please realize there are variables. Recliner chairs are available for your comfort. Blankets and pillows also are available upon request. If you have a special need that prevents you from being in a chair, please let us know and we can offer an alternative. Some patients like to bring a sleep mask, as not all lights can be adjusted, and window coverings do not darken.

Can I use the bathroom during my infusion?

Absolutely. You will be able to move around the infusion room with the IV pole. Bathroom facilities are located inside the infusion room.

Can family and friends sit with me?

Unfortunately, we do not have enough space to accommodate family or friends in the treatment room. We realize this is a hardship and we appreciate your understanding.

Can I use my cellphone?

Yes. But remember that sound carries in the infusion room. Silence ringers or use the vibration mode. Speaker phone is not permitted. Please bring headphones for media watching/listening. Remember to bring charging cords.



Is there free Wi-Fi?

Yes. You may use Sky Lake's Wi-Fi: *SkylakesGuest*. No password is needed.

Can I bring my pet?

We do accommodate registered service animals only. However, we do ask that you consider leaving your service animal at home if it performs a function that you will not need during treatment.

How do I get more information?

Feel free to call our nurse navigator at (541) 274-4829 with any questions or concerns. It is important that you feel comfortable with your experience.

What if I need to reschedule or cancel an appointment?

We are open from 8 a.m. to 4:30 p.m. Monday through Friday. If you need to change your appointment, please call (541) 274-4800 24 hours ahead.

What happens after my appointment?

We have a team available to help you with resources and coordination of care. This can include nutrition counseling, coordination of appointments, information about community resources and financial assistance, as well as social and emotional support for you and your loved ones.

Welcome to Radiation Oncology



Our radiation oncology experts understand that every person and disease is unique. We will work with you and others on your care team to create the best course of treatment.

Here are six tips to making your treatment regimen go as smoothly as possible.

- **Arrive early to your appointment.** Please arrive five to 10 minutes prior to your scheduled treatment time, unless instructed otherwise.
- **Wear comfortable clothing.** Patients are encouraged to wear comfortable clothing and avoid layers. Many treatments require changing into a gown or removing clothing.
- **Inform us of any schedule changes or delays.** Your treatment time might have to be changed for that day. We will do our best to accommodate you.

- **Moisturizers.** We encourage you to use non-scented, alcohol-free, fragrance-free products.
- **Bring a prescription list.** Always carry a current medication list with you and bring any scheduled medications with you to treatment. Please talk with your nurse or the radiation therapist about any support you may need.
- **Keep hydrated.** Being dehydrated may make you feel worse during treatment. Water is available for you and your visitor. It is important to keep hydrated even when you aren't receiving treatment, unless medically advised otherwise.

Welcome to Medical Oncology



Medical Oncology specializes in the health and well-being of individuals with cancer and blood disorders.

It is our mission to guide and support you and your family through the challenges of cancer and blood disorders.



Our comprehensive, compassionate care includes:

- Helping you understand your diagnosis
- Developing customized treatment strategies
- Coordinating your treatment with the cancer care team
- Advocating on your behalf when working with health insurance companies
- Facilitating financial and specialty drug assistance programs

We are committed to optimizing your care. We will do everything possible to ensure the highest degree of comfort and dignity as you undergo your treatment. Our providers will design an individual course of therapy to meet your needs. Our specialty staff is here to support you along the way.

We will work diligently with you and your family to ensure your experience is comforting and hopeful.

Medical Oncology FAQs

Office hours and appointments

Hours: 8 a.m. to 4:30 p.m. Monday-Friday

Phone: (541) 274-6262, staff available 8:30 a.m. to 4:30 p.m. Answering service available outside normal business hours.

Do you take walk-ins?

Our office does not take walk-in appointments. Please call first to speak with a nurse to arrange a same-day appointment for urgent problems.

Always bring your insurance card with you to your appointment. Please keep us apprised of any changes to your insurance coverage.

What if I need to cancel?

If you are unable to keep your appointment, please call us at least 24 hours in advance so we may offer your time to another patient.

What if I need care after hours?

One of our physicians is on-call for emergency care after hours. Because our doctors work together as a team, each one is prepared to help you with any problems you might have.

After-hours please call (541) 274-6262 your call will be directed to our answering service. They will page our on-call physician. Please make sure your phone is set to allow a return call from an unknown or private caller.

In the case of a life-threatening emergency, immediately call 911.

How do I get prescriptions filled?

Call your pharmacy first for refills unless a narcotic medication needs refilled. **Please allow three business days for prescription refills.** Any new prescriptions, over-the-counter medications, vitamins or herbal supplements need to be checked first by your oncology provider for interactions with your treatment.

What is cancer? How can it be treated?

Cancer is a disease caused by uncontrolled division of abnormal cells. It can affect almost any part of the body and can invade surrounding tissues. In advanced stages, it can metastasize to distant sites.

Normally, cells grow and divide to form new cells as needed. When cells grow old or become damaged, they die, and new cells take their place. Cancer develops when old or damaged cells survive when they should die, and new cells form when they are not needed. These extra cells can divide without stopping and may form new growths called tumors.

Metastatic cancer spreads from where it first started (primary cancer) to another place in the body. It can travel through blood or the lymphatic system and form new tumors in other parts of the body.

Treatment methods

- **Chemotherapy.** Drugs work throughout the body to kill cancer cells or slow their growth. Chemotherapy is used to cure cancer, lessen the chance it will return, shrink tumors that are causing pain and other problems, and stop or slow the growth of tumors.
- **Hormones.** This therapy slows or stops cancers that use hormones to grow, such as some prostate and breast cancers. Hormone therapy is most often used along with other treatments, depending on the type of cancer, whether it has spread and how far, and whether there are other health problems.
- **Immunotherapy.** Drugs, proteins and even the body's own cells are used to help the immune system fight cancer. They boost the ability of this natural defense mechanism — made up of white blood cells, organs, and tissues of the lymph system — to recognize cancer cells and destroy them.
- **Radiation.** High doses of radiation kill cancer cells and shrink tumors by damaging their genetic material (DNA). Cancer cells

whose DNA is damaged beyond repair stop dividing or die, unlike normal cells, which can repair themselves if damaged during the treatment. It takes days or weeks of treatment before DNA is damaged enough for cancer cells to die, and they keep dying for weeks or months after the therapy ends. There are two main types of radiation therapy:

- **External:** A machine aims radiation at a specific part of the body that's affected by cancer.
- **Internal** (also called brachytherapy): Seeds, ribbons or capsules containing a radiation source are placed inside the body, in or near the tumor.
- **Surgery.** Removing cancer through surgery is best for solid tumors that are contained in one area. It is not used for leukemia (a type of blood cancer), cancers that have spread to other parts of the body or tumors in critical areas.
- **Stem cell transplant.** This procedure restores blood-forming stem cells in patients whose stem cells have been destroyed by very high doses of chemotherapy or radiation. The main types of blood cells are:
 - **White:** They help the body fight infection.
 - **Red:** They carry oxygen throughout the body.
 - **Platelets:** They help the blood clot.
- **Targeted therapy.** This treatment targets the changes in cancer cells that help them grow, divide, and spread. Most targeted therapies are either small-molecule drugs or monoclonal antibodies (proteins produced in the lab):
 - **Small-molecule drugs** are small enough to enter cells easily, so they are used for targets that are inside cells.
 - **Monoclonal (therapeutic) antibodies** are made to attach to specific targets found on cancer cells and enhance the immune system's attack on them.

— *Adapted from the National Cancer Institute*

Central line use and care

Central line is a general term used to describe several types of IV (intravenous) catheters, including PICC lines, implanted ports, Hickman catheters and dialysis catheters. A central line may be necessary for certain medications, long-term treatment or if your veins are small and fragile. Only a trained health care professional may access and use your central line.

Peripherally inserted central catheter (PICC)

A PICC is a thin, flexible tube that is inserted into the upper arm and into a large vein called the superior vena cava. This line may stay in place for weeks or months and helps avoid the need for repeated needle sticks.

Implanted port: port-a-cath, power port, smart port

A port is an implanted device consisting of a small reservoir, about the size of a quarter, attached to a catheter that is placed into a large vein. This device is typically placed in the chest and can remain for many years.

Caring for your central line

A PICC line has tubes that remain outside of the body and are secured by a sterile dressing that has antibacterial properties to help prevent infection. This line must be carefully maintained.

PICC maintenance

- Have the dressing changed every seven days by a trained professional.
- Avoid getting the dressing wet or soiled; ask your nurse or doctor how to keep your PICC dry while bathing.
- Protect the line from being bumped, pulled, or manipulated.
- Carefully inspect the line daily for redness, swelling, warmth or discharge.

- Avoid repetitive motions with the arm that has the PICC.
- Avoid having your blood pressure checked on the arm with the PICC.

A port is implanted under your skin and requires less daily care after the incision is fully healed.

Port maintenance

- Inspect the incision and area surrounding the port for redness, swelling, warmth or discharge.
- If your port is not being actively used for treatment, it needs to be flushed at regular intervals; your doctor will tell you how often (usually every one to three months).
- Avoid bumping or jarring your port.
- Do not allow anyone to access your port unless they are a trained professional.

Potential complications

Any type of IV catheter has potential risks, such as blood clot, infection, malfunction, vein irritation, air embolism and arrhythmia.

Contact your physician immediately for any of the following:

- Fever of 100.5 F or above
- Redness, swelling, warmth, pain, or discharge around your central line
- Swelling or pain of the arm or neck on the side your central line is located
- Bleeding
- Dressing that is wet or soiled
- Heart palpitations

Call 911 for chest pain or shortness of breath.

Neutropenic precautions

Neutropenia occurs when you have a lower-than-normal number of neutrophils, a subset of white blood cells in your immune system that helps you fight off bacterial infections.

Your neutrophil count is checked via a blood test. A low absolute neutrophil count (ANC) is an indication that you are more prone to infection.

Your risk of infection is based on the following:

- Mild: ANC less than 1.5
- Moderate: ANC less than 1.0
- Severe: ANC less than 0.5

Call your doctor right away if you think you have an infection. Do not take aspirin, acetaminophen (such as Tylenol), ibuprofen products or any other drugs that reduce fever without first talking with your doctor or nurse.

Potential signs of infection

- Fever of 100.5 F (38 C) or higher
- Chills
- Cough or sore throat
- Diarrhea
- Ear pain, headache, or sinus pain, or a stiff or sore neck
- Skin rash
- Redness or swelling around any wound
- Sores or white coating in your mouth or on your tongue
- Swelling or redness, especially where a catheter enters your body
- Urine that is bloody or cloudy, or pain when you urinate

Ways to prevent infection

- Wash your hands often with soap and water: before cooking, eating, after you use the bathroom, blow your nose, cough, sneeze, or touch animals. Carry hand sanitizer for times when you are not near soap and water.
- Use sanitizing wipes to clean surfaces and items that you touch.
- Maintain good mouth care.
- Wash raw vegetables and fruits well before eating them. Avoid those that cannot be washed well, such as raspberries.
- Do not eat raw nuts or raw or undercooked fish, seafood, meat, chicken, or eggs.
- Do not eat or drink unpasteurized milk products.
- Do not eat or drink items that are past the freshness date.
- Do not eat foods that have moldy spots, even if you cut them out.
- Avoid people who are sick.
- Avoid crowds.
- Do not clean pets, cat litter boxes or turtle, fish, or bird cages.
- Do not cut or tear your nail cuticles.
- Use an electric shaver instead of a razor.

Be sure you know how to reach your doctor or nurse after office hours and on weekends.

— *Adapted from the National Cancer Institute*

When to call a doctor

Sky Lakes Cancer Treatment Center

Hours: 8 a.m. to 4:30 p.m. Monday-Friday

Phone: (541) 274-4171 or (541) 274-6262

After-hours: all calls to either number listed above are directed to our answering service and our on-call physician will be paged. Please make sure your phone is set to allow a return call from an unknown or private caller.

