



Dear Sutter Patient,

Thank you for choosing the Sutter network to provide your radiation therapy. We understand that a cancer diagnosis can be very frightening, touching on all areas of your life. Please know that you're surrounded by caring and compassionate radiation oncology clinicians and support staff throughout Northern California, and we'll work together so your experience is one where you feel listened to, safe and engaged in your care.

This radiation education was created by a team of radiation oncology clinicians throughout the Sutter network, based on feedback from you, our patients. With your input we've focused on what we feel is most important for you to know about managing your radiation treatment and feeling your best self throughout therapy. Prevention of side effects is always best, and when this isn't possible, early intervention is key to keeping you feeling good. In this booklet, we offer education, tips and ideas to grow stronger during treatment to help you to return to your new best self once you're finished with radiation.

We wish you the very best experience on your cancer journey and will be cheering you on every step of the way.

Kindest regards,

**Sutter Oncology** 

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# **Our Locations**

Although we have treatment sites throughout Northern California, due to the treatment planning and individual machines at each site, all radiation treatments must be completed at the same location.

Alta Bates Summit Medical Center
Radiation Oncology

2001 Dwight Way Berkeley, CA 94707 510-204-5311

#### □ CPMC Radiation Oncology

2333 Buchanan Street, Level B San Francisco, CA 94115 415-600-3927

#### ☐ Eden Medical Center Radiation Oncology

20126 Stanton Ave., Suite 101 Castro Valley, CA 94546 510-727-2750

#### ☐ Memorial Medical Center Radiation Oncology

1700 Coffee Road, Suite 139 Modesto, CA 95355 209-572-7237

#### ☐ Mills-Peninsula Radiation Oncology

Dorothy Schneider Cancer Center 100 South San Mateo Drive, Lobby Level San Mateo, CA 94401 650-696-4509

#### □ Palo Alto Radiation Oncology

795 El Camino Real, Level A Palo Alto, CA 94301 650-853-2954

#### ☐ Sunnyvale Radiation Oncology

301 Old San Francisco Road Sunnyvale, CA 94086 408-730-2820

#### □ Sutter Auburn Radiation Oncology

3320 Bell Road Auburn, CA 95603 530-402-2700

#### ☐ Sutter Cameron Park Radiation Oncology

3581 Palmer Drive, #303 Cameron Park, CA 95682 530-672-3500

#### ☐ Sutter Radiation Oncology Vacaville

200 Bella Vista Road Vacaville, CA 95687 707-359-6000

#### □ Sutter Roseville Radiation Oncology

2 Medical Plaza, Suite 180 Roseville, CA 95661 916-781-1225

#### ☐ Sutter Sacramento Radiation Oncology

Basement of Women's and Children's Center 2825 Capitol Ave. Sacramento, CA 95816 916-454-6600

#### ☐ Sutter Solano Radiation Oncology

100 Hospital Drive Vallejo, CA 94589 707-551-3400 Every time you talk with a health care provider

# ASK THESE 3 QUESTIONS

1

What is my main problem?

2

What do I need to do?

3

Why is it important for me to do this?





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A team of skilled doctors, nurses, physicists, dosimetrists and therapists plans and provides treatment designed especially for you. A dietitian and a social worker may also be available. This team of health professionals is available to help you as you receive radiation therapy.

# **Radiation Oncologists**

Radiation oncologists are doctors who specialize in using radiation in the treatment of cancer. They work closely with physicists, dosimetrists and radiation therapists to develop your radiation treatment plan and will be supporting you closely during treatment to be sure you feel your best during therapy.

## **Nurse Practitioners**

Nurse practitioners are advanced practice registered nurses who are trained to assess patient needs, order and review diagnostic and laboratory tests, diagnose disease and create plans of care for patients. In radiation oncology, they work closely with your doctor (radiation oncologist) to be sure you feel your best during therapy.

# **Radiation Therapists**

A radiation therapist is a part of the care team that treats patients with cancer through the use of radiation treatments, working closely with your doctors and nurses.

Radiation therapists operate machines, such as linear accelerators, to deliver concentrated radiation therapy to the region of a patient's tumor.

#### **Nurses**

Radiation oncology nurses work with your care team to follow you closely during your treatment course. They will help you with communication between you and your provider and assist you with any referrals you may need, such as dietitian, social work or support services. They will also teach you and your caregivers about caring for yourself during treatment and answer any questions you may have. They are an important part of the team during and after treatment.

#### **Medical Assistants**

Our medical assistants support the doctors, nurses and the rest of the care team in providing patient care in our clinic settings. They will help get you settled into your clinic visit and may communicate with you via phone call on behalf of the care team.

#### **Dosimetrists**

Dosimetrists work with the radiation oncologists, radiation therapists, physicists and others to create treatment plans as prescribed by physicians. They work with computer software, laws of physics, math and their knowledge of the human body to help create a safe radiation treatment plan for you. While you most likely will not meet them, they will closely care for you during treatment.

# **Physicists**

Physicists work alongside the physician, radiation therapist and dosimetrist to help ensure accurate delivery of all aspects of the treatment prescription, including quality assurance. Radiation oncology physicists are certified in their field, and are scientists trained in medical and radiobiological sciences.

#### **Front Office Schedulers**

Our front office schedulers are here to assist you in planning your visits to your doctor's office and radiation oncology treatments. Most insurance plans require authorization for any treatment and our scheduler will keep you up to date on the authorization while scheduling your appointments. Upon completion of each appointment, you'll have a plan for your next visit.

