

Radiation Therapy

What It Is, How It Helps



What's in this guide?

This booklet will explain radiation therapy. Radiation therapy is one of the most common treatments for cancer.

Radiation may be used alone or with other treatments. If your treatment plan includes radiation therapy, knowing how it works and what to expect can help you make good decisions as you prepare for treatment.

If you have more questions, ask your cancer care team to help you. It's always best to be open and honest with them. That way, they can help you with any problems that come up.

Questions about radiation therapy

What is radiation therapy?

Radiation therapy is the use of strong beams of energy to treat cancer and other problems. There are many types of radiation. Some types are x-rays, gamma rays, electron beams, and protons.

How does radiation therapy work?

Special machines send high doses of radiation to cancer cells or tumors. The radiation damages cancer cells to keep them from growing and making more cancer cells. Radiation can also harm normal cells near the tumor. But normal cells can fix themselves; cancer cells can't.

Sometimes radiation is the only treatment needed. Other times it's used along with surgery, chemo, or other treatments.

Sometimes radiation can cure a certain cancer or keep it from coming back. Other times it may be used to slow down the cancer to help you feel better. **Be sure to talk to your cancer care team about the goal of your treatment.**

Will I be able to work during treatment?

Some people work all the way through treatment, and others don't. Mostly this depends on your situation, if you've had surgery or other treatments, and what you need to do at work.

Make sure you tell your cancer care team what you do each day at work and how it makes you feel. Also, be sure to talk to your work supervisor or human resources team. Together, you can

make a good decision about if you should work during treatment or not. If you decide to take some time off, check with your insurance company about coverage and check your state's family and medical leave laws (FMLA).

How is radiation given?

Radiation can be given in 3 ways. They are:

- External beam radiation
- Internal radiation
- Systemic radiation

Sometimes more than 1 type of radiation is used. The type you might get depends on the kind of cancer you have and where it is.

External beam radiation

Radiation that comes from outside your body is called external beam radiation. If you get this kind of radiation, a big machine sends high-energy beams to the tumor and some of the area around the tumor.

How long does the treatment take?

This can be different, but most people get radiation treatment 5 days a week for several weeks. The number of treatments you need depends on the size and type of cancer, where the cancer is, how healthy you are, and what other treatments you're getting.

What happens during treatment?

External radiation therapy is like getting an x-ray. Each treatment only takes a few minutes. You'll probably be in and out of the radiation office in less than an hour.

You'll lie down on a treatment table, under the radiation machine. The radiation therapist may put shields or blocks between the machine and other parts of your body. These protect the rest of your body from the radiation. You may see lights that are lined up with the marks on your skin. Sometimes a mold or mask is used to make sure you are lying the same way each time. You'll need to stay still during the treatment, but you don't have to hold your breath.

Once the machine is ready, the therapist goes into a nearby room to run the machine. The therapist can see you and talk to you the whole time. While the machine is working, you'll hear clicking, whirring, and something that sounds like a vacuum cleaner as the machine moves around you to aim the radiation. The radiation therapist controls this movement and checks to make sure the machine is working the way it should.

If you're worried about anything that happens while the machine is on, talk to the radiation therapist. The machine can be stopped at any time.

Internal radiation

When radiation is put inside your body, it's called internal radiation therapy. Internal radiation is also called brachytherapy. This lets the doctor give a large dose of radiation right to the cancer cells and/or tumor.

The radiation will come from an implant. It might look like a wire, a tube, pellets, or seeds. The implant is put very near or right into the tumor, and the radiation travels only a very short distance. The implant can be left in place for a short time or might be permanent.

How are implants put in the body?

Some implants are put into a certain part of the body with needle-like tubes. This might be done in an operating room.

Other implants are put into a body opening, like the uterus or rectum. These are only left in for a short time.

Some implants are left in.

If you have implants that will be left in your body, you may be told not to get close to children or pregnant women for some time.

The implants give off less and less radiation over time. They stop giving off radiation after a few months. Once the radiation is gone, the implants just stay in and cause no harm.

Some implants are taken out.

Some implants are taken out after they have been in for many hours or days. While the implants are in place, you'll probably stay in a private hospital room. Doctors and nurses will need to limit how much time they spend with you.

Many times these implants are taken out right in your hospital room before you go home. The treated area may be sore for some time.

Systemic radiation

Systemic radiation uses radioactive drugs to treat some types of cancer. These drugs can be given by mouth, or a needle can be used to put them into a vein. They travel through the body, find where the cancer is, and give off their radiation.

Safety issues

Because systemic radiation goes through your whole body, the radiation will be in your body and body fluids for a few days. Over time your body will get rid of it. The radiation exits your body through spit, sweat, blood, and urine, making these fluids radioactive for a few days.

Your cancer care team will tell you what you need to do to be safe until all the radiation is out of your body. Be sure you know what you need to do to protect the people around you.

What about radiation side effects?