Call 911

- New chest pain
- Loss of consciousness
- Seizures
- Severe shortness of breath
- Uncontrolled bleeding
- Focal weakness or loss of sensation
- Any other medical emergency

Call immediately: day, night, weekend, or holiday

- Fever of 100.5 F (38 C) or higher
- Shaking chills
- Urine that is cloudy or bloody
- Lack of urine
- Sudden change in control over bladder or bowels
- Black or bloody bowel movements

- Vomiting blood
- New onset of difficulty walking
- Confusion or abnormal lethargy
- Uncontrolled or new sudden onset pain
- Any other acute medical problem you feel needs immediate attention

Call the office promptly during business hours

- New or unusual bruising, bleeding from your gums or nose, small red spots on your skin
- Shortness of breath or heart pounding with mild exertion, fatigue, dizziness
- Dark urine with weakness and dizziness due to lack of fluid intake
- Diarrhea lasting longer than 24 hours, pain or cramping with diarrhea
- No bowel movement for two days
- Vomiting for more than one day
- Mouth or throat pain causing inability to eat
- Rash, redness or swelling of the skin or a central line
- Swelling, tenderness, warmth, redness of arm or leg
- Any other medical problem causing you concern

Personal Care Record

Monthly calendar

Month _____

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

My personal information

Personal information

Name _____

Date of birth _____

Phone number _____

Emergency contact

Name _____

Phone number _____

Doctor and pharmacy

Physician name _____

Phone number _____

Pharmacy name _____

Phone number _____

Other doctors, specialists, and pharmacies

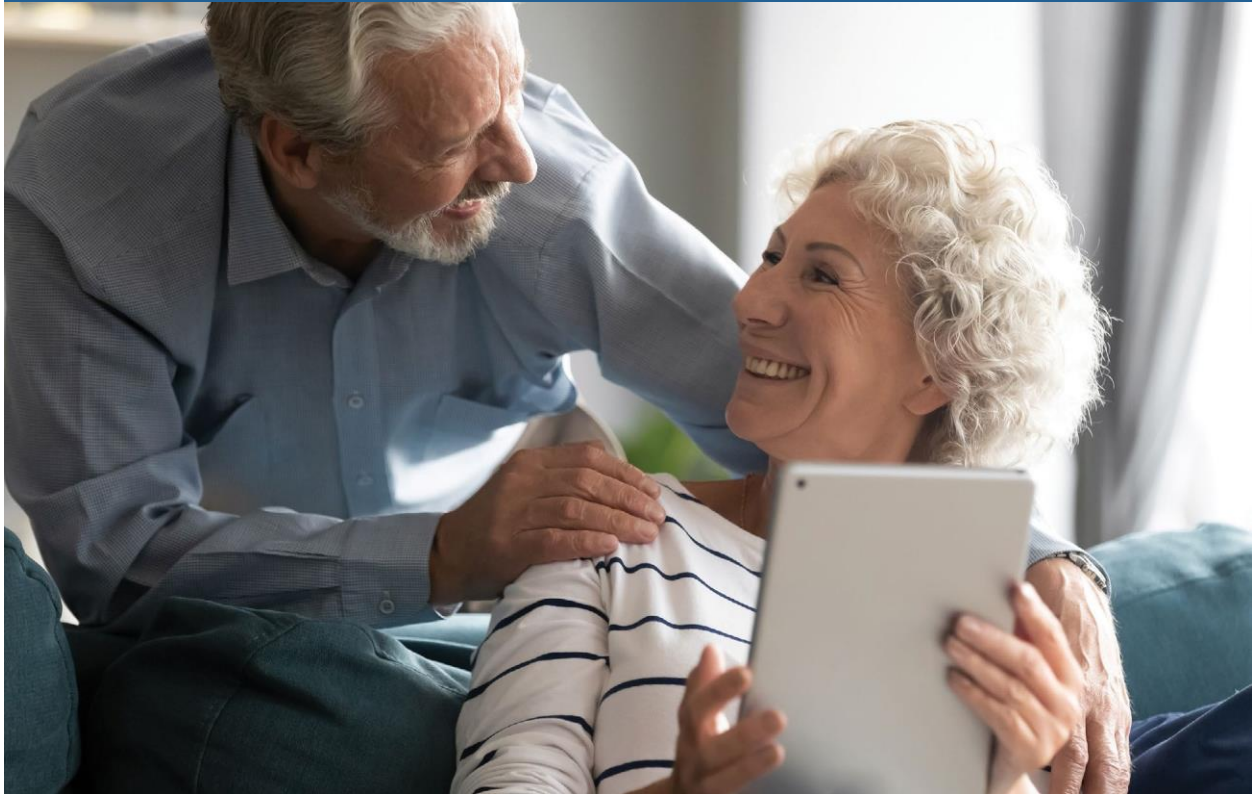
I have:

- Living will
- Durable Power of Attorney for Health Care
- Advance directive
- Physician Orders for Life-Sustaining Treatment, or POLST

Visit oregon.gov to download forms for POLST and advance directives.

Vitamins and supplements

Allergies and sensitivities



Easy access to your medical records

Sky Lakes patients can securely access their personal medical record online, from the privacy of their home or any other location with an internet connection. MyChart allows you to:

- View your current health issues
- View details of past Sky Lakes appointments
- View upcoming appointments
- Link your MyChart account with your accounts from other hospitals
- Request renewals of prescriptions
- Check results of lab and imaging tests
- See statements and make online payments
- Send questions or requests to providers

How to sign up

Existing patients may use an activation code to sign up for a MyChart account. This code allows you to create your new MyChart user ID and password, which you will then use to log on to MyChart.

To register for MyChart access, send an email to MyChart@skylakes.org and request your activation code.

If you need assistance getting your access code, please contact Sky Lakes (541) 274-6300.

For more information, visit mychart.skylakes.org.

For assistance call (541) 274-6300.

Advance care planning

You are the primary decision-maker in your health care. If there comes a time when you cannot make decisions for yourself, an advance care plan will make your choices known to family members and health care providers.

An advance care plan allows you to decide what treatments and emergency efforts you do or do not want before there's a crisis. It also appoints a person to make decisions for you when you're unable to speak for yourself. There are three written options:

Oregon Advance Directive

This is a detailed “living will” of values and preferences for treatment if you are unable to speak for yourself. It allows the legal appointment of a health care representative and remains in effect until revised or revoked by you.

Physician Orders for Life-Sustaining Treatment (POLST)

These three short, specific physician orders you and your health care provider have discussed (written by a physician, nurse practitioner or physician's assistant) give clear direction to all caregivers of your choices for life-sustaining treatments. It is entered into the statewide electronic registry for access by any medical provider in Oregon and remains in effect until revised or revoked by you.

Code status

These specific orders about resuscitation are written at the hospital by the admitting physician. It applies only if you stop breathing or your heart stops and only during the current hospitalization.

Without an advance care plan

Unless you have documentation of your wishes to the contrary, health care providers are required by protocol to use the most aggressive interventions available in a medical emergency. These include:

- Electrical shock to your heart
- Cardiopulmonary resuscitation
- Life-support machines to help you breathe
- Tube feeding to provide nutrition and hydration
- Intensive care

Making an advance care plan

Begin a conversation with your family and primary care provider to discuss your end-of-life wishes. While at the hospital, you may ask Patient Relations, a social worker, a chaplain or a nursing supervisor for help.

Additional information is available online:

- Advance Directive: Caringinfo.org/stateaddownload
- POLST: orpolst.org

Oregon Advance Directive forms are available at Sky Lakes Medical Center.

Oregon POLST forms can be obtained from your physician or health care provider.

Every time you seek care at a health care facility, bring a copy of your current advance directive and POLST to ensure they are included in your medical record and the Oregon POLST registry.

Managing Potential Side Effects

Anemia

Red blood cells carry oxygen throughout your body. Anemia occurs when you have too few red blood cells to carry the oxygen your body needs, making your heart work harder. You may feel like your heart is pounding or beating fast. You also may feel short of breath, weak, dizzy, faint or very tired.

Cancer treatments, such as chemotherapy and radiation therapy, as well as cancers that affect the bone marrow, can cause anemia. We will determine whether you have anemia through a blood test. Treatment depends on your symptoms and on what is causing the anemia.

Ways to manage

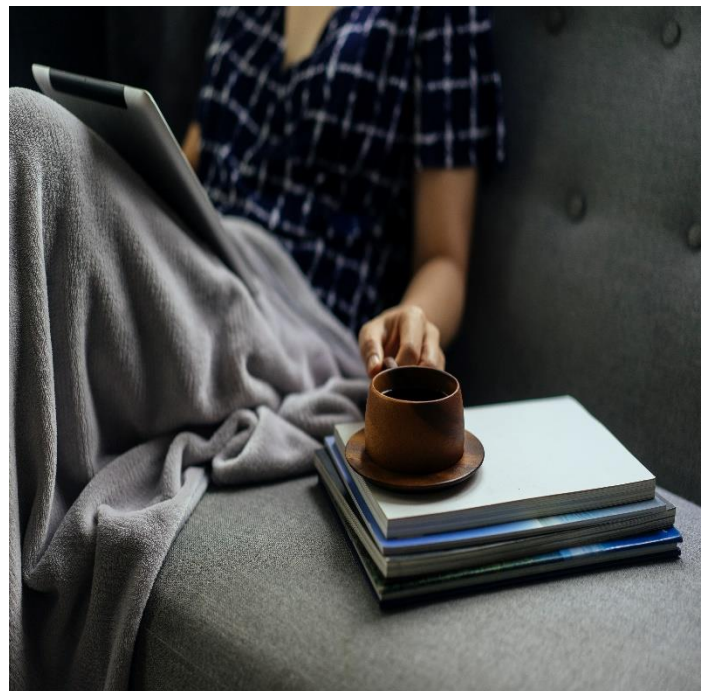
- **Balance rest with activity.** You may feel better if you take short walks or exercise a little every day. Try to sleep at least eight hours each night. Take short naps during the day, but keep in mind that too much bed rest can make you feel weak.
- **Save your energy and ask for help.** Choose the activities that are most important to you to do each day. When people offer to help, let them do so. They can take you to the doctor, make meals or do other things you are too tired to do.
- **Eat a well-balanced diet.** Choose a diet that contains all the calories and protein your body needs. Calories will help keep your weight up, and extra protein can help repair tissues that have been harmed by cancer treatment. Talk to your doctor, nurse or dietitian about the diet that is right for you.
- **Stand up slowly.** You may feel dizzy if you stand up too fast. When you get up from lying down, sit for a minute before you stand.

Your doctor or nurse will check your blood cell count throughout your chemotherapy. You may need a blood transfusion if your red blood cell count falls too low. Your doctor may also prescribe a medicine to boost the growth of red blood cells or suggest that you take iron or vitamins.

Call your doctor or nurse if:

- Your level of fatigue changes or you are not able to do your usual activities.
- You feel dizzy or like you are going to faint.
- You feel short of breath.
- It feels like your heart is pounding or beating fast.

— *Adapted from the National Cancer Institute*



Appetite changes



Some cancer treatments may lower your appetite or change the way food tastes or smells. Side effects, such as mouth and throat problems or nausea and vomiting, can make eating difficult. Cancer-related fatigue can also lower your appetite.

It is important to eat well, even when you have no appetite. Don't wait until you feel weak, have lost too much weight, or are dehydrated to talk with your doctor or nurse.

Some cancer treatments cause weight gain or an increase in your appetite. Be sure to ask your doctor or nurse what types of appetite changes you might expect and how to manage them.

Ways to manage

- Increase your appetite by doing something active.
- Eat five to six small meals or snacks throughout the day instead of three big meals.

- Choose healthy and high-nutrient foods.
- Drink plenty of liquids. Losing fluid can lead to dehydration, a dangerous condition.
- Set a daily schedule for eating your meals and snacks. Do not wait until you feel hungry.
- Change your routine: Eat in a different room, eat with people instead of alone, try different foods.
- Drink milkshakes, smoothies, juice, or soup if you do not want to eat solid foods.
- Use plastic forks and spoons if treatment gives you a metal taste in your mouth.

Call your doctor or nurse if you:

- Have dark urine or are becoming dehydrated
- Cannot eat and become dizzy or weak
- Cannot eat and are losing weight

— *Adapted from the National Cancer Institute*

Bleeding and bruising

Platelets are cells that make your blood clot when you bleed. Some cancer treatments, such as chemotherapy and targeted therapy, can increase your risk of bleeding and bruising by lowering the number of platelets in the blood. A low platelet count is called thrombocytopenia.

This condition may cause bruising or bleeding very easily and could cause tiny purple or red spots on your skin. It is important to tell your doctor or nurse if you notice any of these changes. You will have blood tests to check for thrombocytopenia. You may need medication, a platelet transfusion, or a delay in your chemotherapy treatment if your platelet count is too low.

Ways to manage

To prevent bleeding, do:

- Brush your teeth with a very soft toothbrush.
- Use a water flosser to clean your gums and between your teeth.
- Blow your nose gently.
- Be careful when using scissors, knives, or other sharp objects.
- Use an electric shaver instead of a razor.
- Wear shoes all the time, even inside the house or hospital.
- Check with your doctor before drinking beer, wine, or other types of alcohol.
- Check with your doctor before taking aspirin, ibuprofen, or other non-steroidal anti-inflammatories (NSAIDs), or other over-the-counter medicines, vitamins, herbs, minerals, dietary supplements.

Do not:

- Use toothpicks or dental floss unless your provider advises that flossing is OK.
- Play sports or do other activities during which you could get hurt.
- Use tampons, enemas, suppositories, or rectal thermometers.
- Wear clothes with tight collars, wrists, or waistbands.

Care for bleeding or bruising

- Apply gentle but firm pressure to any cuts you get until the bleeding stops.
- Apply ice to bruising.

Call your doctor or nurse if you have any of these symptoms:

- Bleeding that doesn't stop after a few minutes
- Bleeding from your gums or nose, or when you vomit
- Unusual bruises if you did not bump into anything
- Small, red spots on your skin
- Red- or pink-colored urine
- Black or bloody bowel movements
- Heavy bleeding during your menstrual period or for a prolonged period
- Vaginal bleeding not caused by your period
- Headaches or changes in your vision
- Feeling very sleepy or confused

— *Adapted from the National Cancer Institute*

Constipation



Constipation is when bowel movements become less frequent, and stools are hard, dry, and difficult to pass. You may also have stomach cramps, bloating and nausea when you are constipated.

Possible causes

- Drugs such as chemotherapy and pain medicine
- Lack of activity or too much time sitting or lying down
- Not eating enough fiber or drinking enough fluids

It is easier to prevent constipation than to treat its complications, which may include fecal impaction or bowel obstruction. But check with your doctor or nurse before using fiber supplements, laxatives, stool softeners or enemas.

Ways to prevent and manage

- **Drink at least eight cups of water or other fluids each day.** Many people find that drinking warm or hot fluids, such as coffee and tea, helps with constipation. Fruit juices, such as prune juice, may also be helpful.