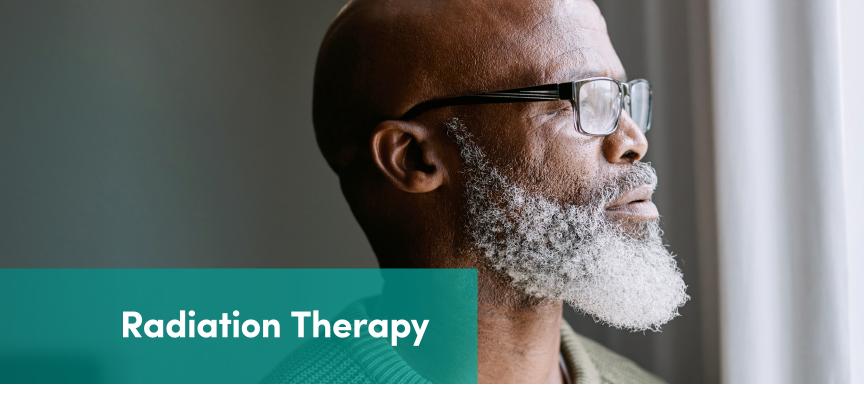
#### **Dietitians**

Dietitians are available at many affiliates to help you with ideas for healthy eating during cancer treatment. For some cancer patients, treatment may cause too much weight loss, and the dietitian may recommend additional support with eating.

#### **Social Workers**

Cancer care is complex and the role of our oncology social workers is to help patients, families and caregivers to deal with the challenging experience of facing cancer. Social workers are skilled to assist with the psychological, social, spiritual and emotional concerns that arise when one has a cancer diagnosis and can provide support to help you cope with your cancer diagnosis.

Social workers are also able to provide counseling, advocacy, referrals to community resources and support groups. They can also help you with advanced care planning. This is a plan you make that will tell your doctor about what you want in the event you become unable to communicate your wishes. It's important to choose someone you trust who can speak for you if you have a severe health event, such as a stroke, car accident or heart attack. Advanced care planning should be considered throughout your life, and it's always a good idea to review it when you have a change in your health, like being diagnosed with cancer.



During radiation therapy, high-energy X-rays can be used to treat cancer, either by destroying the cancer cells or by making them unable to grow and divide. Your radiation oncologist will decide on your treatment type depending on what kind of cancer you have.

# Types of Radiation

# External Beam Radiation Therapy (EBRT)

During external beam radiation therapy, a beam (or multiple beams) of radiation is directed through the skin to the cancer and the immediate surrounding area to destroy the tumor and any nearby cancer cells.

# Stereotactic Radiation Therapy (SRT)

This specialized type of external beam radiation therapy targets well-defined tumors. This treatment doesn't require as many daily treatments but can only be used for certain cancers.

# **Brachytherapy**

Brachytherapy works by placing radioactive material in or just next to a tumor. During brachytherapy, the radioactive material may be left in place permanently or only temporarily, depending upon your cancer.

# Goals of Therapy

The goals of treatment with radiation therapy are to cure your cancer, shrink cancer prior to surgery and control the cancer or its symptoms.

# At Your First Visit

When you come to the radiation oncology department for your first appointment, you'll meet your nurse and doctor. They'll review your records and X-rays, examine you and explain what radiation therapy is and why it's recommended for you. Expect to spend about one to two hours during your first visit. Be sure to bring or have your referring doctor send us your:

- · Medical records.
- · List of medications you're currently taking.
- · Laboratory reports.
- · X-ray films and reports.
- · Scan (CT, MRI, bone) films and reports.
- · Pathology report and slides.
- List of your doctors' names, addresses and telephone numbers.

Having these reports sent to us before your appointment will help the doctor plan your care. It's also important to bring your insurance information. Financial counselors and billing staff are available to answer questions you may have about insurance coverage and cost of treatment.

If you and your doctor decide to start radiation therapy, we'll need your signed consent before beginning. This consent gives us permission to start simulation, create your treatment plan and begin treatment.

#### **About Simulation**

Simulation is the first step in creating a customized radiation treatment plan for you. In simulation, we do a practice of your actual radiation treatment. Think of this as a flight simulator or dry run.

- This appointment may take up to one hour
- The doctor will order a CT scan or other diagnostic imaging in order to determine how the radiation will be directed to your body. The radiation therapists follow the doctors' orders to create your treatment position, add any devices that'll assist in reproducing that position and have you hold your breath if needed for your treatment.
- The radiation therapist will mark directly on your skin. These marks will be used to recreate your treatment position for your daily treatment.
- If permanent skin marks are needed, the radiation therapist will give you tattoos.
   These are small permanent dots about the size of a freckle.
- If not tattooed, you may have a plastic dressing with markings placed on your skin. Please don't remove any skin marks or dressings. You can rinse with water and pat dry.
- Please ask your radiation therapist or nurse to review skin-care instructions for both tattoos and dressings.
- Photos of your treatment position will be taken and will remain with your confidential medical records.

# **About Your External Radiation Treatments**

- Radiation treatments are customized to you and can vary in the amount of time they take. Some can be as short as 15 minutes, others may take up to one hour. Your radiation therapist will let you know how long your treatments will take and total treatments you'll have.
- Your radiation therapists will set up your treatment position according to the tattoos on your skin and the custom devices made at your simulation appointment. You will need to lie still and allow your radiation therapists to position you for treatment. Radiation therapists will check that all measurements are the same as they were in the planning stage.
- If you were given any bladder or bowel instructions, please prepare yourself for your daily treatment. Every effort will be made to start your radiation treatment at the scheduled time. However, there may be occasional delays due to emergency patients, technical problems or other challenges. Should a delay occur, we'll make every attempt to contact you ahead of time.