Some people have very few side effects, while others have many. The most common side effects are:

- Feeling very tired (fatigue)
- Skin changes over the treated area
- Not feeling like you want to eat much (appetite loss)

Other side effects depend on the part of the body being treated. For instance, if you get radiation to your head, you might have hair loss. Or if you get radiation to your neck or chest, you might have a sore throat.

Tell your cancer care team about any side effects you have so they can help you with them.

Next we will talk about a few of the more common side effects.

How do I deal with fatigue?

Fatigue means you feel very tired. It can last for a long time. It can keep you from doing the things you want and need to do. It's not like the fatigue you feel at the end of a long, hard day. The fatigue caused by cancer and/or cancer treatment is worse and causes more problems. Rest does not always make it go away.

No lab tests or x-rays can show fatigue or tell how bad it is for you. **Only you know if you have fatigue and how bad it is.**

If you have fatigue, be sure to tell your cancer care team. You can say it's mild, moderate, or severe. Or, you can use a scale from 0 to 10. A 0 means you have no fatigue, and a 10 means you have the worst fatigue ever.

Here are some things you can do to help yourself feel better:

- Do the things you need to get done when you feel your best.
- Ask for help, and let people help you.
- Put things you use a lot within easy reach.
- Try to relax to have less stress. Many people feel better with things like deep breathing, prayer, talking with others, reading, or listening to music.
- Get both rest and activity. Don't spend too much time in bed, which can make you weak. Don't let rest or daytime naps keep you from sleeping at night. A few short rest breaks are better than one long one.
- If you have pain or nausea, talk to your cancer care team about how to keep your pain under control and feel less sick to your stomach.

- Depression can make you feel more tired. Talk with your doctor if you think you may be depressed.
- Get some exercise each day. Talk to your cancer care team before you start.
- If you are not on a special diet where you can't eat certain foods, it's good to include protein (meat, milk, eggs, and beans). It's also good to drink about 8 to 10 glasses of water a day.

Let your cancer care team know about your fatigue and talk with them if:

- It doesn't get better, keeps coming back, or gets worse.
- You're more tired than usual during or after an activity.
- Your fatigue doesn't get better with rest or sleep.
- You become confused or can't think.
- You can't get out of bed for more than 24 hours.
- You can't do the things you need or want to do.

What can I do about skin changes?

Skin over the part of your body being treated may look red, swollen, blistered, sunburned, or tanned. After a few weeks, your skin may become dry, flaky, itchy, or it may peel. Let your cancer care team know about any skin changes. They can tell you about ways to help your skin feel better and help keep it from getting worse.

Be gentle with your skin. Here are some ways to do this:

- Wear loose clothes that are soft and smooth.
- Do not rub, scrub, scratch, or use tape on treated skin. If your skin must be covered or have a bandage, use gauze wrap, paper tape, or other tape for sensitive skin. Try not to let

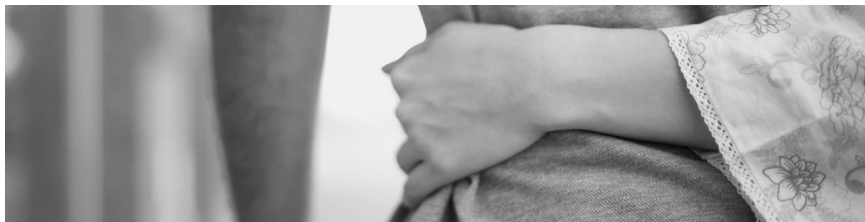
the tape touch the treatment area. Don't put the tape in the same place each time.

- Do not put heat or cold (such as a heating pad, heat lamp, or ice pack) on the treated skin.
- Protect the treated skin from the sun. It may be extra sensitive to sunlight. Protect your skin from the sun even after radiation therapy ends. Wear clothes that cover the skin, or use sunscreen with an SPF of at least 30.
- Use only lukewarm water and mild soap. Just let water run over the treated area. Be careful not to rub away the ink marks needed for your radiation therapy until it's done.
- Do not use a pre-shave or after-shave lotion or hair-removal products. Use an electric shaver if you must shave the area, but first check with your cancer care team.
- Ask your cancer care team before using anything on the skin in the treatment area. This includes powders, creams, perfumes, deodorants, body oils, ointments, lotions, or home remedies while you're being treated and for a few months afterward.

Many skin changes slowly go away after treatment ends. But, the treated skin might stay darker or be more sensitive than it was before.

What should I do if I have eating problems?

You may not feel like eating much during treatment. Eating may be more of a problem if you're getting radiation to your belly or chest.



Patients who eat as well as possible can better handle cancer treatment and side effects. There are cookbooks for people who have eating problems. Ask your cancer care team about these.

If you have trouble swallowing, tell your cancer care team. If you have pain when you chew and swallow, tell your team and they can help you find very soft or liquid foods that are best to eat. There are some nutrition packets or liquids that can be mixed with other foods or added to milk shakes and smoothies.