- **Try to be active every day.** Ask your health care team about exercises you can do. Most people can do light exercise, even in a bed or chair. Some choose to walk or ride an exercise bike for 15 to 30 minutes each day.
- **Ask your doctor, nurse or dietitian about foods that are high in fiber.** Eating high-fiber foods and drinking lots of fluids can help soften your stools. Good sources of fiber include whole-grain breads and cereals, dried beans and peas, raw vegetables, fresh and dried fruit, nuts, seeds, and popcorn.
- **Use only medicines and treatments for constipation that are recommended by your doctor.** Some may lead to bleeding, infection or other harmful side effects in people being treated for cancer. Keep a record of your bowel movements to share with your doctor or nurse.
- **Let your doctor or nurse know if you have not had a bowel movement in three days or more.**

— *Adapted from the National Cancer Institute*

Diarrhea

Diarrhea means having bowel movements that are soft, loose, or watery more often than normal. If diarrhea is severe or lasts a long time, the body does not absorb enough water and nutrients. This can cause you to become dehydrated or malnourished. Cancer treatments, or the cancer itself, may cause diarrhea or make it worse. Some medicines, infections and stress also can cause diarrhea. Tell your health care team if you have diarrhea.

Ways to manage

- **Drink plenty of fluids each day.** Most people need to drink eight to 12 cups of fluid each day but check with your doctor or nurse on what's best for you. For severe diarrhea, only clear liquids or IV (intravenous) fluids may be advised.
- **Eat small meals that are easy on your stomach.** Eat six to eight small meals throughout the day, instead of three large meals. Limit or avoid foods and drinks that can make your diarrhea worse.
- **Eat low-fiber foods.** Foods that are high in fiber can make diarrhea worse. Low-fiber foods include bananas, white rice, white toast and plain or vanilla yogurt.
- **For radiation-caused diarrhea.** Certain kinds of fiber, such as Metamucil, can help with diarrhea caused by radiation. Check with your doctor for advice during radiation treatments.
- **Ask your doctor, nurse or dietitian about foods that are high in salts such as sodium and potassium.** Your body can lose these salts when you have diarrhea, and it is important to replace them. Foods that are high in sodium or potassium include bananas, oranges, peach nectar, and apricot nectar, boiled or mashed potatoes and fluids such as Pedialyte or Gatorade.
- **Be gentle when you wipe yourself after a bowel movement.** Instead of toilet paper, use a baby wipe or squirt of water from a spray bottle to clean yourself after bowel movements. Let your doctor or nurse know if your rectal area is sore or bleeds, or if you have hemorrhoids.

Call your doctor or nurse if:

- Diarrhea lasts more than 24 hours or you have pain or cramping with diarrhea
- You feel dizzy or lightheaded
- You have dark yellow urine or are not urinating
- You have a fever of 100.5 F (38 C) or higher

Ask your doctor or nurse before taking medicine for diarrhea.

— *Adapted from the National Cancer Institute*



Fatigue



Fatigue is the most common side effect of cancer treatments such as chemotherapy, radiation therapy, biologic therapy, and surgery. It is also a common symptom of some types of cancer.

People often describe cancer-related fatigue as feeling extremely tired, weak, heavy, run down and having no energy. Resting does not always help. Cancer-related fatigue is one of the most difficult side effects for many people to cope with.

Conditions such as anemia, as well as pain, medications, and emotions, can cause or worsen fatigue. Other causes include lack of activity, poor nutrition, trouble sleeping, infection, doing too much at one time and other unrelated medical conditions.

Ways to manage

- **Relax.** You might want to try meditation, prayer, yoga, guided imagery, visualization, or other ways to relax and decrease stress.

- **Eat and drink well.** Often, this means five to six small meals and snacks a day rather than three large meals. Keep foods around that are easy to fix, such as canned soups, frozen meals, yogurt, and cottage cheese. Drink plenty of fluids each day — about eight cups of water or juice.
- **Be active.** Research shows that exercise can ease fatigue and help you sleep better at night. Try going for a 15-minute walk, doing yoga, or riding an exercise bike.
Plan to be active when you have the most energy. Talk with your doctor or nurse about ways you can be active while getting chemotherapy.
- **Plan time to rest.** You may feel better when you rest or take a short nap during the day. Many people say that it helps to rest for just 10 to 15 minutes rather than nap for a long time. If you nap, try to sleep for less than an hour. Keeping naps short will help you sleep better at night.

Fatigue

- **Try not to do too much.** With fatigue, you may not have enough energy to do all the things you want to do. Choose the activities you want to do and let someone else help with the others.
- **Sleep at least eight hours each night.** This may be more sleep than you needed before chemotherapy. You are likely to sleep better at night when you are active during the day.
- **Plan a work schedule that works for you.** Fatigue may affect the amount of energy you have for your job. You may feel well enough to work your full schedule. Or you may need to work less — just a few hours a day or a few days each week. You may want to talk with your boss about working from home, if possible. Or you may want to go on medical leave (stop working for a while) while getting chemotherapy.
- **Let others help.** Ask family members and friends to help when you feel fatigued. They can help with household chores or drive you to and from doctor's visits. They might also help by shopping for food and cooking meals for you to eat now or freeze for later.
- **Learn from others who have cancer.** People who have cancer can help by sharing ways they manage fatigue. One way to meet others is by joining a support group — either in person or online. Talk with your doctor or nurse to learn more.
- **Keep a diary of how you feel each day.** This will help you plan how to best use your time. Share your diary with your nurse. Let your doctor or nurse know if you notice changes in your energy level, whether you have lots of energy or are very tired.
- **Talk with your doctor or nurse.** Your doctor may prescribe medication that can help decrease fatigue, give you a sense of well-being and increase your appetite. He or she may also suggest treatment if your fatigue is from anemia.

— *Adapted from the National Cancer Institute*

Fertility issues in males with cancer

Many cancer treatments can harm reproductive organs and glands that control fertility. Changes to fertility may be temporary or permanent.

Before treatment starts, tell your doctor or nurse if you want to have children in the future.

Talk with your health care team to learn what to expect based on your treatment.

Therapies and their effects on fertility

- **Chemotherapy** (especially alkylating drugs) can damage sperm in men and sperm-forming cells (germ cells) in young boys.
- **Hormone therapy** (also called endocrine therapy) can decrease the production of sperm.
- **Radiation therapy** to the reproductive organs as well as radiation near the abdomen, pelvis or spine may lower sperm counts and testosterone levels, causing infertility. Radiation may also destroy sperm cells and the stem cells that make sperm. Radiation therapy to the brain can damage the pituitary gland and decrease the production of testosterone and sperm.
- **Surgery** for cancers of the reproductive organs and for pelvic cancers (such as bladder, colon, prostate, and rectal cancer) can damage these organs and/or nearby nerves or lymph nodes in the pelvis, leading to infertility.
- **Other treatments.** Talk with your doctor to learn whether other types of treatment, such as immunotherapy and targeted cancer therapy, may affect your fertility.

Fertility preservation options

Men and boys with cancer have options to preserve their fertility. These procedures may be available at the hospital where you are receiving cancer treatment or at a fertility preservation clinic.

Talk with your doctor about the best options for you based on your age, the type of cancer you have and the specific treatment you will be receiving. The success rate, financial cost and availability of these procedures vary.

- **Sperm banking** (also called semen cryopreservation) is the most common and easy option for young men of reproductive age who would like to have children one day.
- **Testicular shielding** (also called gonadal shielding) is a procedure in which a protective cover is placed on the outside of the body to shield the testicles from scatter radiation to the pelvis when other parts of the body are being treated with radiation.
- **Testicular sperm extraction** is a procedure for males who are not able to produce a semen sample. Sperm is collected through a medical procedure and frozen for future use.
- **Testicular tissue freezing** (also called testicular tissue cryopreservation) is still considered an experimental procedure at most hospitals. For boys who have not gone through puberty and are at high risk of infertility, this procedure may be an option.

If you choose to take steps to preserve your fertility, your doctor and a fertility specialist will work together to develop a treatment plan that includes fertility preservation procedures whenever possible.

— *Adapted from the National Cancer Institute*

Fertility issues in females with cancer



Many cancer treatments can harm reproductive organs and glands that control fertility. Changes to your fertility may be temporary or permanent.

Before treatment starts, tell your doctor or nurse if you want to have children in the future.

Therapies and their effects on fertility

- **Chemotherapy** can affect the ovaries, causing them to stop releasing eggs and estrogen. This is called primary ovarian insufficiency (POI). Sometimes POI is temporary, and your menstrual periods and fertility return after treatment. Other times, damage to your ovaries is permanent and fertility doesn't return. Chemotherapy can also lower the number of healthy eggs in the ovaries. Women who are closer to the age of natural menopause may have a greater risk of infertility.
- **Radiation therapy** to or near the abdomen, pelvis or spine can harm nearby reproductive organs. Some organs, such as the ovaries, often can be protected by ovarian shielding or by oophoropexy — a procedure that surgically moves the ovaries away from the radiation area. Radiation therapy to the brain also can harm the pituitary gland. This gland is important because it sends signals to the ovaries to make hormones such as estrogen that are needed for ovulation.
- **Surgery** for cancers of the reproductive system and for cancers in the pelvic region can harm nearby reproductive tissues and cause scarring, which can affect your fertility.
- **Hormone therapy** (also called endocrine therapy) used to treat cancer can disrupt the menstrual cycle, which may affect your fertility.

Fertility issues in females with cancer

- **Bone marrow transplants**, peripheral blood stem cell transplants and other stem cell transplants involve receiving high doses of chemotherapy and/or radiation. These treatments can damage the ovaries and may cause infertility.
- **Other treatments:** Talk with your doctor to learn whether other types of treatment, such as immunotherapy and targeted cancer therapy, may affect your fertility.

Fertility preservation options

Women and girls with cancer have options to preserve their fertility. These procedures may be available at the hospital where you are receiving cancer treatment or at a fertility preservation clinic.

Talk with your doctor about the best option for you based on your age, the type of cancer you have and the specific treatment you will be receiving. The success rate, financial cost and availability of these procedures varies.

- **Egg freezing** (also called egg or oocyte cryopreservation) is a procedure in which eggs are removed from the ovary and frozen. Later the eggs can be thawed, fertilized with sperm in the lab to form embryos, and placed in a woman's uterus. Egg freezing is a newer procedure than embryo freezing.
- **Embryo freezing** (also called embryo banking or embryo cryopreservation) is a procedure in which eggs are removed from the ovary. They are then fertilized with sperm in the lab to form embryos and frozen for future use.

- **Ovarian shielding** (also called gonadal shielding) is a procedure in which a protective cover is placed on the outside of the body, over the ovaries and other parts of the reproductive system, to shield them from scatter radiation.
- **Ovarian tissue freezing** (also called ovarian tissue cryopreservation) is still considered an experimental procedure. It involves surgically removing part or all the ovary in young women, and then freezing the ovarian tissue, which contains eggs. Later, the tissue is thawed and placed back in a woman. It is only an option for some types of cancer.
- **Ovarian transposition** (also called oophoropexy) is an operation to move the ovaries away from the part of the body receiving radiation. This procedure may be done during surgery to remove the cancer or through laparoscopic surgery.

If you choose to take steps to preserve your fertility, your doctor and a fertility specialist will work together to develop a treatment plan that includes fertility preservation procedures whenever possible.

— *Adapted from the National Cancer Institute*

Flu-like symptoms caused by cancer treatments

Call your health care team if your temperature is 100.5 F or higher.

Cancer treatments such as chemotherapy and immunotherapy can cause side effects that feel like the flu. These may include:

- Muscle and joint aches
- Headache
- Fatigue
- Nausea
- Fever of 100.5 F (38 C)
- Chills
- Appetite loss

These symptoms may last from one to three days. An infection or the cancer itself can also cause them. Talk with your doctor so you know what flu-like symptoms to expect based on your cancer treatment.

Ways to manage

Keep in mind that when these symptoms occur in people receiving immunotherapy, they may be diagnosed, managed, and treated differently than when they are caused by other cancer treatments.

When your doctor recommends self-care, here are steps you can take to feel better:

- **Appetite loss.** Drink water and other fluids advised by your health care team to stay hydrated. Drinking fluids is especially important if you are not eating much. It may be easier to eat small meals and to eat more often. Choose foods that are high in calories and protein to give your body strength.
- **Chills.** Chills are your body's way of increasing your temperature. Ask your health care team what steps you should take if you have chills. They may advise you not to pile on blankets, since this can cause your temperature to rise even higher. When chills are severe, doctors may prescribe medicine.

- **Diarrhea.** Drink plenty of water to replace fluids you lose when you have diarrhea. Water and other fluids will help prevent dehydration, which may cause you to feel weak, dizzy, and disoriented. Your doctor may prescribe an over-the-counter diarrhea medicine. If you are receiving immunotherapy, diagnostic tests may be advised to rule out gastritis, a more serious medical condition.
- **Fatigue.** Balance periods of rest with periods of activity. Choose the time of day when you have the most energy to do an activity or to exercise. Regular exercise can help you keep up your strength and stamina during treatment.
- **Fever.** Your body loses fluids when you have a fever, so it's important to drink water to prevent dehydration. You may want to rest and put an ice pack on your forehead. Sometimes taking medicine to lower a fever can mask a more serious problem. For this reason, do not take anything to reduce a fever before talking to your oncology provider first.
- **Headache and/or body aches.** Use ice packs or place a cold washcloth on your forehead to get relief. If advised by your doctor, take over-the-counter pain relievers such as acetaminophen, ibuprofen, or aspirin.
- **Nausea and vomiting.** Try to take small sips of water, fruit juices, ginger ale, tea and/or sports drinks, if recommended, throughout the day. Use your anti-nausea medication as prescribed.

If these symptoms last or become severe, your doctor may advise diagnostic tests to identify what is causing these problems and determine how best to treat them.