- You'll see your radiation oncologist at least once a week while you're undergoing treatment. This is called an "on treat visit." If you're having any problems, let your radiation therapists or nurse know when you come in before starting your treatment. You can also call the department ahead of time.
- Patients often ask if radiation treatment can make them radioactive. External beam radiation treatments don't pose this risk, and you should continue your normal activities with your family and friends.

# Cancer Site and Possible Side Effects

Unlike chemotherapy, which can affect your whole body, radiation therapy and the side effects are usually specific to the site or area being treated. Feeling tired is very common for many patients getting radiation. Below is a list of site-specific side effects you may or may not have. Remember, each person will experience side effects differently.

#### **Bone Metastasis**

Pain

#### **Brain**

- Memory loss
- Skin irritation at treatment area
- Hair loss
- Nausea and vomiting
- · Hearing loss

#### **Breast**

- Skin irritation at treatment site
- Pain
- Swelling

#### Cervix

- Upset stomach
- Diarrhea
- Nausea and vomiting
- Vaginal irritation

#### **Colorectal**

- Skin irritation at treatment site
- Nausea
- Diarrhea
- Bowel incontinence
- Bladder irritation
- Pain

### **Esophagus**

- Painful swallowing
- · Sores in mouth
- Skin irritation at treatment area
- Nausea and vomiting
- Diarrhea
- Dry mouth
- Thick saliva (spit)

## **Head and Neck**

- Dry mouth
- Voice hoarseness
- Sores in mouth
- · Trouble swallowing
- · Changes in taste
- Earache
- Swelling in gums, throat or neck
- Pain

#### Lung

- Skin irritation at treatment site
- Nausea
- Loss of appetite
- Weight loss
- · Chest hair loss

#### **Prostate**

- Diarrhea
- Constipation
- · Irritation while peeing
- Urge to pee often
- Erectile dysfunction

# **Thyroid**

- Skin irritation at treatment site
- Trouble swallowing
- Dry mouth
- Voice hoarseness
- Fatigue



Some people want to learn more about how to care for their bodies and mental health when learning of a cancer diagnosis or during treatment. Below, you can find a few ways to help you feel stronger in your mind, body and spirit.

# **Healthy Eating**

Healthy eating can help nourish your body during radiation, keep your energy up and heal your skin.

We recommend preparing recipes in advance and freezing food. It's also helpful to talk with friends and family to see if they're willing to help you prepare food. You may even want to give them a recipe that sounds good to you.

Depending on where you're being treated, your nurse or dietitian will talk with you about your nutrition needs during radiation treatment.

# **Physical Activity**

Physical activity can help reduce pain and fatigue. It can also prevent muscle spasms and stiffness in your joints. Stretching and range-of-motion exercises can help you stay strong, flexible and mobile.

Being physically active also can help with your emotional and mental health. It may be hard to be active when you don't feel well. Talk to your doctor before you increase your level of physical activity.

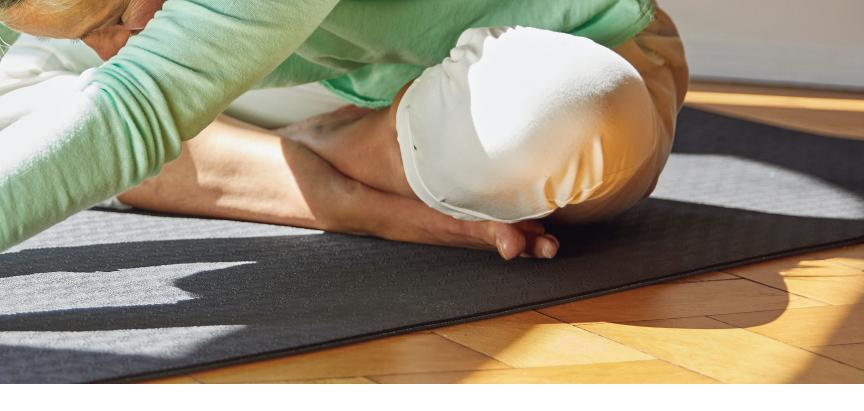
If you don't know how to get started, please speak with your team about a referral to physical therapy. They can work with you to find exercises right for you.

# Counseling

Counseling (or talk therapy) can help you find ways to cope with your cancer and the discomfort from cancer treatments.

Sometimes counseling may also be helpful for your family. Depending on the therapist you work with, they may offer music therapy, pet therapy, dance therapy or art therapy either in individual or group sessions.

If this is something you're interested in learning more about, please talk with your care team for options close to home or work.



## **Support Groups**

Available either at your hospital, cancer center or in the community you live in, support groups offer you the chance to meet with other people who are going through similar experiences. Some focus on a particular type of cancer, and they can be either for patients or caregivers. Support groups are available in person and virtually. Please talk with your treatment team about support groups available to you.

#### Meditation

This usually involves slow, regular breathing and sitting quietly for at least 15 to 20 minutes. There are multiple ways to learn more and begin meditation, including podcasts, apps and different websites.

## Acupuncture

Using very thin needles inserted into the skin at certain points on the body, acupuncturists are able to help cancer patients with pain relief, nausea and more. Please speak with your care team to see if this treatment is available at your cancer center.

#### **Biofeedback**

This method uses the mind to help control body functions the body normally controls on its own, such as muscle tension and blood pressure.

Before you try a complementary treatment, talk to your doctor. These treatments aren't meant to take the place of standard medical treatment.

# **Nutrition Guidelines**

Eating and drinking correctly is important before, during and after radiation. Healthy food helps to prevent unwanted side effects and to support the body during recovery.