Here are some tips to help when you don't feel like eating:

- Ask your cancer care team about what you can eat. Be sure you know if you need to be careful about eating certain foods.
- Eat when you're hungry, even if it's not mealtime.
- Eat 5 or 6 small meals during the day rather than 2 or 3 large ones.
- Try to eat with family or friends, or turn on the TV or radio.
- Keep healthy snacks close by.
- If others offer to cook for you, let them. Don't be shy about telling them what you want to eat.
- Add calories to your diet by drinking milk shakes or liquid supplements, adding cream sauce or melted cheese to vegetables, and mixing canned cream soups with milk or half-and-half instead of water.

How can I lower my stress?

Feeling stressed about getting radiation therapy can affect your emotions or feelings. You might feel depressed, afraid, angry, alone, or helpless. Talking to others sometimes helps.

One way to meet other people with cancer is to go to a support group or look for one online. Ask your cancer care team or call your American Cancer Society to find out how you can meet with or talk to others with cancer who share your problems and concerns.

Will my sex life be affected?

Your sexual desire and function can be affected by radiation. This depends on where you're getting radiation and what kind of radiation it is.

Sometimes radiation can leave you unable to have children. If you think you may want to have children someday, tell your doctor before you start treatment. Ask your doctor about this, and about what kind of birth control you should use and how long you need to use it.

To learn more about the sexual effects of cancer treatments and how to deal with them, please call us at **1-800-227-2345**.

Will I have pain?

Radiation therapy isn't painful to get, but some of the side effects it causes can be.

If you have any pain, talk to your cancer care team. Talk about your pain and where it is in as much detail as you can. This will

help your team know how best to help you with your pain. You can say it's mild, moderate, or severe. Or, you can use a scale from 0 to 10. A 0 means you have no pain, and a 10 means you have the worst pain ever.

Pain is not part of cancer treatment. Get help if you have pain.

What can I do to take care of myself during radiation therapy?

Your cancer care team will give you tips on how to take good care of yourself. Here are some things that you can do:

- **Get plenty of rest.** You may feel more tired than normal. This can last several weeks or months after your treatment ends. Sometimes the fatigue can last longer. Give yourself time for rest breaks when you need them.
- **Eat healthy foods.** Your cancer care team can work with you to make sure you're eating the right foods to get what your body needs. They may have tips to help with side effects if you are having trouble eating or don't have much of an appetite.
- **Take care of the skin in the treatment area.** Clean the skin each day with warm water and a mild soap that your team says is OK to use. Don't use anything else on the treated skin unless your cancer care team tells you it's OK.
- **Tell your cancer care team about all medicines you are taking.** If you take any medicines, even aspirin, herbs, or vitamins, let your team know before you start radiation.
- Tell your cancer care team about any other health problems you have before you start radiation.

What should I ask my doctor?

Before treatment starts, you will meet with your cancer care team. Work closely with them to decide what's best for you. Ask the doctor, nurses, and others all the questions you have. They know your situation best and can help you know what to expect.

Be ready. Write down questions ahead of time. Take them with you, and don't be afraid to say you need to know more. Here are some questions you might want to ask:

- What kind of radiation do you think will work best for me?
- What's the goal or purpose of radiation in my case?
- Will it kill or shrink the tumor?
- How will we know if the radiation is working?
- How will the radiation be given? How often? For how long?
- Will I need other kinds of treatment? If so, what kind?
- How do I get ready for radiation treatment?
- Do I need to follow a special diet?
- Will you need to put marks on my skin? What will they look like?
- Will any side effects change my eating, drinking, exercise, work, or sex life?
- Will the treatment or side effects change the way I look?
- How long might the side effects last?
- What's the chance that the cancer will spread or come back if I get radiation? What's the chance that the cancer will spread or come back if I don't get it?
- Does my insurance pay for radiation? If not, how will I pay for it?
- Will I still be able to work (or go to school) during treatment?

Follow-up care

What happens after treatment ends?

When radiation treatments end, you'll still need to have check-ups. Your family doctor and your cancer care team will work together to be sure you have follow-up care. Sometimes most of your care might be turned over to your family doctor and you might only see your cancer care team once in a while or if you have a problem.

Here are some questions you may want to ask your team after radiation ends:

- When can I go back to my normal activities?
- How often do I need to see you? What about my family doctor?
- Which tests will be done and why?
- Do I need to be on a special diet?
- What problems do I need to watch for?
- What problems should I call you about?

How can I learn more about cancer and cancer treatment?

If you'd like to learn more about radiation therapy, please visit **www.cancer.org** to read more online or call us to talk to a member of our caring, trained staff at **1-800-227-2345**.



This is a short review of radiation therapy. It tells you:

- How radiation works
- Types of radiation therapy
- Things you can do to take care of yourself while getting treatment
- Common side effects of radiation therapy

It also gives you lists of questions you may want to ask your cancer care team so you can know what to expect.

For the latest cancer information, day-to-day help, and emotional support, call your American Cancer Society at **1-800-227-2345**. We're here when you need us.



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