— *Adapted from the National Cancer Institute*

Hair loss

Some types of chemotherapy damage the cells that create hair growth, causing the hair on your head and other parts of your body to fall out. Radiation therapy also can cause hair loss on the part of the body that is being treated. Hair loss is called alopecia.

Your doctor or nurse will share whether you are likely to have hair loss and what strategies have helped others, including these listed below.

Ways to manage

- **Treat your hair gently.** You may want to use a hairbrush with soft bristles or a wide-tooth comb. Do not use hair dryers, irons, or products such as gels or clips that may hurt your scalp. Wash your hair with a mild shampoo. Wash it less often and be very gentle. Pat hair dry with a soft towel.

Some people choose to cut their hair short to make it easier to deal with when it starts to fall out. Others choose to shave their head. If you choose to shave your head, use an electric shaver so you won't cut yourself.

- **Protect and care for your scalp.** Use sunscreen or wear a hat when you are outside. Choose a comfortable scarf or hat that you enjoy and that keeps your head warm. If your scalp itches or feels tender, using lotions and conditioners can help it feel better.
- **If you plan to buy a wig,** get one while you still have hair so you can match the color. You might also take it to your hairdresser, who can style the wig to look like your own hair. If you find wigs to be itchy and hot, try wearing a comfortable scarf or turban.

- **Ask if your insurance company will pay for a wig.** If it won't, you can deduct the cost of your wig as a medical expense on your income tax. Some groups also have free "wig banks." Sky Lakes Cancer Treatment Center has wigs, scarfs, and hats available through our Renewal Suite. These are funded through our Foundation and free to patients.
- **Talk about your feelings.** For many, hair loss is one of the hardest parts of the cancer journey. You may feel angry, depressed, or embarrassed about losing your hair. It can help to share these feelings with someone who understands. Some people find it helpful to talk with others who have lost their hair during cancer treatment. Talking openly and honestly with your children and close family members also can help. Tell them ahead of time that you expect to lose your hair during treatment.

Ways to care for your hair when it grows back

- **Be gentle.** When your hair starts to grow back, you will want to be gentle with it. Avoid too much brushing, curling, and blow-drying. You may not want to wash your hair as frequently.
- **After chemotherapy.** Hair often grows back in two to three months after treatment has ended. Your hair will be very fine when it starts to grow back. Sometimes your new hair can be curlier or straighter — or even a different color. In time, it may go back to how it was before treatment.
- **After radiation therapy.** Hair often grows back in three to six months after treatment has ended. If you received a very high dose of radiation, your hair may grow back thinner or not at all on the part of your body that received radiation.

— *Adapted from the National Cancer Institute*

Immunotherapy-related inflammation



Immunotherapy is a type of cancer treatment that strengthens your immune system's response to cancer. One type of immunotherapy, called immune checkpoint inhibitor therapy, can trigger a response that causes inflammation to organs in your body.

These side effects may be serious and even life-threatening. It's important to talk with your health care team about what signs and symptoms to expect, when they may happen and what to do if they occur.

Drugs that stimulate the immune system to attack tumor cells can, in some patients, cause the immune system to recognize some of the body's healthy tissues as foreign and attack them. Not all patients receiving immunotherapy drugs develop immune-related complications.

Side effects

- **Digestive system.** Inflammation to organs in your digestive system, called colitis, may cause stomach or abdominal pain, diarrhea and black or bloody stools.
- **Respiratory system (lung problems).** Inflammation in the lungs, called pneumonitis, can cause you to feel short of breath and have a bad cough.
- **Skin.** Skin inflammatory problems may include rashes, itchy skin, blisters, and sores.
- **Thyroid gland.** Inflammation can cause problems such as hypothyroidism (which may cause weakness, constipation, dry skin, weight gain and sensitivity to cold) and hyperthyroidism (which may cause diarrhea, weight loss, sweating, sensitivity to heat and, in rare cases, atrial fibrillation).

Immunotherapy-related inflammation

- **Pancreas.** Called pancreatitis, inflammation of the pancreas may cause severe abdominal pain, nausea, and vomiting. Some patients may develop diabetes.
- **Adrenal gland.** Inflammation may cause fatigue, muscle weakness, loss of appetite, weight loss and abdominal pain.
- **Pituitary gland.:** Inflammation may cause headaches and fatigue.
- **Musculoskeletal system.** Inflamed joints and muscles may cause pain and weakness. Inflammation of the muscles is referred to as myositis. You may also experience rheumatologic problems (such as autoimmune conditions or joint diseases such as rheumatoid arthritis).

Less common side effects

- **Kidneys.** Called nephritis, inflammation of the kidneys may decrease the amount of urine you produce. You may see blood in your urine.
- **Eyes.** You may have vision changes and/or eye pain caused by inflammatory problems such as uveitis or episcleritis.
- **Blood (hematologic problems).** You may bleed or bruise more easily, a condition called thrombocytopenia. Other blood-related problems include anemia and neutropenia.

- **Heart.** Called myocarditis, inflammation of the heart may lower your blood pressure. In rare cases, it may lower your heart's ability to pump blood, disrupt your heartbeat and cause a heart attack.
- **Liver.** Called hepatitis, inflammation of the liver may cause your skin and eyes to be yellowish. You may also have nausea or vomiting, stomach pain, fatigue, darker urine and bleeding or bruising.
- **Nervous system.** Inflammation may cause your hands, feet and sometimes your face to tingle and feel numb or weak. Inflammation to the brain, called encephalitis, may cause mild flu-like symptoms or more serious side effects, such as a sudden and high fever, confusion, hallucinations, seizures, and vomiting.

Management of immunotherapy inflammation

Doctors and researchers are working to learn more about the best ways to prevent or manage inflammation-related side effects. Sometimes these side effects are managed with medicines, such as steroids, which work to slow down an overactive immune response.

It's important to have any possible inflammatory problems assessed by your oncologist. Contact your oncology provider first when symptoms arise, or you may be advised to seek emergency medical care.

— *Adapted from the National Cancer Institute*

Infection and neutropenia



An infection is the invasion and growth of germs in the body, such as bacteria, viruses, yeast, or other fungi. An infection can begin anywhere in the body and may spread throughout the body.

Some types of cancer and treatments such as chemotherapy may increase your risk of infection. This is because they lower the number of white blood cells, the cells that help your body fight infection. During chemotherapy, there will be times in your treatment cycle when the number of white blood cells (called neutrophils) are particularly low, and you are at increased risk of infection. Stress, poor nutrition, and not enough sleep also can weaken the immune system, making infection more likely.

You will have blood tests to check for neutropenia (a condition in which there is a low number of neutrophils). Medicine may sometimes be given to help prevent infection or to increase the number of white blood cells.

When to call your doctor

Call your doctor right away if you think you have an infection. Even if it's on the weekend or in the middle of the night, you still need to call. **Call when you have chills or sweats or if you have a fever of 100.5 F or higher. Do not take aspirin, acetaminophen (such as Tylenol), ibuprofen products or any other drugs that reduce fever without first talking with your doctor or nurse.**

Besides fever, other signs of infection include:

- Cough or sore throat
- Diarrhea
- Ear pain, headache, or sinus pain, or a stiff or sore neck
- Skin rash
- Sores or white coating in your mouth or on your tongue
- Swelling or redness, especially where a catheter enters your body
- Urine that is bloody or cloudy, or pain when you urinate

Infection and neutropenia

Ways to prevent infection

- **Wash your hands often with soap and water.** Be sure to wash your hands before cooking, eating, after you use the bathroom, blow your nose, cough, sneeze, or touch animals. Carry hand sanitizer for times when you are not near soap and water.
- **Maintain good mouth care.** Brush your teeth after meals and before you go to bed. Use a very soft toothbrush. You can make the bristles even softer by running hot water over them just before you brush. Use a mouth rinse that does not contain alcohol.
- **Be careful not to cut or nick yourself.** Do not cut or tear your nail cuticles. Use an electric shaver instead of a razor. And be extra careful when using scissors, needles, or knives.
- **Clean and prepare food carefully.** Wash raw vegetables and fruits well before eating them. Avoid those that cannot be washed well, such as raspberries. Do not eat raw or undercooked fish, seafood, meat, chicken, or eggs. Do not eat or drink items that are past the freshness date. Do not eat foods that have moldy spots, even if you cut them out.
- **Stay away from people who are sick.** This includes people with colds, flu, measles, or chicken pox. You also need to stay away from children who just had a “live virus” vaccine for chicken pox or polio. Call your doctor, nurse, or local health department if you have any questions.
- **Avoid crowds.** Try not to be around a lot of people. For instance, plan to go shopping or to the movies when the stores and theaters are less crowded.
- **Be gentle and thorough when you wipe yourself after a bowel movement.** Instead of toilet paper, use a baby wipe or squirt of water from a spray bottle to clean yourself. Let your doctor or nurse know if your rectal area is sore or bleeds or if you have hemorrhoids.
- **Watch for signs of infection around your catheter.** Signs to look for include drainage, redness, swelling or soreness. Tell your doctor or nurse about any changes you notice near your catheter.

— *Adapted from the National Cancer Institute*

Mouth and throat changes



Cancer treatments may cause mouth, throat, and dental problems. Radiation therapy to the head and neck may harm the salivary glands and tissues in your mouth and/or make it hard to chew and swallow safely. Some types of chemotherapy and immunotherapy also can harm cells in your mouth, throat, and lips. Drugs used to treat cancer and certain bone diseases also may cause oral problems.

Mouth and throat problems may include:

- Changes in taste or smell
- Dry mouth (xerostomia)
- Infections and mouth sores
- Pain or swelling in your mouth (oral mucositis)
- Sensitivity to hot or cold foods
- Swallowing problems (dysphagia)
- Tooth decay (cavities)
- Trouble eating when your mouth is very sore

Foods may seem to have no taste or may not taste the way they used to. Radiation therapy may cause a change in sweet, sour, bitter, and salty tastes. Chemotherapy drugs may cause an unpleasant chemical or metallic taste in your mouth.

Ways to prevent mouth and dental problems

- **Get a dental check-up before starting treatment.** Visit your dentist for a cleaning and check-up. Tell the dentist about your cancer treatment and try to get any dental work completed before starting treatment.

- **Check and clean your mouth daily.**

Check your mouth every day for sores or white spots. Brush your teeth, gums, and tongue after each meal and at bedtime.

Use an extra-soft toothbrush. You can make the bristles even softer by rinsing your toothbrush in hot water before you brush. Do not use mouthwash that has alcohol. Ask your oncology provider about whether and how to gently floss your teeth.

Mouth and throat changes

- **Keep your mouth moist.** You can keep your mouth moist by sipping water throughout the day, sucking on ice chips or sugar-free hard candy, or chewing sugar-free gum. Ask your doctor or nurse about saliva substitutes if your mouth is always dry.
- **If you wear dentures,** make sure they fit well and keep them clean. Also, limit the length of time you wear them.

Ways to manage mouth problems and changes in taste

For a sore mouth or throat:

- Choose foods that are soft, wet, and easy to swallow. Soften dry foods with gravy, sauce, or other liquids. Use a blender to make milkshakes or blend your food to make it easier to swallow.
- Ask about pain medicine, such as lozenges or sprays that numb your mouth and make eating less painful.
- Avoid foods and drinks that can irritate your mouth; foods that are crunchy, salty, spicy, or sugary; and alcoholic drinks.
- Don't smoke or use tobacco products.

For a dry mouth:

- Drink plenty of liquids because a dry mouth can increase the risk of tooth decay and mouth infections. Keep water handy and sip it often to keep your mouth wet.
- Suck on ice chips or sugar-free hard candy, have frozen desserts, or chew sugar-free gum.
- Ask about medicines such as saliva substitutes that can coat, protect, and moisten your mouth and throat.
- Use a lip balm.

For changes to your sense of taste:

- Try different foods to find ones that taste best to you.
- Try cold foods.
- If food tastes bland, marinate to improve its flavor, or add spices.
- If red meat tastes strange, switch to other high-protein foods, such as chicken, eggs, fish, peanut butter, turkey, beans, or dairy products.
- If foods taste salty, bitter, or acidic, try sweetening them.
- If foods taste metallic, switch to plastic utensils and non-metal cooking dishes.
- If you have a bad taste in your mouth, try sugar-free lemon drops, gum, or mints.

Call your doctor or nurse if:

- Mouth problems interfere with your eating, drinking, or sleeping
- You have a temperature of 100.5 F (38 C) or higher
- You see sores, white spots, or infections

— *Adapted from the National Cancer Institute*

Nausea and vomiting

Nausea is when you feel sick to your stomach, as if you are going to throw up. Vomiting is when you throw up. There are several types of nausea and vomiting caused by cancer treatment, including anticipatory, acute, and delayed. Controlling nausea and vomiting will help you feel better and prevent more serious problems such as malnutrition and dehydration.

Your doctor or nurse will work to figure out what is causing your symptoms. Medicines called anti-nausea drugs or antiemetics are effective in preventing or reducing many types of nausea and vomiting.

