



PATIENT & CAREGIVER EDUCATION

About Low Dose Radiation Therapy (LDRT)

This resource explains low dose radiation therapy (LDRT) and what it does. It also explains what happens before LDRT, how to get ready, and what to expect after.

About LDRT

LDRT is a procedure that treats mild (not bad), moderate (a little worse), or severe (very bad) joint pain. It treats some things that cause painful inflammation (swelling) in the bones, muscles, and joints. These issues include:

- Osteoarthritis (OS-tee-oh-ar-THRY-tis)
- Plantar fasciitis (PLAN-ter FA-shee-EYE-tis)
- Tendonitis (TEN-duh-NY-tis)
- Bursitis (ber-SY-tis)

LDRT is a non-invasive procedure. Non-invasive means nothing is put into your body. LDRT uses very small doses (amounts) of radiation to reduce inflammation in and around painful joints and tissues. This may:

- Help relieve or ease pain in the knees, hips, elbows, and other joints. It may take 1 to 3 months before you feel full effects from the treatment.
- Improve mobility and how well your joints work.
- Delay the need for surgery for some people.

LDRT uses a much lower dose of radiation than doses that treat cancer.

Your healthcare provider will go over your health history and review any treatments and imaging studies you've had. They may recommend LDRT if:

- You still have pain, even after:
 - Physical therapy
 - Exercise
 - Injections (shots)
 - Other treatments
 - Weight loss (in some cases)
- You cannot take Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) or they're not helping enough. NSAIDs include ibuprofen (Advil®, Motrin®) or naproxen (Aleve®).
- Your healthcare provider does not recommend surgery, or if you want to delay or avoid surgery.

You'll have 6 treatments of LDRT. Most often, they're done every other day over about 2 weeks. Each treatment takes a few minutes.

Your appointment will take about 20 to 30 minutes from start to end.

What happens before LDRT

Simulation appointment

You'll have a treatment planning procedure called a simulation before you start your radiation treatments. Your radiation therapists will take imaging scans during your simulation. They may also mark your skin with little tattoo dots. The imaging scans and tattoos help to:

- Map your treatment site.
- Make sure you get the right dose (amount) of radiation.
- Limit the amount of radiation that gets to nearby healthy tissues.

Your simulation appointment will take about 30 to 60 minutes. It may be shorter or longer based on your treatment plan.

Medicines to take

You'll be lying still in one position for a long time during your simulation. If you think you'll be uncomfortable, talk with your healthcare provider ahead of time. You can also take over-the-counter pain medicine or your usual pain medicine 1 hour before your simulation.

Talk with your healthcare provider ahead of time if you think you may get anxious during your simulation. They may suggest medicines to help.

What to wear

Wear comfortable clothes that are easy to take off. You may need to change into a hospital gown for your simulation.

Don't wear jewelry, powder, lotion, or cream in the treatment area unless a member of your care team says it's OK.

Take devices off your skin

You may wear certain devices on your skin. Before your simulation or treatment, some device makers recommend you take off your:

- Continuous glucose monitor (CGM)
- Insulin pump

If you use one of these, ask your radiation oncologist if you need to take it off. If you do, make sure to bring an extra device to put on after your simulation or treatment.

You may not be sure how to manage your glucose (blood sugar) while your device is off. If so, before your appointment, talk with the healthcare provider who manages your diabetes care.

Things to remember

Leave any valuable items you don't need at home. Examples include extra credit cards, cash, and jewelry.

What to expect when you arrive

A member of your radiation therapy team will check you in when you arrive. They'll give you an identification (ID) wristband with your name and date of birth. During your appointment, many staff members will check your ID wristband and ask you to say and spell your name and date of birth. This is for your safety. People with the same or a similar name may be getting care on the same day.

Your radiation therapists will review what to expect during the simulation. If you haven't already signed a consent form, they will go over the form with you. They will answer any questions you have and ask for your signature.

You'll change into a hospital gown when it's time for your

simulation. Keep your shoes on.

What to expect during your simulation

Your radiation therapists will help you onto the simulation table. The table will have a sheet on it, but it's hard and does not have a cushion. If you think you may need pain medicine but haven't taken any, tell your radiation therapists before your simulation starts.

Your radiation therapists will help you get into position for your simulation. You'll see red or green laser lights on the walls. Your radiation therapists use these as a guide when they position you on the table.

Your simulation will take about 30 to 60 minutes. It can be shorter or longer depending on your treatment plan. Your radiation therapists can play music for you to help pass the time.

Do not move once your simulation starts. It's important that you stay in the same position. Tell your radiation therapists if you feel uncomfortable or need help.

Imaging scans and positioning

Your radiation therapists will use CT imaging scans to check and adjust your position throughout your simulation.

These scans are only to plan your treatments. They are not for diagnosis. For that reason, you will not see any scan

results in MSK MyChart (your patient portal).

You'll feel the simulation table move into and out of the scanner and hear the scanner turn on and off. Even if it seems loud, your radiation therapists can hear you if you need to talk with them. They'll walk in and out of the room during the scans, but the room has a microphone, speaker, and camera. Someone will always be able to see and hear you.

Immobilization

Your radiation therapist will position you to keep the treatment area from moving during imaging and treatments. They may use cushions or other supports, or a custom mold they design and build during the simulation appointment.

Skin markings (tattoos)

Your radiation therapists will use a felt-tipped marker to draw on your skin in the treatment area. You may also need skin markings called tattoos. If you do, your radiation therapists will use a sterile (clean) needle and a drop of ink to make them. Each tattoo will feel like a pinprick. They will not be bigger than the head of a pin.

After they make the markings, your radiation therapists will take a few photos of you in your position. They'll use the photos and markings to make sure you're in the right

position for your radiation treatments.

You can wash off the felt markings after your simulation. The tattoos are permanent. They will not wash off. If you're concerned about having tattoos as part of your radiation therapy, talk with your radiation oncologist.

What to expect after your simulation

At the end of your simulation appointment, we'll schedule your first treatment. This is often scheduled within 3 to 7 business days. During this time, your radiation oncology team will make a treatment plan that's safest for you.

Call your radiation oncologist's office to tell your care team if you can't come in for treatment for any reason. Talk with your radiation therapist or scheduler if you need to change your schedule for any reason.

Checking your treatment schedule

You can see your treatment schedule in your patient portal, MSK MyChart. If you do not have a MSK MyChart account, you can sign up at mskmychart.mskcc.org. You can also ask a member of your care team to send you an invitation.

It's very helpful to use MSK MyChart to keep track of your appointment times. We will call you if we need to reschedule any of your treatment appointments.

After your LDRT treatment

- It may take 3 to 6 weeks before you notice changes from treatment. Some people feel relief sooner. For others, this may take longer. It may take a few months before you feel full effects from the treatment.
- After about 3 months, you'll meet with your doctor. If you're still feeling pain or your pain has come back, they may recommend more treatment.
- Pain relief from LDRT is not the same for everyone. Some people feel relief that lasts for months. In some cases, relief can last for years.

Side effects of LDRT

LDRT has few side effects. It should not affect your other surgeries, injections, or medicines. You may feel sore from staying in the same position for treatment. This should go away after treatment.

Less common side effects may include:

- More pain at the treatment site. This should go away after treatment.
- Mild fatigue (feeling tired).
- Skin irritation.

Talk with your healthcare provider about how to manage

any side effects, if you have them.

When to call your healthcare provider

Call your healthcare provider if you have acute (sudden) pain after treatment.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

About Low Dose Radiation Therapy (LDRT) - Last updated on August 10, 2026

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