Some patients have other dietary considerations prior to being diagnosed with cancer, such as with diabetes, Crohn's disease and heart disease. Some cancers are also more irritating to the stomach because of where the cancer is along the gut (stomach and intestines) or sometimes because of treatment. It's important for you to talk with your doctor about your concerns, and to ask for a referral to a dietitian. They're here and available to support you on your journey to healing.

Some parts of the body that get radiation may have side effects that require changes to your diet. Your team will provide you with information if you need it. Here are some guidelines for a healthy eating plan during radiation.

# Healthy Eating During Cancer Treatment

Getting enough calories in a diet is necessary to maintain a healthy weight and prevent the loss of muscle mass. You should eat healthy, protein-dense foods in small, frequent meals for weight management.

Here's a list of healthy foods to incorporate into your diet to add calories and protein.

#### **Protein Sources**

- Eggs, egg whites
- Lean meats

- Fish
- · Poultry with skin removed
- Low-fat cheeses, yogurt
- Soy products
- Beans
- Nuts, nut butters



Try adding chopped meat to soups, shredded cheese to entrees and hard-boiled eggs to salads for extra protein.

#### **Fat Sources**

Some sources of fat are healthier than others than others. Healthier fats include:

- · Olives, olive oil
- Canola oil
- Nuts, nut butters
- Avocado



Adding these fats to sandwiches, salads, entrees, snacks, dips and spreads will increase calories in a small volume of food.

# **Carbohydrate Sources**

Complex carbohydrates, such as whole grains, usually contain essential nutrients like vitamins and minerals. Simple carbohydrates, such as sugar, don't. Carbohydrate examples include:

- Wheat and white breads
- · Brown and white rice
- Hot and cold cereal
- Fruits
- Potatoes, yams
- Honey

# Ways To Add Calories and Protein

Nutritional values are approximate.

Item	Amount	Calories (kcal)	Protein (grams)
PROTEIN SOURCES			
Lean meat	1 oz	45 kcal	7 g
Egg white	1 each	45 kcal	7 g
Whole egg	1 each	75 kcal	7 g
Cheese	1 oz	100 kcal	7 g
Peanut butter	1 Tbsp	100 kcal	7 g

FAT SOURCES			
Olive oil	1 Tbsp	135 kcal	_
Nuts	1 handful	135 kcal	_
Medium Avocado	½ each	180 kcal	_

CARBOHYDRATE SOURCES			
Medium potato	1 each	100 kcal	3 g
Hot or cold cereal	½ cup	80 kcal	3 g
Cooked rice	¹⁄₃ cup	80 kcal	3 g
Cooked beans	½ cup	115 kcal	10 g
Sugar, honey, syrup	1 Tbsp	70 kcal	_

MIXED ITEMS			
Bean soup	1 cup	115 kcal	10 g
Cooked beans	½ cup	115 kcal	10 g
Casserole with meat	1 cup	270 kcal	20 g
Egg salad sandwich	1 each	600 kcal	20 g
Grilled cheese sandwich	1 each	550 kcal	20 g
Ensure®, Boost®	8 oz	255 kcal	9 g
Ensure Plus®, Boost Plus®	8 oz	360 kcal	13 g
Milkshake	8 oz	225 kcal	7 g
Peanut butter, crackers	2 Tbsp, 6 each	250 kcal	10 g
Turkey sandwich with cheese and mayo, avocado	½ each, ¼ each	350 kcal	14g

# Drinking

Drinking fluids and staying hydrated is an important part of radiation treatment. It'll help you feel well, keep you from feeling tired and may help relieve pain. Try to drink at least eight to 10 glasses of fluid every day. This chart will give you options and ideas.

SAVORY (broth-bas	sed soups only)
Broth	Chicken rice soup
Miso soup	Chicken noodle soup

OTHER IDEAS	
Popsicles®	Ginger ale
Sherbet	Pedialyte®
Jell-O®	

WATER-BASED FLUIDS	
Water	
Herbal, black, green and ginger teas	

JUICES	
Apricot nectar	Watermelon
Apple juice	Peach nectar
Grape juice	Coconut water
Milk	



# Supplements

Don't take any vitamin or mineral supplements without talking to your radiation oncologist. Some supplements may prevent the radiation from working as well as it should. Your team will review any supplements or vitamins you're taking to be sure they're safe during radiation.

Supplements should never take the place of a healthy-eating plan. Please see the section on "Healthy Eating During Cancer Treatment" (page 12) for ideas about what to eat.



Cancer pain may be caused by cancer or by medical procedures used to diagnose or treat the cancer, such radiation or surgery. This pain may make it hard for you to lie on the radiation treatment table or to do your normal activities, such as sleeping or eating. Over time, cancer pain can cause appetite and sleep problems, isolation and depression.

There are many ways to treat cancer pain. Helping ease your pain will make you feel better and be more comfortable during radiation treatments. It'll also help you become active, eat, sleep and socialize with your loved ones.

# Help Your Doctors Treat Your Cancer Pain

Patients may experience pain differently even if they have the same cancer or the same treatment. We care about your level of comfort during treatment, and we're here to help you. You'll see your radiation therapist every day, and they want to know when you're having pain. Please tell them before your treatment so they can arrange for you to see your provider.

Your doctor will need to understand your pain to treat it effectively. You can help by telling your doctor where you feel pain, what your pain feels like and what makes it better or worse. It often helps to write everything down. Some people use a pain diary for this and you may be asked to rate your pain on a scale like this:





# Types of Cancer Pain

The type of pain depends on how cancer or cancer treatment affects your body. Common types include:

#### **Bone Pain**

For example, a tumor that presses on your bones or grows into your bones can cause deep, aching pain.