Ways to manage

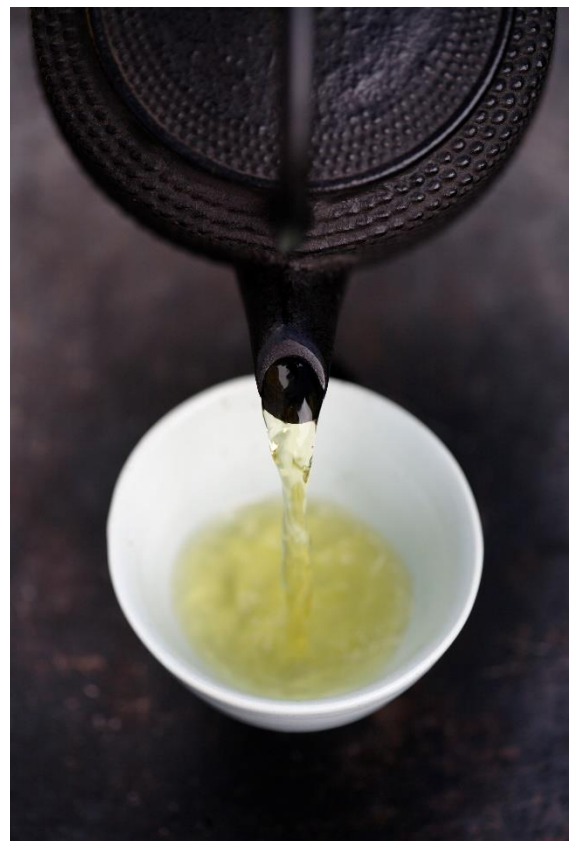
- **Take an anti-nausea medicine.** Talk with your doctor or nurse to learn when to take your medicine, but it's important to take at the first sign of nausea. There are various kinds of medicine, and one may work better than another for you.
- **Drink plenty of water and other fluids.** Drinking fluids will help prevent dehydration, a serious problem that happens when your body loses too much fluid, and you are not drinking enough. Try to sip on water, fruit juices, ginger ale, tea and/or sports drinks throughout the day.
- **Avoid certain foods.** Don't eat greasy, fried, sweet, or spicy foods if you feel sick after eating them. If the smell of food bothers you, ask others to make your food. Try cold foods that do not have strong smells, or let food cool down before you eat it.
- **Try these tips on treatment days.** Most people find that it helps to eat a small snack before treatment. Others avoid eating or drinking right before or after treatment because it makes them feel sick.

- **Learn about complementary medicine practices that may help.** Acupuncture relieves nausea and/or vomiting caused by chemotherapy in some people. Deep breathing, guided imagery, hypnosis, and other relaxation techniques (such as listening to music, reading a book, or meditating) also help some people.

Talk with your doctor or nurse. Your doctor can give you medication to help prevent nausea during and after chemotherapy. Be sure to take these medications as ordered and let your doctor or nurse know if they do not work.

Tell your doctor or nurse if you vomit for more than one day or right after you drink.

— *Adapted from the National Cancer Institute*



Nerve problems



Some cancer treatments cause peripheral neuropathy, a result of damage to the peripheral nerves. These nerves carry information from the brain to other parts of the body. Many nervous system problems get better within a year of when you finish treatment, but some may last the rest of your life. Side effects depend on which peripheral nerves (sensory, motor, or autonomic) are affected.

Sensory nerves

Damage to sensory nerves (nerves that help you feel pain, heat, cold and pressure) can cause:

- Tingling, numbness, or a pins-and-needles feeling in your feet and hands that may spread to your legs and arms
- Inability to feel a hot or cold sensation, such as a hot stove
- Inability to feel pain, such as from a cut or sore on your foot

Motor nerves

Damage to motor nerves (nerves that help your muscles to move) can cause:

- Weak or achy muscles. You may lose your balance or trip easily, or have difficulty buttoning shirts or opening jars
- Muscles that twitch and cramp or muscle wasting (if you don't use your muscles regularly)
- Swallowing or breathing difficulties (if your chest or throat muscles are affected)

Autonomic nerves

Damage to autonomic nerves (nerves that control functions such as blood pressure, digestion, heart rate, temperature, and urination) can cause:

- Digestive changes such as constipation or diarrhea
- Dizzy or faint feeling, due to low blood pressure

Nerve problems

- Sexual problems: men may be unable to get an erection and women may not reach orgasm
- Sweating problems (either too much or too little)
- Urination problems, such as leaking urine or difficulty emptying your bladder

It is important to talk to your care team about changes in sensory perception or motor skills or if you feel they are worsening. Your doctor may make changes in your treatment to reduce these side effects.

Medications

Your doctor may prescribe medication to manage some symptoms.

- **Antidepressants.** Some drugs can be used for more than one purpose. For example, antidepressants treat depression, but they may also help relieve tingling and burning pain caused by nerve damage from radiation, surgery, or chemotherapy.
- **Antiseizure medicines (anticonvulsants).** Like antidepressants, anticonvulsants or antiseizure drugs also can be used to help control tingling or burning from nerve injury.
- **Pain medication.** Nonopioid and opioid medication may be prescribed for when pain is severe.
- **Steroids.** Mainly used to treat pain caused by swelling, they also may provide short-time relief until a long-term plan is in place.

Ways to manage

- **Prevent falls.** Walk slowly, hold onto handrails when using the stairs, and put no-slip bathmats in your bathtub or shower. Make sure there are no area rugs or cords to trip over. Always wear sneakers, tennis shoes or other lace-up footwear with rubber soles. Steady yourself when you walk by using a cane or other device.
- **Take extra care in the kitchen and shower.** Use potholders in the kitchen to protect your hands from burns. Be careful when handling knives or sharp objects. Use a thermometer to check the temperature of water or ask someone to check it for you. Wear gloves when washing dishes. Think about lowering the temperature on your hot water heater.
- **Protect your hands and feet.** Wear shoes, both inside and outside. Check your arms, legs, and feet for cuts or scratches every day. When it's cold, wear warm clothes to protect your hands and feet.
- **Ask for help and slow down.** Let people help you with difficult tasks. Slow down and give yourself more time to do things. Rest when you need to.
- **Ask about integrative medicine practices.** Practices such as acupuncture, massage, physical therapy, yoga, and others may help lower pain. Talk with your health care team to learn what is advised for you.

— *Adapted from the National Cancer Institute*

Pain in people with cancer

Cancer and the side effects of treatment can sometimes cause pain. Controlling pain is an important part of your cancer treatment plan so that you can enjoy your normal routines and sleep better.

Your doctor will work with you to develop a pain control plan that is based on your description of the pain. Taking pain medicine, including opioids and nonopioids, is an important part of the plan.

Ways to treat or lessen pain

- **Take your pain medicine as prescribed by your doctor.** Take the right amount at the right time. If you have pain all the time, your doctor may suggest that you take your medicine on a schedule. If so, then take the medicine as prescribed, rather than waiting to feel like you need it. Pain is harder to control if you wait until you are in a lot of pain before taking medicine.
- **Types of pain medicine include:**
 - **Over the counter:** includes acetaminophen, ibuprofen, aspirin. Consult your physician before taking any of these.
 - **Short-acting opioid:** begins to work quickly, lasts for a shorter period. Can be used in combination with long-acting opioids for breakthrough pain.
 - **Long acting opioid:** takes more time to begin working but lasts longer for continuous pain control when taken on a schedule.
 - **Steroid:** treats pain caused by inflammation.
- **Try deep breathing, yoga, or other ways to relax.** This can help reduce muscle tension, anxiety, and pain.
- **Ask about integrative medicine.** Treatments such as acupuncture, biofeedback, hypnosis, massage therapy and physical therapy also may be used to treat pain.
- **Keep track of your pain levels.** Each day, write about any pain you feel. Writing down answers to the questions below will help you describe the pain to your doctor or nurse.
 - What part of your body feels painful?
 - What does the pain feel like (is it sharp, burning, shooting, or throbbing), and where do you feel the pain?
 - When does the pain start? How long does it last?
 - What activities (such as eating, sleeping or other daily tasks) does pain interfere with?
 - What makes the pain feel better or worse? For example, do ice packs, heating pads or exercises help? Does pain medicine help? How much do you take? How often do you take it?
 - How bad is the pain, on a scale of 1 (least pain) to 10 (most pain)?
- **Let your family and friends know about your pain.** They need to know so they can help you. If you are very tired or in a lot of pain, they can call your doctor or nurse for you. Knowing about your pain also helps them understand why you may be acting differently.
- **Meet with a pain specialist.** Specialists who treat pain often work together as part of a pain or palliative care team. These specialists may include a neurologist, surgeon, physiatrist, psychiatrist, psychologist, or pharmacist. Talk with your health care team to find a pain specialist.

Pain in people with cancer

- **Talk with your doctor or nurse about pain, especially if:**
 - The pain isn't getting better or going away with pain medicine
 - The pain comes on quickly
 - The pain makes it hard to eat, sleep or perform your normal activities
 - You feel new pain
 - You have side effects from the pain medicine, such as sleepiness, nausea, or constipation

— *Adapted from the National Cancer Institute*

Sexual health issues in men with cancer

Men being treated for cancer may experience changes that affect their sexual life during treatment and sometimes afterward. While you may not have the energy or interest in sexual activity that you had before treatment, intimacy and feeling close to your spouse or partner are still important.

Ask your doctor or nurse questions such as: What sexual changes or problems are common among men receiving this type of treatment? What methods of birth control or protection are recommended?

Many side effects are temporary and improve once treatment has ended. Others may be long-term or start after treatment.

Treatments and their side effects

- **Chemotherapy** may lower your testosterone levels and libido during treatment. You may be advised to use a condom, because semen may contain traces of chemotherapy for a while treatment.
- **External-beam radiation therapy** to the pelvis (such as to the anus, bladder, penis, or prostate) and brachytherapy (also called internal radiation therapy) can affect a man's sexual function. If blood vessels or nerves are damaged, it may be difficult to get or keep an erection; this is called erectile dysfunction. If the prostate is treated, you may have a dry orgasm as the prostate ceases to function as a gland that produces fluid.
- **Hormone therapy** can lower testosterone levels and decrease a man's sexual drive. It may be difficult to get or keep an erection.
- **Surgery** for penile, rectal, prostate, testicular and other pelvic cancers (such as bladder, colon, and rectum) may affect the nerves, making it difficult to get and keep an erection. Sometimes nerve-sparing surgery can be used to prevent these problems.

- **Medicines** used to treat pain, some drugs used for depression, and medicines that affect the nerves and blood vessels may affect your sex drive.

Ways to manage sexual health issues

Most men can be sexually active during treatment, but you'll want to confirm this with your doctor. There may be times when you are at increased risk of infection or bleeding and may be advised to abstain from sexual activity. Condoms or barriers are necessary to prevent chemotherapy exposure to your partner. It's important for your partner to avoid getting pregnant while you're undergoing treatment.

Your health care team can help you:

- **Learn about treatments.** Based on symptoms you are having, your oncologist or a urologist will advise you on treatment options. For example, there are medicines and devices that may be prescribed once a sexual health problem has been diagnosed.
- **Learn about protection.** Condoms are advised to prevent your partner's exposure to chemotherapy drugs that may remain in semen for a while. Based on your partner's age, contraceptives are advised to prevent pregnancy.
- **Manage related side effects.** Talk with your doctor or nurse about problems such as pain, fatigue, hair loss, loss of interest in activities, sadness or trouble sleeping that may affect your sex life. Speaking up about side effects can help you get the treatment and support you need to feel better.
- **Get support and counseling.** During this time, it will help to share your feelings and concerns with people you are close to. You may also benefit from participating in a professionally moderated support group. Your nurse or social worker can recommend support groups and counselors in your area.

— *Adapted from the National Cancer Institute*

Sexual health issues in women with cancer

Women being treated for cancer may experience changes in their sexual life during treatment and sometimes afterward. While you may not have the energy or interest in sexual activity that you did before treatment, intimacy and feeling close to your spouse or partner are still important.

Talk with your doctor or nurse about how cancer treatment might affect your sexual life. Ask questions such as: What sexual changes or problems are common among women receiving this type of treatment? What methods of birth control or contraception are recommended during treatment?

Some problems that affect a woman's sexual health during treatment are temporary and improve once treatment has ended. Other side effects may be long-term or start after treatment.

Treatments and their side effects

- **Chemotherapy** can lower estrogen levels and cause primary ovarian insufficiency. This means the ovaries aren't producing hormones and releasing eggs. Symptoms may include hot flashes, irregular or no periods and vaginal dryness, which can make sexual intercourse difficult or painful. Chemotherapy also can affect vaginal tissue, which may cause sores.
- **Hormone therapy** (also called endocrine therapy) may cause low estrogen levels, which can lead to symptoms such as hot flashes, irregular or no periods and vaginal dryness.
- **Radiation therapy** to the pelvis (such as to the bladder, cervix, colon, ovaries, rectum, uterus, or vagina) can cause low estrogen levels and vaginal dryness. Vaginal stenosis (less elastic, narrow, shorter vagina), vaginal atrophy (weak vaginal muscles and thin vaginal wall) and vaginal itching, burning and inflammation also can cause pain and discomfort during sex.

- **Surgery** for gynecologic cancers may affect your sexual life. Treatment for other cancers also can bring about physical changes that may affect the way you view your body. Your health care team will talk with you about what to expect and teach you how to adjust after surgery, such as after a mastectomy or an ostomy, for example.
- **Medicines** such as opioids and some drugs used to treat depression may lower your interest in sex.

Ways to manage sexual health issues

Most women can be sexually active during treatment, but you'll want to confirm this with your doctor. For example, there may be times during treatment when you are at increased risk of infection or bleeding and may be advised to abstain from sexual intercourse.

Condoms or barriers are necessary to prevent chemotherapy exposure to your partner. It is also important to avoid getting pregnant during treatment.

Your health care team can help you:

- **Learn about medicine and exercises to make sex more comfortable, including:**
 - Vaginal gels or creams to relieve dryness, itchiness or burning
 - Vaginal estrogen cream that may be appropriate for some types of cancer
 - A dilator to help prevent or reverse scarring, if radiation therapy or graft-versus-host disease has affected your vagina
 - Exercises for pelvic muscles to lower pain, improve bladder retention, improve bowel function, and increase the flow of blood to the area, which can improve your sexual health

Sexual health issues in women with cancer

- **Manage related side effects:** Talk with your doctor or nurse about problems such as pain, fatigue, hair loss, loss of interest in activities, sadness or trouble sleeping that may affect your sex life. Speaking up about side effects can help you get the treatment and support you need to feel better.
- **Get support and counseling:** During this time, you can gain strength and support by sharing your concerns with people you are close to. You may also benefit from participating in a professionally moderated support group. Your nurse or social worker can recommend support groups and counselors in your area.

— *Adapted from the National Cancer Institute*

Skin and nail changes



Cancer treatments may cause changes in your skin and nails. While skin problems caused by radiation therapy and chemotherapy are often mild, they may be more severe if you are receiving a stem cell transplant, targeted therapy, or immunotherapy.

Treatments and their side effects

- **Radiation therapy** can cause the skin on the part of your body receiving radiation to become dry and peel, itch (called pruritus) and turn red or darker. Your skin may look sunburned or become swollen or puffy. You may develop sores that become painful, wet, and infected. This is called a moist reaction.
- **Chemotherapy** can cause your skin to become dry, itchy, red or darker, and peel. You may develop a minor rash or sunburn easily; this is called photosensitivity. Some people also have skin pigmentation changes.

Your nails may be dark and cracked, and your cuticles may hurt. If you received radiation therapy in the past, the area of skin where you received radiation may become red, blister, peel or hurt. This is called radiation recall. Signs of an allergic response to chemotherapy may include a sudden or severe rash or hives or a burning sensation.

- **Stem cell transplants** can cause graft-versus-host disease (GVHD), which may cause skin problems such as a rash, blisters or thickening of the skin.
- **Immunotherapy** can cause a severe and sometimes extensive rash. Your skin may be dry or blister.
- **Targeted therapy** may cause dry skin, a rash and nail problems. If you develop a rash, it is important to talk with your doctor before stopping targeted therapy.

Skin and nail changes

Ways to prevent or manage skin and nail changes

Talk with your health care team about managing these problems at home. Depending upon the treatment you are receiving, your team may advise you to take these steps:

- **Use only recommended skin products.** Use mild soaps that are gentle on your skin. Ask your nurse to recommend specific skin products. If you are receiving radiation therapy, ask about products to avoid during treatment, such as powder or antiperspirant.
- **Prevent infection.** Radiation therapy can cause skin in the treatment area to peel and become painful and wet. Most often this happens in areas where the skin folds, such as around your ears, breast, or bottom. Try to keep the area clean and dry so it does not become infected.
- **Moisturize your skin.** Use recommended creams or lotions to prevent your skin from becoming dry and itchy. Irritated skin can become infected. Ask about special creams or ointments for severely dry, itchy, or painful skin.
- **Protect your skin.** Use sunscreen and sun-protective lip balm. Wear a loose-fitting, long-sleeved shirt, pants, and a hat with a wide brim when outdoors to prevent sunburn. If you are receiving radiation therapy, don't use heating pads, ice packs or bandages on the treatment area. You may want to shave less often and use an electric razor or stop shaving if your skin is tender and sore.

- **Prevent or treat dry, itchy skin.** Avoid products that list alcohol or fragrance as an ingredient, since they can dry or irritate your skin. Take short showers or baths in lukewarm, not hot, water. Put on skin cream or ointment that is recommended by your nurse after drying off from a shower but while your skin is still a little damp. Apply a cool washcloth or ice to dry, itchy skin.
- **Prevent or treat minor nail problems.** Keep your nails clean and cut short to avoid accidentally tearing them. Protect your hands and nails by wearing gloves when you wash the dishes or clean the house, for example. Avoid getting manicures and pedicures. Don't wear tight-fitting shoes. Ask your nurse to recommend products that can be used to treat nail problems.

Let your health care team know if you notice any skin changes so they can be treated promptly.

— *Adapted from the National Cancer Institute*

Urinary, kidney or bladder changes

Some cancer treatments, such as those listed below, may cause urinary and bladder problems:

- **Radiation therapy** to the pelvis (including reproductive organs, the bladder, colon, and rectum) can irritate the bladder and urinary tract. These problems often start several weeks after radiation therapy begins and go away several weeks after treatment has been completed.
- **Chemotherapy and immunotherapy** also can affect or damage cells in the bladder and kidneys.
- **Surgery** to remove the prostate (prostatectomy), bladder cancer surgery, and surgery to remove a woman's uterus, the tissue on the sides of the uterus, the cervix, and the top part of the vagina (radical hysterectomy) can cause urinary problems. It also may increase the risk of a urinary tract infection.

Symptoms of a urinary problem

Irritation of the bladder lining (radiation cystitis):

- Pain or a burning feeling when you urinate
- Blood in your urine (hematuria)
- Trouble starting to urinate
- Trouble emptying your bladder completely (urinary retention)
- Feeling that you need to urinate urgently or frequently
- Leaking a little urine when you sneeze or cough
- Bladder spasms, cramps, or discomfort in the pelvic area

Urinary tract infection (UTI):

- Pain or a burning feeling when you urinate
- Urine that is cloudy or red
- A fever of 100.5 F (38 C) or higher, chills and fatigue
- Pain in your back or abdomen

- Difficulty urinating or unable to urinate

In people being treated for cancer, a UTI can turn into a serious condition that needs immediate medical care. Antibiotics will be prescribed if you have a bacterial infection.

Symptoms that may occur after surgery

- Leaking urine (urinary incontinence)
- Trouble emptying your bladder completely

Ways to prevent or manage urinary, kidney or bladder problems

Here are some steps you may be advised to take to feel better and to prevent problems:

- **Drink plenty of liquids.** Most people need to drink at least eight cups of fluid each day so that urine is light yellow or clear. You'll want to stay away from things that can make bladder problems worse, such as caffeine, drinks with alcohol, spicy foods, and tobacco.
- **Prevent urinary tract infections.** Your doctor or nurse will talk with you about ways to lower your chances of getting a urinary tract infection. These may include going to the bathroom often, wearing cotton underwear and loose-fitting pants, learning about safe and sanitary practices for catheterization, taking showers instead of baths, and checking with your nurse before using products such as creams or lotions near your genital area.

Spinal cord compression

A less common but serious condition called spinal cord compression might be the cause of difficulty controlling urine or lack of urine. Pressure on the spinal cord, which may be caused by a tumor or a spinal fracture, can affect the nerves that control your bladder. It is important to call your provider right away with any new or unusual urinary changes.

— *Adapted from the National Cancer Institute*

Social and Emotional Topics

Coping with cancer



You may have just learned that you have cancer. Having cancer changes your life and the lives of others around you. Everyone has a unique style when it comes to coping with the emotional roller coaster of cancer. Because of the many physical and emotional impacts after a cancer diagnosis, coping with all the changes may take time and new skills.

Tips for coping with changes

- Allow time to adjust and treat yourself with compassion and kindness.
- Allow time to mourn (e.g., loss of a breast).
- Rely more on others and ask for help – from support groups, your church, friends, neighbors, and family.
- Let your health care team know of your worries and concerns.

Emotional reactions

Being diagnosed with cancer affects not only your emotional health, but also the emotional health of family, friends, and caregivers. Feelings of disbelief, fear, anger, depression, and anxiety are quite common and are normal responses to this life-changing diagnosis.

Many things contribute to these feelings:

- Changes in body image can affect self-esteem and confidence.
- Family and work roles may change.
- You might feel grief and loss regarding these changes. For example, you might grieve the “old me” pre-cancer diagnosis.
- You might fear the unknown, a universal fear among cancer patients.
- Hearing that you have the big “C” often contributes to fear of pain, suffering and death.

Coping with cancer

Anxiety and depression

It is natural to feel anxious after learning you have cancer. You might feel on edge, fearful or overwhelmed. This is a normal response to anything that your body thinks is a threat. When anxiety goes on for a long time or affects your ability to think, sleep or care for yourself, please let your cancer care team know. Talking with an oncology social worker and/or nurse navigator can help.

Feeling sad and losing interest in doing things you used to enjoy may be early signs of depression. This is a common reaction to cancer during and after treatment. When this feeling continues for more than two weeks, you may have what doctors call “clinical depression.” Depression, like anxiety, may range from mild to medium to severe.

To learn more about depression, risk factors and treatment, visit these websites:

- National Cancer Institute
- American Cancer Society
- Cancer.net

Caregiving

Caregivers play a vital role in supporting the overall well-being of a friend or family member fighting cancer. They schedule and attend medical appointments, organize, and pay bills, give emotional support, provide meals, and communicate with other family members, among other tasks.

Caring for another can be a deeply rewarding experience. It can also take a toll on a person. It is easy to begin putting the needs of others before oneself. Over time, this strategy can have negative and lasting effects on the caregiver. It is important to remember that taking care of oneself is essential for taking care of others. Consider asking for help and

delegating tasks when appropriate. Contact our staff to find out about community resources and additional support.

To learn more about caregiving, read “Caregiving: The Spiritual Journey of Love, Loss and Renewal,” by Beth Witrogen McLeod, or visit these websites:

- American Cancer Society
- Oregon Care Partners
- Powerfultoolsforcaregivers.org

Helping children cope with cancer

Talking to children about cancer can help them feel informed, prepared, and safe during a potentially scary time. Pay special attention to their questions and behavior and consider their age when sharing information. The more you can share, the less anxious they will be. Maintain routines, friendships, and activities as much as possible to keep them grounded. Ensure they have access to a trusted adult they feel comfortable talking to about how cancer is impacting their lives and their family.

For additional help, contact an oncology social worker or mental health provider, or visit these websites:

- Cancercare.org
- Cancer.gov

Relationships

Cancer can have a substantial impact on marriages, long-term relationships, and friends. You and your loved ones may experience sadness, anxiety, anger, fear or even hopelessness. Your cancer experience may strengthen your relationship with your partner, or the stress may magnify existing problems or create new ones. Cancer often changes roles and responsibilities, too.

Coping with cancer

Many family members and friends may not know how to talk with you about your cancer because they don't know what to say. Some people may distance themselves from you because your cancer may trigger feelings regarding their own mortality.

Focusing on healthy communication can help bring you closer to others. Listen to understand and speak from your own experience. Contact your oncology social worker or nurse navigator for additional resources and support.

Self-care

Taking time to focus on caring for your needs, interests and well-being can give you the strength to take anything that comes your way.

Self-care refers to the many ways you acknowledge and act on caring for your personal needs. These can include getting quality rest, practicing gratitude, listening to your favorite music, spending time with friends, treating yourself to a massage, or making time for a brisk walk with the dog. When life becomes hectic and stressful, it can be easy to let self-care take a back seat. Practice checking in with yourself a couple of times each week to ensure you are making time for yourself and adjust as needed.

For more tips on self-care, visit these websites and readings:

- Harvard Health
- VA Caregiver Self-care Booklet

Sexual concerns

Cancer and its treatments might cause you to feel differently about sex, both physically and emotionally.

It's important to talk with your cancer care team about what to expect, what's changing in your sexual life as you go through treatments, and ways you can improve intimacy both during and after treatment. Holding hands, massaging feet, hugging, kissing and other tender moments can help alleviate sexual anxiety.

It may feel uncomfortable to discuss sexual problems with your doctor or close partner, but talking through those issues with your partner and seeking medical advice can help.

For more, visit these websites:

- [Cancer.org](https://www.cancer.org)
- [Oncolink.org](https://www.oncolink.org)

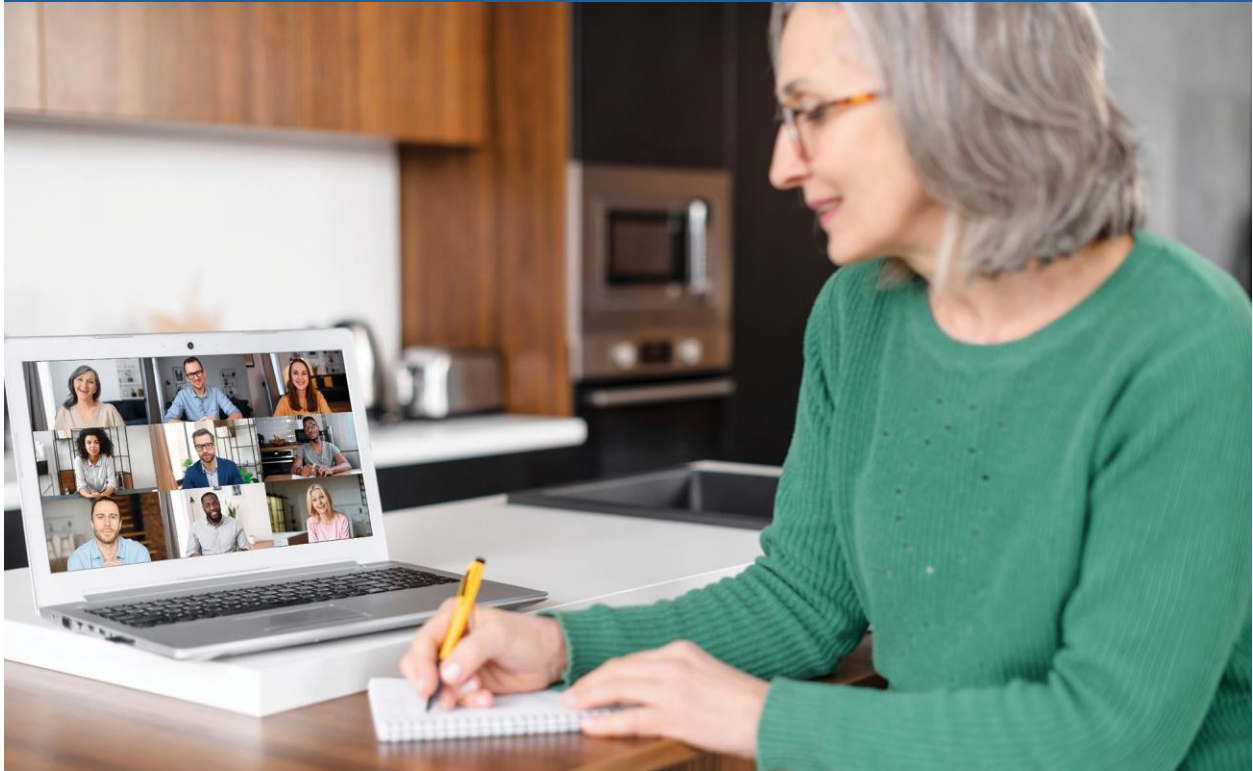
Cancer support services

We are committed to supporting your social and emotional well-being during this time. Please contact your oncology social worker and/or nurse navigator for additional resources available to you and your family.