#### **Nerve Pain**

A tumor that presses on a nerve can cause a burning, tingling, shocking or numb feeling. Sometimes chemotherapy, radiation or surgery damages nerves and causes nerve pain.

#### **Phantom Pain**

This is felt in the area where a body part, such as an arm or a breast, has been removed. Even though the body part is gone, nerve endings at the site still send pain signals to the brain. The brain thinks the body part is still there.

# **Types of Cancer Pain**

#### **Acute Pain**

Pain that begins suddenly and usually lasts less than six months. Acute pain can range from mild to severe.

#### Chronic Pain

Pain that lasts longer than six months. Chronic pain can range from mild to severe.

#### **Breakthrough Pain**

Severe pain that occurs while you're taking medicines that usually control your pain. Breakthrough pain usually starts suddenly and lasts for a short time.

# Key Points About Cancer Pain

- You're the only person who can say how much pain you have. If you tell your doctor when you have pain or when pain changes, your doctor can help you.
- Cancer pain can almost always be reduced or relieved if you work with your doctor to create a treatment plan right for you.
- This may not make all your pain go away, but it should help your pain stay at a level you can bear.
- Pain is often easier to control right after it starts instead of waiting until it becomes bad. Treat the pain when it's a 1, 2 or 3 out of 10 rather than 4 or higher out of 10.
- Take your medications exactly as prescribed. Call your doctor if you think you're having a problem with your medicine.
- You may find that taking your medicine works most of the time, but your pain flares up during extra activity or for no clear reason. This is called breakthrough pain. Ask your doctor what you can do if this happens. Your doctor can give you a prescription for fast-acting medicines you can take to relieve this pain.
- People who take opioid pain medicines
  for cancer pain rarely develop addiction
  to the pain medicine. When treatment
  is completed and you're feeling better,
  your doctor will slowly decrease your
  amount of pain medication over several
  days or weeks. This is called "weaning" or
  "tapering" off and is safe to do with your
  doctor's supervision. Don't stop your
  pain medication suddenly.

# Medications To Treat Cancer Pain

Many different medicines are used to treat cancer pain. Over-the-counter medicines may relieve your pain at times. Sometimes a doctor may need to prescribe something stronger. These may be used alone or with other medicines.

If you already take pain medicine for another problem, tell your doctor how often you take it and how well it works.

For your safety, only one doctor will prescribe your pain medication. This will be different for each patient depending on treatment. Your team will guide you with your individual pain management care plan.

# Over-The-Counter Pain Relievers

Pain medicines you can buy without a prescription include:

- Acetaminophen, such as Tylenol<sup>®</sup>.
- Anti-inflammatory medicines, which also reduce swelling:
  - Ibuprofen, such as Advil® or Motrin®.
  - Naproxen, such as Aleve® or Naprosyn®.
  - Aspirin, such as Bayer® or Ecotrin®.

Be careful when taking these over-thecounter medicines.

- Talk with your doctor before you take these medicines. This is especially important if you have a fever or have had kidney or liver disease, gastrointestinal bleeding or a stomach ulcer.
- Don't take more than the label says, unless your doctor tells you to do so.

## **Prescription Medicines**

#### **Opioid Pain Relievers**

These include fentanyl, morphine, oxycodone and tramadol. Fast-acting opioids may be prescribed for breakthrough pain.

# Medicines Used With Opioid Pain Relievers

These medicines may be given to help your pain medicine work better or to treat your symptoms. Or they may be given for certain types of pain.

- Seizure medicines (anticonvulsants):
   These can help control nerve pain, such as burning and tingling.
- Antidepressants: These can relieve pain and help you sleep.
- Anti-inflammatory medicines and steroid medicines, such as prednisone and dexamethasone.
- Bisphosphonates and other medicines to treat bone pain.
- Local anesthetics: These can help relieve pain in the skin and surrounding tissues.
   Examples include skin creams with capsaicin or lidocaine.

These medicines may be stronger or work differently than over-the-counter medicines.

- Be sure to follow your doctor's instructions when you take these stronger medicines. If you still have pain, call your doctor.
- Some of these medicines may work better than others. It depends on the type of pain you have.
- Remember, don't stop any pain medicine suddenly. Talk with your doctor about how to stop safely.

#### **Medical Cannabis**

There are different kinds of medical cannabis and not all of them work the same to relieve cancer pain. If you think you might want to try medical cannabis for pain management, please talk with your doctor.

# Nonmedical Treatments To Help You Cope With Cancer Pain

Some people use other treatments along with medications to relieve and help cope with cancer pain. Cognitive behavioral therapy or short-term crisis counseling may help you manage cancer pain or the discomfort from cancer treatments. Counseling may also help your family. Complementary medicine involves a wide range of practices used along with pain medicine and other treatments, such as:

- Meditation: This usually involves slow, regular breathing and sitting quietly for at least 15 to 20 minutes.
- Acupuncture: Very thin needles are inserted into the skin at certain points on the body to relieve pain and nausea.
- Biofeedback: This method uses the mind to help control a body function the body normally controls on its own, such as muscle tension and blood pressure.

Before you try a complementary treatment, talk to your doctor. These treatments aren't meant to take the place of standard medical treatment.

# Home Remedies for Cancer Pain

Home remedies may help to reduce cancer pain and improve your physical and mental well-being. Be sure to talk to your doctor about any home treatment you may use.

#### **Heat and Cold Treatments**

Heat and cold treatments can help with mild to moderate cancer pain. Talk to your doctor before you try either heat or cold during radiation treatment.