Support Services and Resources

Sky Lakes cancer support group and Resources



Cancer Support and Education Group

Third Wednesday monthly

5 to 6 p.m.

Sky Lakes Cancer Treatment
Center Conference Room

RSVP to (541) 274-4814

Contact: Ryan Davidson..... (541) 274-4814

Ryan.Davidson@skylakes.org

Cancer 411 Class

Second and Fourth Wednesday of each
month

1 to 2 p.m.

Sky Lakes Cancer Treatment Center
Conference Room

Contact: Ryan Davidson..... (541) 274-4814

Ryan.Davidson@skylakes.org

Renewal Suite

Open 8:30 -3:30 p.m.

Sky Lakes Cancer Treatment Center

Assortment of mastectomy bras, prosthetics, wigs, scarfs,
and hats available free of charge

Please call for an appointment

Contact: Laurie Bray (541) 274-4800,

Contact: Nicole Middleton... (541) 274-4831,

Laurie.Bray@skylakes.org

Nicole.Middleton@skylakes.org

There's an App for that...

Gas

- **Gas Buddy.** Find cheap gas, see fuel prices, and save. Find lowest price for gas in your area.

Groceries

- **Instacart.** Get same-day grocery delivery.

Health and fitness

- **My Fitness Pal.** Keep track of what you're eating and drinking. Quickly scan barcodes and track your activities such as walking.
- **Down Dog.** For those suffering from anxiety and panic disorder to those with low back pain, this app makes yoga accessible, approachable, and convenient.
- **YogaDownload.** Find daily yoga exercises with assorted options and solid yoga teachers. Different yoga classes fit every ability, body, time, and place.
- **Mindfulness Coach.** U.S. Department of Veterans Affairs provides mindfulness practice.
- **MyPlate Calorie Counter.** Track daily calories, activity and more.
- **About Herbs.** Memorial Sloan Kettering Cancer Center provides information on vitamins and herbs and what the research is recommending during chemotherapy treatment.

Hydration

- **Water Reminder.** Track your daily water intake and get reminders to drink water on time.

Medical

- **NCCN Patient Guide for Cancer.** National Comprehensive Cancer Network provides cancer treatment information in an easy-to-understand format.

Medical records

- **MyChart.** Securely access your personal medical records online. Renew prescriptions, make appointments, request imaging tests, see lab results, make online payments, send questions or requests to providers, start an Urgent Care video visit.

Medication

- **MyMedSchedule Plus.** Simple and easy to use, this app offers features you need to manage your medications, including reminders when it's time to take them or to order refills. Includes pictures of medications.

Mental health

- **10% Happier (for iPhone).** It's meditation for the fidgety skeptic. Who has tons of time? This app is ideal because it has a "browse by length" feature. Segments run from three minutes to 25-plus minutes.
- **Insight Timer Meditation.** Simple timer for meditating has evolved into a comprehensive way to help people reduce anxiety and improve sleep. Lessons range from a few minutes to much longer. Includes free meditation and music tracks.

PMA (positive mental attitude)

- **ThinkUp Positive Affirmations.** Motivate yourself daily to build a positive mindset through affirmations and self-talk.

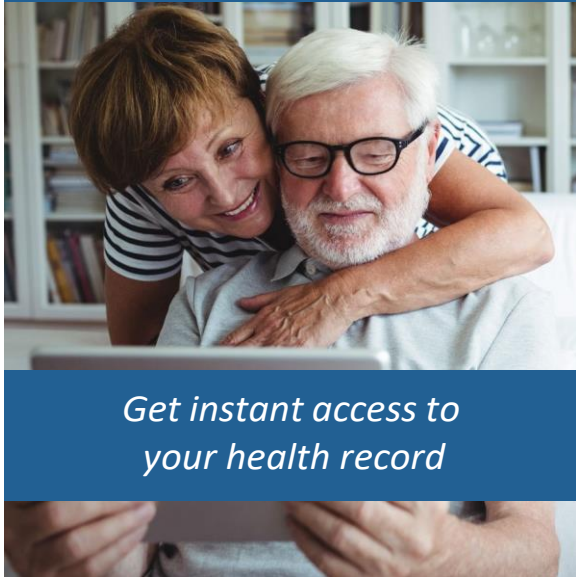
Relaxation

- **Calm.** Learn skills of meditation. Listen to stories and music to help you focus, relax, and fall asleep.
- **Headspace.** Stress less and sleep soundly with meditation and sleep support.

Self-care

- **Shine.** Find self-care motivation and affirmations with research-backed advice and meditations led by self-care experts.

A-Z resources



*Get instant access to
your health record*

Don't have a MyChart account?

It's easy! Go to mychart.skylakes.org to open your account.

- Check lab and imaging tests
- Request a prescription renewal
- Request appointments
- See statements and make online payments
–and more...

Need help? Call our
MyChart Support line at
(541) 274-6300.



A

About Herbs database

Memorial Sloan Kettering
Cancer Center
tinyurl.com/5xxyb3v2

American Cancer

Society(800) 227-2345
cancer.org

B

Bone Marrow Transplant Team

Oregon Health & Science
University, Portland (503) 494-7999

Breast cancer

Casting for Recovery (888) 553-3500

C

Childcare resources

- childcare centers or home daycare:
childcarecenter.us

D

Department of Human Services

Oregon

oregon.gov/dhs/pages/index.aspx

- Klamath Falls (541) 883-5511
- Lakeview (541) 947-3376

California

chhs.ca.gov/home/departments/

- Modoc County Health and
Human Services..... (530) 233-6501
- Siskiyou County Health
and Human Services.....(530) 841-2700
co.siskiyou.ca.us/health-humanservices

F

Financial counseling and assistance

- Sky Lakes
Financial Assistance..... (541) 274-6699

A-Z resources

Food bank

- Klamath Lake County Food Bank
.....(541) 882-1223

-

H

Home health care

- Sky Lakes
Home Health(541) 274-6293
- Lake County
Home Health(541) 947-3171
- Siskiyou
Home Health(530) 926-4142

-

-

In Home care services

- Pro Quality
Home Care, Inc.(541) 880-5594
- New Horizons
Home Health(541) 887-2909

Hospice care

- Klamath Hospice (541) 882-2902
- Bristol Hospice(541) 882-1636

Hospitals

- Sky Lakes Hospital,
Klamath Falls.....(541) 882-6311
- Lake District Hospital,
Lakeview(541) 947-2114
- Modoc Medical Center,
Alturas,(530) 708-8800

A-Z resources

Housing (medical-related)

- Hugh Currin House..... (541) 274-4171
- Shilo Inns..... (541) 885-7980

I

Imaging

- Sky Lakes Imaging.....(541) 274-6740

Infusion services

- Sky Lakes Cancer Treatment Center
Infusion(541) 274-4171
- Sky Lakes Infusion Clinic
Hospital campus.....(541) 274-3770

L

Lifeline medical alert health button

- Life Alert.....(800) 360-0329
- Med-Alert.....(800) 633-2527

Lymphedema (Physical Therapy)

- Sky Lakes PT (541) 274-6406

M

Mastectomy garments and prostheses

- Renewal Suite (541) 274-4800
Cancer Treatment Center
Wigs, scarves, hats, bras, etc.
Free to patients compliments of Sky
Lakes Foundation
- Delia's Mastectomy Boutique,
Medford (541) 621-9373

Medical Oncology

- Sky Lakes Cancer Treatment Center,
Klamath Falls (541) 274-6262

Mental health services

- Klamath Basin
Behavioral Health (541) 883-1030
- Lutheran Community
Services..... (541) 883-3471

Medical equipment

- Lincare (541) 882-2325
- Norco..... (541) 885-2996

A-Z resources

N

Navigation Team

Cancer Treatment Center

- RN Navigator
Gwen Hayner(541) 274-4829
- Pt Navigator
Irma Garcia(541) 274-4824

Nutrition services

- Sky Lakes Nutrition
Services(541) 274-2633
- Sky Lakes Wellness
Center(541) 880-2770

O

Occupational Therapy

- Sky Lakes Rehabilitation
Services(541) 274-6406

P

Pharmacy, outpatient

- Sky Lakes Pharmacy
Outpatient(541) 274-3490
- Sky Lakes Pharmacy
Downtown(541) 274-3880
- Sky Lakes Pharmacy
Washburn Way(541) 274-3420

Physical Therapy

- Sky Lakes Physical Therapy
Campus(541) 274-6406
- Eberlein(541) 274-2470

R

Radiation Oncology

- Sky Lakes Cancer Treatment Center,
Klamath Falls (541) 274-4171

Rehabilitation Services, speech, occupational, physical (541) 274-6406

S

Smoking cessation

- Sky Lakes Wellness
Center(541) 274-2770

Speech Therapy

- Sky Lakes Outpatient
Rehabilitation..... (541) 274-6406

Social work

- Sky Lakes Cancer Treatment Center
Oncology Support Specialist (541) 274-4814
- Klamath Falls VA
Social Work..... (541) 273-6206
- Social Security
Disability (800)772-1213
ssa.gov/benefits/disability/

Support groups

- Sky Lakes Cancer Treatment Center
Oncology Support Specialist (541) 274-4814
- Cancer Support Community
Online support site..... (888) 793-9355
Cancersupportcommunity.org

A-Z resources

T

Transportation

- Basin Medical Transport..(541) 205-5661
- Dial A Ride
Basin Transit Service.....(541) 883-2877
- Klamath Basin Senior
Shuttle.....(541) 850-7315
- Safe Ride (ATRIO
Patients only).....(855) 955-7433
- Translink.....(888) 518-8160
- Veterans Affairs
ride assistance . . . (541) 826-2111 x 3412

U

Urgent care, Asante

- BestMed Urgent Care.....(541) 883-2337

V

Veterans Affairs Services

- Klamath Falls(541) 273-6206
- Lakeview(541) 947-6051
- Medford(541) 826-2111

Volunteer opportunities at Sky Lakes (541) 882-6311

W

Wig and head coverings

- Renewal Suite(541) 274-4800
Cancer Treatment Center
Wigs, scarves, hats, bras, etc.
Free to patients compliments of Sky
Lakes Foundation
- T.L.C. Catalog..... (800) 850-9445
Available at the American Cancer Society;
can order prosthetics, wigs, scarves,
clothing, etc. at lower cost
Tlcdirect.org

Wound care

- Sky Lakes Wound Care
Clinic (541) 274-3290

Sky Lakes Medical Center Foundation

Sky Lakes Medical Center Foundation

Sky Lakes Medical Center is a local, community-owned, internationally accredited not-for-profit organization. Charitable gifts through the Sky Lakes Foundation are essential to provide exceptional cancer care.

Community gifts, large and small, have built Sky Lakes Medical Center. Since 1985, the Sky Lakes Medical Center Foundation has been raising, managing, and distributing funds to benefit our patients.

Very few hospitals today can maintain the best in healthcare technology and services without the help of some incredibly special friends – their benefactors. Each year hundreds of generous donors – many of them former patients, foundations, and local business leaders – contribute to the Sky Lakes Medical Center Foundation, making a difference in the lives of countless people who depend on their community medical center.

See what generosity can do

The Cancer Fund – provides financial support for patients, supplies, and equipment at the Cancer Treatment Center. It pays for materials for support groups and programs.

Hugh Currin House Fund – Covers operating costs for this facility designed to provide critical care patients with a place to stay while they undergo life-saving treatment at Sky Lakes Cancer Treatment Center.

Patient Assistance Fund – helps with patients' needs. Assistance can be to help purchase clothing, gasoline, food, rent, or other needs identified by Sky Lakes staff.

You can help other people facing cancer

- **Make a gift.** Donations of every size and type can touch a life. Work with Sky Lakes Foundation to make a gift that fits your personal and philanthropic goals. Gifts honoring a caregiver or loved one are a meaningful way to show your gratitude.

To learn more and get involved, contact Lauren Jespersen, director of development, Sky Lakes Foundation, at

(541) 274-4768 or visit skylakes.org/foundation



Glossary

Glossary

A

AccuForm Cushion: a radiation therapy device used in brain or head and neck treatments if ordered by a doctor. It enhances comfort, stability, and repositioning accuracy.

Adenocarcinoma: a malignant tumor arising from glandular tissue.

Adenoma: a benign tumor made up of glandular tissue.

Anemia: a condition in which a decreased number of red blood cells (specifically hemoglobin) may cause symptoms such as tiredness, shortness of breath with activity and weakness.

Antiemetic: a medication that prevents or controls nausea and vomiting.

Antineoplastic agent: a medication that prevents, kills, or blocks the growth and spread of cancer cells.

Aquaphor: a moisturizer to treat or prevent dry, rough, scaly, itchy skin and minor skin irritations.

Aquaplast Mask: a radiation therapy immobilization device created for brain or head and neck cancers.

Aspiration: process of removing fluid/tissue from a specific area.

Autoimmunity: a condition in which the body's immune system mistakenly fights and rejects the body's own tissues.

B

Barium enema: milky solution (barium sulfate) given by an enema to allow X-ray examination of lower intestinal tract.

Barium swallow: milky solution (barium sulfate) given orally to allow X-ray examination of the upper intestinal tract.

Benign: describes a swelling or growth that is not cancerous and does not spread from one part of the body to another.

Biopsy: surgical removal of tissue for microscopic examination for diagnosis.

Blood count: number of red blood cells, white blood cells and platelets in a sample of blood.

Bone marrow: the soft, sponge-like tissue in the center of most bones.

Bone scan: a picture of the bones using a radioactive dye that shows any injury, disease, or healing. This helps determine whether cancer has spread to the bone, therapy to treat the cancer is successful and affected bony areas are healing.

C

Cancer: a group of diseases in which malignant cells grow out of control and could potentially spread to other parts of the body.

Carcinogen: a substance that is known to cause cancer.

Carcinoma: a group of abnormal cells that starts in the skin or lining of organs. There are several types:

- **Adenocarcinoma:** tumor arising from glandular tissue
- **Basal cell:** most common type of skin cancer
- **Bronchogenic:** cancer originating in the lungs or airways
- **Cervical:** cancer of the cervix (part of uterus opening)
- **Endometrial:** cancer in the lining of the uterus
- **Squamous cell:** cancer arising from the skin or the surfaces of other structures, such as the mouth, cervix, or lungs

Glossary

Carcinoma in-situ: A group of abnormal cells (cancerous or benign) that have not spread to another part of the body.

Cellulitis: inflammation of an area of the skin.

Cervical nodes: lymph nodes in the neck.

Chemotherapy: treatment of cancer with drugs. There are several kinds:

- **Adjuvant:** chemotherapy, which is given to kill any remaining cancer cells, usually after all detectable tumor is removed by surgery or radiotherapy
- **Combined modality:** use of multiple types of cancer-fighting treatments at one time. This could be various chemotherapies, immunotherapies, and radiation therapies
- **Neoadjuvant:** first treatment given to shrink tumors before the main treatment (usually surgery) is given

Chronic: persisting over a prolonged period of time.

Colostomy: surgical procedure by which an opening is created between the colon and the outside of the abdomen to allow stool to be emptied into a collection bag.

Colposcopy: examination of the vagina and cervix with an instrument called a colposcope.

Cone down: last segment of radiation treatment focusing on a smaller target area (may or may not pertain).

CT (computed tomography): a series of detailed X-ray pictures that are combined by a computer to create cross-sectional images of the inside of the body.

Cyst: an accumulation of fluid of semisolid material within a sac.

Cystitis: inflammation of the bladder.

D

Digital rectal exam (DRE): exam performed to detect abnormalities.

Distress: an unpleasant experience of a mental, physical, social, or spiritual nature.

Drug resistance: when a disease or abnormal cell has mutated or adapted so that a drug treatment that once worked no longer works as well.

Dysphagia: difficulty swallowing.

Dyspnea: difficult or painful breathing; shortness of breath.

Dysuria: difficult or painful urination.

E

Edema: accumulation of fluid in part of the body.

Endoscopy: procedure that looks inside the body using a long tube with small cameras at the end.

Erythema: redness of the skin.

Erythrocyte: red blood cell that contains hemoglobin, which carries oxygen to the body cells and carbon dioxide away from the body cells.

Esophagitis: inflammation of the esophagus.

Estrogen: female hormone produced primarily by the ovaries.

Estrogen receptor assay: a test (pathology report) that determines whether breast cancer is stimulated by the hormones estrogen and progesterone.

Excision: removal of tissue using a sharp knife (scalpel), a laser or another cutting instrument.

External beam radiation therapy: treatment in which a radiation source from outside the body aims radiation at cancer cells.

Glossary

F

Follow-up care: check-up appointments after a course of treatment is over.

Fraction: a single radiation treatment.

G

Granulocyte: a type of white blood cell that helps the immune system fight off infections.

H

Hematocrit: percentage of red blood cells in the blood.

Hematology: science that studies the blood.

Hematuria: blood in the urine.

Hemoglobin: a protein inside red blood cells that carries oxygen from the lungs to tissues and organs in the body and carries carbon dioxide back to the lungs.

Hodgkin's disease: cancer that affects the lymph nodes.

Hormone: substance that regulates growth, metabolism and reproduction and is secreted by various organs in the body. Specific hormones have specific roles in the body to maintain function.

Hospice: a program of supportive care to meet the special needs of patient and family during the terminal stages of illness. Care may be delivered in the home or hospital by a specially trained team of professionals.

Hyperalimentation: the intravenous administration of a highly nutritious solution.

Hypofractionation: radiation therapy in which a higher dose of radiation is administered over a shorter time.

I

Ileostomy: surgical opening in the abdomen where the small intestine comes out to allow stool to be emptied into a collection bag.

Immunity (immune system): body's ability to fight infections and disease.

Immunosuppression: weakening of the immune system, which decreases the body's ability to fight off viral and bacterial infections.

Immunotherapy: artificial stimulation of the body's immune system to treat or fight disease.

Infiltration: the leaking of fluids or medicines into tissues, which can cause swelling.

Infusion: the delivery of fluids or medications into the bloodstream over a period of time.

Infusion pump: a device that delivers measured amounts of fluids or medications into the bloodstream over a period of time.

Injection: means of administering medication in various locations and types of tissues of the body. There are several types:

- **Intramuscular (IM):** into the muscle
- **Intravenous (IV):** into the vein
- **Subcutaneous:** into the fatty tissue under the skin

L

Lesion: an isolated area of damage. It can develop through injury, wounds, ulcers, abscesses, and tumors.

Leukemia: cancer of the blood cells and/or bone marrow.

Leukocyte: white blood cell that fights off foreign invaders and disease.

Glossary

Lymphatic system: network that includes the lymph nodes, lymph fluid and lymph vessels that serves as a filtering system for the blood.

Lymphedema: swelling, typically in an extremity, due to damage, obstruction, or removal of lymph nodes.

Lymphoma: a cancer of the immune system involving lymph nodes, spleen, thymus, bone marrow and other areas of the body.

M

Malignant tumor: tumor made up of cancer cells that may spread to other parts of the body.

Mastectomy: surgical removal of the breast. There are several types:

- **Segmental (lumpectomy):** removal of the lump and a small amount of surrounding breast tissue
- **Simple (modified mastectomy):** removal of the entire breast
- **Radical:** removal of the entire breast along with underlying muscle and lymph nodes of the armpit

Melanoma: cancer of the pigment-forming cells of the skin; it can also be found in eyes and, rarely, other places.

Metastasize: when cancer moves from its primary growth location to a secondary location in the body.

MRI (magnetic resonance imaging): a sophisticated test that provides in-depth images of organs and structures in the body.

Mucosa (mucus membrane): membrane that lines the nose, mouth, lungs, and urinary and digestive tracts.

Mucositis: inflammation of a mucus membrane, most often in the mouth and nose.

Myeloma: cancer of the plasma cells found in bone marrow; the cancer cells produce abnormal proteins that can cause complications.

Myelosuppression: a decrease in the production of red blood cells, platelets, and some white blood cells by the bone marrow.

N

Nadir: the point in treatment when blood counts are the lowest.

Neoplasm: new growth of tissue or cells; a tumor that is generally malignant, although not always.

Neuropathy: a nerve problem that causes pain, numbness, tingling, swelling or muscle weakness.

Neutropenia: decreased number of neutrophils, a type of white blood cell that fights off bacteria, decreasing the ability to fight infection.

Non-Hodgkin's lymphoma: a cancer of the lymphatic system; related to Hodgkin's disease but made up of different cell types.

O

Oncology: study and treatment of cancer.

P

Palliative treatment: treatment aimed at comfort (the relief of pain and symptoms of disease) but not intended to cure disease.

Pathology: study of disease by the examination of tissues and body fluids under the microscope.

PET (positron emission tomography): a nuclear medicine imaging technique that produces a three-dimensional image or map of functional processes in the body.

Glossary

Petechiae: pinpoint, unraised, round red spots under the skin caused by bleeding.

Platelet: cells in the blood that are responsible for clotting.

Platelet count: number of platelets in a blood sample.

Port: mechanism for delivering medicine and other substances. There are two types:

- **Implanted:** a catheter (hollow tube) is connected to a quarter-sized disc that is surgically placed just below the skin, typically in the chest. The catheter is inserted into a large vein or artery directly into the blood stream. Fluids, drugs, or blood products can be infused. Blood also can be drawn through a needle that is inserted into the disc. Examples are Port-a-cath, Infusaport, Medaport, SmartPort.
- **Peritoneal:** a catheter connected to a quarter-sized disc that is surgically placed in the abdomen. The catheter is inserted to deliver chemotherapy to the peritoneal (abdominal) cavity.

Primary tumor: original cancer site.

Progesterone: one of the female hormones produced by the ovaries and adrenal gland that plays a critical role in the female menstrual cycle and maintaining pregnancy.

Progesterone-receptor assay: pathology report that determines whether breast cancer is stimulated by female hormones.

Prognosis: likely outcome of a disease; life expectancy.

Protocol/regimen: cancer treatment plan.

PSA (prostate specific antigen): a protein produced by the prostate. Levels of PSA are used to monitor existing prostate disease or screen for possible disease. Elevations in PSA may be benign or malignant.

R

Radiation: energy released in the form of particle or electromagnetic waves.

Radiation therapy: treatment in which radiation is aimed at cancer cells in the body.

Recurrence: the reappearance of cancer after a period of remission.

Rectal marker: a marker used to visualize and outline anatomy of the lower pelvis.

Red blood count (RBC): number of cells in the blood that bring oxygen to tissues and take carbon dioxide from them.

Regression: shrinkage of cancer growth.

Relapse: reappearance of cancer.

Remission: complete or partial disappearance of the signs and symptoms of disease.

Risk factor: anything that increases a person's chance of developing cancer.

S

Sarcoma: malignant tumor of muscles or connective tissue, such as bone or cartilage. There are two types:

- **Chondrosarcoma:** malignant tumor of cartilage usually occurring near the ends of long bones.
- **Ewing's sarcoma:** malignant tumor starting in bone, affecting the bones of extremities.

Shielding: Blocking for radiation therapy to protect the anatomy that is not being treated.

Side effects/adverse reactions: secondary effects of cancer treatment.

Simulation: a process used to plan radiation therapy so that the target area is precisely located and marked.

Staging: determination of extent of cancer in the body.

Steroid: a type of hormone.

Glossary

Stoma: an artificial opening between two cavities or between the cavity and the surface of the body.

Stomatitis: temporary inflammation and soreness of the mouth.

Systemic disease: a disease that affects the whole body instead of just an individual solid organ.

T

Taste alteration: temporary change in taste perception.

Tattoo: during radiation therapy simulation, therapists apply small marks (tattoos or dots of colored ink) on the skin with a needle to indicate the treatment area and the patient's position on the table.

Thrombocytopenia: an abnormally low number of platelets (thrombocytes).

Tracheostomy: a surgical opening through the trachea in the neck to provide an artificial airway.

Tumor: an abnormal overgrowth of cells. Tumors can be benign or malignant.

U

Ureterostomy/Urostomy: surgical procedure consisting of cutting the ureters from the bladder and connecting them to an opening (stoma) on the abdomen allowing urine to flow into a collection bag.

V

Vaclok: a radiation therapy treatment device constructed during simulation for positioning purposes if ordered by a doctor (it may or may not pertain to treatment).

W

White blood cells (WBC): immune system cells that protect the body against both infectious disease and foreign invaders. Also called leukocytes or leucocytes.

X

X-ray: a photographic or digital image of the internal parts of the body, especially good for bony anatomy.

Other

External Resources

External Resources

[American Cancer Society](#)

1-800-227-2345
250 Williams Street NW
Atlanta, GA 30303
Cancer.org

[Academy of Nutrition and Dietetics](#)

1-800-877-1600
120 South Riverside Plaza, Suite 2190
Chicago, IL 60606
Eatrightpro.org

[Cancer and Careers](#)

646-929-8032
159 West 25th Street, 8th Fl.
New York, NY 10001
Provides information on laws & regulations
protecting cancer survivors in the workplace
Cancerandcareers.org

[Cancer Hope Network](#)

877-HOPENET (467-3638)
info@cancerhopenetwork.org
2 North Rd Ste A
Chester, NJ 07930
Cancerhopenetwork.org

[Cancer Legal Resource Center](#)

1-866-843-2572
CLRC@dlrcenter.org
350 South Grand Avenue Suite 2010
Los Angeles, CA 90071
Provides information on the rights of
individuals with cancer.
Thedlrc.org/cancer/

[Co-pay Relief Program](#)

866-512-3861
421 Butler Farm Road
Hampton, VA 23666

Patient Advocate Foundation's Co-Pay
Relief program exists to help reduce the
financial distress patients and their
families face when paying for treatment.

Copays.org

[Family Reach](#)

NJ office: 973-394-1411; Boston office:
973-394-1411

FTP@familyreach.org

Financial support for families facing
cancer

Familyreach.org

[LivingWell Cancer Resource Center](#)

630.933.7860
info@livingwellcrc.org
442 Williamsburg Ave.
Geneva, IL 60134

Livingwellcrc.org

[National Cancer Institute](#)

1-800-422-6237
NCIinfo@nih.gov
Cancer.gov