Be careful when using heat or cold treatment:

- Don't apply heat or cold to skin that may be red or tender from radiation treatment.
- Don't apply heat to an area where the skin is broken or injured. Heat can increase bleeding.
- Don't apply heat or cold packs directly to bare skin. Put a thin towel or pillowcase between the pack and your skin.
- Don't use heat or cold in an area where you have poor blood flow.

# **Gentle Massage**

Simple touch or gentle massage may help reduce pain and ease tension. You could ask someone else to rub your shoulders or back. You can massage your own feet, hands or neck. Self-massage works best if you're in comfortable clothes and are sitting or lying in a comfortable position. Don't massage areas with tumors, open wounds, tender skin or a vein with a blood clot.

#### Mindfulness and Meditation

Meditation can help you focus your attention on something other than pain to help make it easier to handle. Meditation can be useful whenever you're waiting for pain medicines to start working. There are many apps easily available and on smartphones and devices that can help to guide your meditation.

## **Physical Activity**

Physical activity can help reduce pain and fatigue. It can also prevent muscle spasms and stiffness in your joints. Stretching and range-of-motion exercises can help you stay strong, flexible and mobile.

Being physically active also can help with your emotional and mental health. It may be hard to be active when you don't feel well, but if you're able to go for a short walk to the mailbox or street corner, you may feel better – especially during cancer treatment.

Be sure to talk to your doctor before you increase your level of physical activity. If you're not used to exercising or aren't sure how to get started, please ask your team to refer you to physical therapy.



Fatigue is commonly felt by people with cancer. It can be caused by many things, such as the cancer, the effects of treatment, emotions, stress, poor nutrition and sleep disturbances. Being aware of the signals your body gives is important in the prevention and management of fatigue.

Many people describe fatigue as feeling weak, weary, worn out, heavy or slow. Resting doesn't always help. People feel fatigue in different ways. You may feel more or less fatigue than someone else who gets the same type of radiation therapy.

Think of your body as an energy bank. You need to deposit rest and nutrition at the same time you withdraw energy for daily activities. Your body is working hard to recover as you receive treatment and for some time after treatment stops.

Be aware of what is most important every day. You probably won't be able to accomplish everything you usually do. Do what you must do and the things you enjoy. Then ask others for help.

# **Preventing Fatigue**

Even if you can't exercise like you used to, getting up and moving around every day can make a big difference. A short five-minute walk can help! Many people with cancer who participate in an exercise program say they feel better and have more energy. They also report fewer side effects from their treatment.

Remember, even small amounts of activity can help put energy into the bank.

## **General Exercise Guidelines**

# **Types of Exercise**

Walking, yoga, bike riding and active housecleaning or gardening count toward exercise. Swimming may not be recommended during radiation.

# Frequency of Exercise

Ideally, you should try to exercise at least three to four times per week. You don't need to be in a structured program – simply walking a few times a week is good exercise.

#### **Length of Exercise**

You may need to start out with only five minutes at a time and slowly work your way up to a comfortable exercise level. Use your own judgment and how you're feeling to guide you. As we mentioned earlier, a physical therapist can get you started on a routine. Please ask your team for a referral.

#### **Precautions To Take**

- You should never feel faint, dizzy, exhausted or short of breath when exercising. If this happens, you're working too hard and should slow down.
- Avoid exercising outdoors in very cold or very warm weather.
- If you exercise outdoors, please use sunscreen with an SPF of 30 or higher and cover treatment area with clothing.
- If you have an infection or a fever, wait until you feel better. Begin slowly.
- Don't exercise without permission from your doctor if your platelet count is below 50,000.

#### **Benefits of Exercise**

- · Improves your mood.
- Increases energy.
- Increases strength and endurance.
- · Strengthens muscles and bones.
- Improves appetite.
- Helps with sleep.
- Strengthens your heart.

If you're having trouble getting started ask for a physical therapy referral.

# Reducing Fatigue

#### Relax

You might want to try meditation, prayer, yoga, guided imagery, visualization or other ways to relax and decrease stress. For ideas on relaxation exercises, see "Learning To Relax" at cancer.gov/about-cancer/coping/feelings/relaxation.

#### Plan Time To Rest

You may feel better when you rest or take a short nap during the day. If you nap, try to sleep for less than one hour. Keeping naps short will help you sleep better at night.

#### Sleep at Least Eight Hours a Night

You may need more sleep than you needed before radiation therapy or other cancer treatment. You're likely to sleep better at night when you're active during the day. You may also find it helpful to relax before going to bed.

#### **Let Others Help**

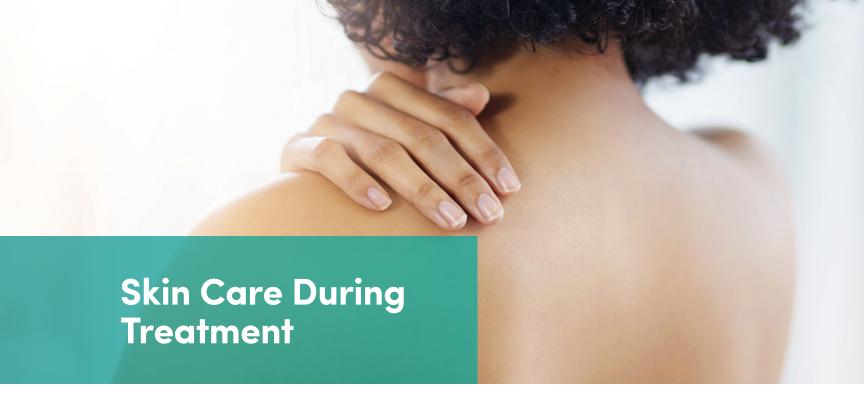
Ask family members and friends to help when you feel fatigue. Accept help from friends and family. Often your support system is looking for ways to help you.

#### **Learn From Others**

People with cancer can help by sharing ways that they manage fatigue. One way to meet others is to join a support group – either in person or online. Talk with your doctor or nurse to learn more.

#### **Talk With Your Doctor or Nurse**

Your doctor may prescribe medication to help decrease fatigue, give you a sense of well-being and increase your appetite. They may also suggest treatment if your fatigue is from anemia.



It's common for your skin to become red during radiation therapy. This redness is a temporary side effect of radiation treatment.

Changes in your skin usually occur one to two weeks into treatment and may last a month after the last treatment. The amount of skin redness or irritation depends on the part of the body being treated and the dose of radiation. Your nurse will review the following guidelines with you and will answer any questions you may have.

Skin is sensitive during radiation and your team will make a recommendation about which moisturizers to use and which to avoid. Generally, we don't want you to use anything with alcohol or fragrance.

#### **Deodorants and Hair Removal**

- Talk with your team about which deodorants to use during treatment. Depending on the area being treated, your team may ask you not to use certain deodorants.
- Don't shave or wax the treated area. Your skin will be very sensitive and serious infection is a risk if the skin is broken or damaged.

# **Helpful Hints for Skin Care**

- Apply recommended moisturizers to the skin as directed by your nurse. Don't use moisturizers two hours before your radiation treatment. Moisturizers work best when applied just after bathing, while the skin is damp. Continue to moisturize your skin in this area for at least a month after treatments are completed, and then as needed.
- Protect the skin in and around the treatment area from extremely hot or cold temperatures, especially in the summer and winter. Use soft, loosefitting, lightweight clothing to cover the treated area.

- You may have permanent skin changes, such as increased sensitivity to hot and cold temperatures. If the area being treated is exposed to the sun, apply sunscreen routinely to the treatment site whenever you're outdoors for more than 10 minutes during the summer or winter. A PABA-free sunscreen of at least SPF 30 should be used. Since the area being treated will always be more sensitive than the rest of your skin, continue to protect the area from sun exposure after your treatment ends.
- Always protect the treated area from chemicals that can cause irritation, such as cleaning products.
- Bathe or shower only once a day. Bathe
  for only a short period of time, just long
  enough to cleanse yourself. Soap and
  water can cause your skin to become
  drier. Use warm water, rather than hot, to
  prevent your skin from becoming too dry.
  After bathing, pat the skin dry, especially
  at the treatment site.
- Eat a balanced diet.
- Drink at least eight glasses of fluids daily unless your doctor has restricted the amount of fluids you can drink due to another medical condition.
- Check the skin at the treatment site daily. Report any changes to your nurse or doctor.
- If you receive chemotherapy during or after radiation treatments, your skin may become red each time. This reaction is called "recall." Your body is recalling, or remembering, it had radiation therapy.
   If your skin becomes red or irritated again, follow the same care instructions

- you did during treatment. Be sure to tell the nurse or doctor administering your chemotherapy about your skin changes.
- You may take your prescribed pain medication as directed. If you experience pain and have no pain medication prescribed, you may take an over-thecounter pain relief medication. Please let your team know if you have new pain or your pain worsens.

#### **Avoid**

- Avoid extreme temperatures near the treatment area, such as a heating pad, hot water bottle, ice packs, hot tubs or saunas.
- Don't keep your home too warm in the winter, and avoid staying outdoors for long periods during the hot summer months. Both can cause dry skin.
- Don't shave the treatment area. If you must shave, use an electric shaver.
- Don't use deodorant soaps, which can dry the skin. Use moisturizing soaps without perfume or fragrances.
- Don't use tape, bandages or medicated patches on the treatment area.

# Mind, Body and Spirit

# The Emotional Impact of Cancer

Receiving a cancer diagnosis is extremely traumatic regardless of the type of cancer or its stage. You may feel a variety of emotions, and it's very important to understand these feelings are normal. Allowing yourself to feel these emotions is an important first step.

# Sadness and Depression

Having cancer is difficult, physically and emotionally. Sadness is expected, but clinical depression is entirely different and treatable. To tell apart normal sadness from clinical depression in a person with cancer depends on psychological symptoms. Many of the physical signs of depression, such as problems with eating, sleeping and maintaining energy, may be a part of your cancer or treatment side effects.

People with cancer often feel sad. A sad person can still enjoy activities and relationships, while someone with depression often withdraws from family and friends. Sad people maintain a balanced view of the world and feel capable of doing things to help themselves. People with depression often feel the entire world is hopeless, they're helpless and they can't change any aspect of the situation.

While a sad person may think about death, a person with depression dwells on death and may have suicidal thoughts. If you feel you

may be suffering from depression, please speak with your doctor and ask to see your social worker at the cancer center. If you're having thoughts of suicide, we urge you to call the National Suicide Hotline at 800-273-8255.

## **Religion and Spirituality**

Religion and spirituality can be powerful tools for coping with illness. Spiritual traditions can provide a feeling that the world is much larger than your own individual problems. They offer an understanding of the purpose of your life as a human being. Religious institutions may provide a sense of community or offer practical support. For some, having a cancer diagnosis may be a time to begin thinking about spirituality.

## **Anxiety**

Anxiety means you have extra worry, can't relax, feel tense or have panic attacks. Many people with cancer worry about how to pay bills and how the cancer will affect themselves and their family or loved ones. There are things you can do to help yourself feel calm, such as deep breathing, guided imagery and other cognitive behavioral or mindfulness techniques. It's also common to experience some anxiety after treatment ends. Speak to your social worker about appropriate referrals for additional support, such as individual counseling and support groups.



It's common for anyone who's had cancer and cancer treatment to have problems with sex and sexuality.

Cancer diagnosis and treatment may affect your ability to experience the intimacy you desire. As sexuality and intimacy are very personal parts of our human existence, it can be awkward for patients and their partners to discuss these topics with their doctor. Please know that these are common questions and your doctors, nurses and social workers are very used to talking about sex and sexuality during cancer treatment.

# Effects of Cancer Treatment on Sexuality and Desire

- Change in desire.
- Change in body image due to surgery and hair loss.
- Hormonal changes that may result in mood swings, hot flashes and insomnia.
- Emotional distress related to the diagnosis and treatment.
- · Fatigue.
- Difficulty achieving orgasm.

- · Pain.
- Other side effects depending on treatment site. Speak with your care team to learn more.

Even though it may be uncomfortable, if you're not satisfied with your desire or ability to have sex or intimacy after cancer, we encourage you to talk through these issues with your oncologist, nurse or social worker. There are medications, treatments, written resources and support for you.

# **Fertility Preservation**

If you're of childbearing years and want to have children, be sure to talk to your doctor prior to starting radiation therapy. We have more detailed information we can provide you.

#### **Birth Control**

Pregnancy is often possible during radiation, but it should be avoided because some targeted radiation may cause birth defects. Doctors advise women of childbearing age – from the teens through the end of menopause – to use birth control throughout treatment.

# Regaining Sexual Confidence After Cancer

Having cancer can affect every aspect of your life, including your sexuality. Whether your treatment has included surgery, chemotherapy, radiotherapy, biotherapy or any combination of the four, you'll need to make adjustments in your life as you recover.

Remember, speaking honestly with your partner is important to maintaining a strong, supportive relationship. Be patient, be creative. Your nurse may be able to provide you with referrals to professional counselors experienced in helping patients who have sexual concerns after treatment.

The pleasure of sexual closeness enhances quality of life and can be adapted, no matter what treatment you've been through.

Talk with your doctor or nurse about any restrictions you may have.

# Before You Resume Sexual Activity

- Focus on your physical recovery first.
   Emphasize nutrition, rest and a gradual return to regular activities.
- When possible, include your partner in discussions about your care and treatment with your team.
- Be sure your treatment discharge instructions include advice about resuming sexual activity. If your nurse or doctor doesn't mention it, feel free to ask.
- Use birth control if indicated by your care team.
- You've been through a lot. It may take some time before you're interested in sex again. Be kind to yourself.
- Report any unusual bleeding, discharge, fever or pain to your care team.
- The American Cancer Society, cancer.
   org, has information about sexuality and
   cancer, specifically, "Sexuality and Cancer
   for the Man" and "Sexuality and Cancer
   for the Woman." Please visit their website
   to learn more.

# When You Feel Ready

- Remember that self-concept and sexuality are linked, so emphasize the positive aspects of your appearance and personality.
- Save energy for sexual activity, perhaps by giving certain household chores to others.
- Set the stage for sexual contact by choosing a time when both you and your partner are rested and free from distractions.
- If you're in pain, being sexually active may be uncomfortable. Ask your doctor or nurse about what medication might be helpful to make you more comfortable.
- Communicate needs and desires so sexual activity is pleasurable for both partners.
- Massage, even of the hands and feet, can create a feeling of connection.

- Experiment with positions until you find one that is most comfortable for you.
   If you're feeling tired try positions that require minimal effort.
- Use a water-soluble lubricant, such as K-Y Jelly<sup>®</sup>, Astroglide<sup>®</sup> or Replens<sup>®</sup>, to increase vaginal moisture. Don't use petroleum jelly, such as Vaseline<sup>®</sup>.
- Explore alternate ways of expressing physical love.
- Consider joining a support group, where you can find couples with concerns similar to yours.
- Consider sexual rehabilitation or sexual counseling if there are physical or psychological barriers that don't get better over time.
- Most important, remember that with some effort by you and your partner, your sexual life can return to what it was – and maybe it can be even better.

# **Additional Resources**

Information about cancer is updated on a regular basis.
Ask your team about reliable websites and sources of information.

#### Websites We Recommend for the Most Up-to-Date Information

American Cancer Society - cancer.org

CancerCare - cancercare.org

National Comprehensive Cancer Network (NCCN) – nccn.org/patients

#### **Adolescent and Young Adult Support**

Stupid Cancer - stupidcancer.org

#### **Blood Cancers**

International Myeloma Foundation – **myeloma.org** Leukemia and Lymphoma Society – **Ils.org** 

#### **Breast Cancer**

Breastcancer.org - breastcancer.org

Living Beyond Breast Cancer – **Ibbc.org** 

National Breast Cancer Foundation, Inc. – nationalbreastcancer.org

Susan G. Komen Foundation - komen.org

#### **Colon and Rectal Cancer**

Colorectal Cancer Alliance - ccalliance.org

#### **Lung Cancer**

GO<sub>2</sub> Foundation for Lung Cancer – **go2foundation.org** 

#### Melanoma

Melanoma Hope Network - melanomahopenetwork.org

#### **Prostate Cancer**

Prostate Cancer Foundation – **pcf.org**Us TOO International – **ustoo.org** 

#### Advance Directives for Healthcare Decisions Assistance

Make Your Wishes Known — makeyourwishesknown.org

Volunteers provide advance directive forms as well as group and individual education about planning ahead for healthcare choices.

#### Cancer Legal Resource Center (CLRC) — thedrlc.org/cancer

The CLRC provides free and confidential information and resources on cancer-related legal issues to cancer patients and survivors, their families, friends, employers and healthcare professionals.

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