

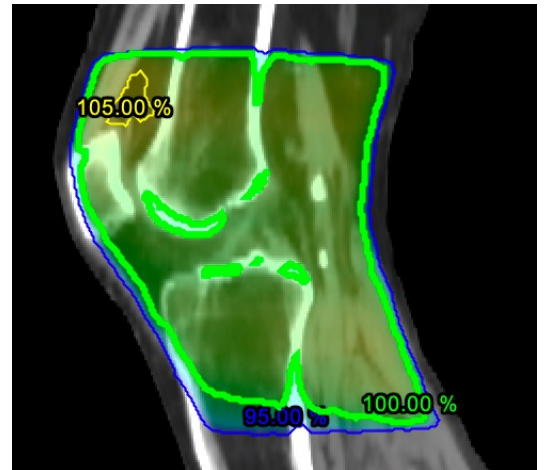
Since 2025, Generations Radiotherapy has offered ultra low dose radiotherapy (ULDRT) for certain benign inflammatory diseases, typically osteoarthritis and related conditions (chronic tendonitis and synovitis). We follow guidelines established by the world's leading authority on benign radiotherapy treatment, the German Society for Radiotherapy (known by its German acronym, DEGRO). This provides a structure for the safe, effective, and well-tested administration of this treatment. Some common concerns are addressed here.

How does ultra low-dose radiotherapy (ULDRT) work?

ULDRT decreases inflammation in the region being treated. Radiation only works where we aim it so that means it generally won't affect anything outside the treated region. It stimulates the production of a kind of cell called a macrophage, and specifically a type of macrophage that decreases inflammatory signals to other cells. As the inflammation subsides, the pain it causes decreases as well.

What is the process that's required?

Before you can be treated with ULDRT, a physician trained in the administration of radiation therapy will see you in a consultation visit. Dr. Christopher Jahraus is the board-certified radiation medicine specialist for Generations Radiotherapy, and he usually spends around 45 minutes going over the process, doing a limited examination and answering questions. After that, an aiming-session will be scheduled. This is called a "simulation." At the simulation, Dr. Jahraus and his associates will scan the area to be treated and create an immobilization device to cradle the treated area and keep it from moving during treatment. Once the simulation is done, you'll go home, but the team at Generations Radiotherapy will create a computer model of the area to be treated and then design and test the ideal treatment beams to fit your anatomy, before you are ever treated. When the plan is ready, you'll be called to schedule the first treatment.



What will treatment be like?

Most typically, treatment is done every other day, three times a week, for a total of six treatments over about two weeks. Specially-trained individuals will take you to the treatment area and get you positioned accurately. They will leave the room during your actual treatment, but can see and hear you on monitors outside the room. You can talk to them in case you have any concerns. The treatment typically takes less than 15 minutes per site treated (for example, one knee). There is no pain or discomfort associated with the treatment, and it feels no different than having an x-ray done. You will not feel anything other than the positioning devices helping you hold the treated body part still. The treatment machine is called a linear accelerator (or "LinAc" for short) and it makes some beeping and humming noises, but nothing loud or distressing. You will not be in a confined space during treatment.



Chrisotpher D. Jahraus, MD, FACRO, FASTRO
Board Certified in Radiation Oncology by the American Board of Radiology
Generations Radiotherapy & Oncology PC
1024 1st Street North, Alabaster, Alabama 35007
Telephone (205) 664-4051 - Facsimile (205) 664-5538
www.genxrt.com

Your Consult Appointment:

What kind of side effects am I likely to experience?

There are no known side effects associated with ULDRT to most joints. If you require treatment of the hand, we will shield your fingernails, as ULDRT can cause discoloration of the nails when treating the hand (but not when treating other areas, because radiation only works in the area being treated). You will not experience nausea and will not experience hair loss as a consequence of treatment.

I've heard radiation therapy for cancer can cause bothersome side effects, why won't ULDRT?

The biggest difference between cancer radiotherapy and ULDRT for benign inflammatory conditions (like osteoarthritis) is the dose used. Radiation dose is measured in a quantity called Gray (Gy). ULDRT uses daily fractions of 0.5 Gy and total treatment doses of 3 Gy per course. For comparison, treatment of breast cancer commonly requires a total dose of 50-60 Gy, prostate cancer requires 70-80 Gy, and even very radiation-sensitive cancers like lymphoma require doses on the order of 30 Gy. The drastically lower dose used in ULDRT is the reason it is not associated with the side effects sometimes seen in cancer patients.

I live or work around small children, will I risk hurting them?

ULDRT uses extremely high-energy x-rays...typically much more than 10 times the energy of a diagnostic x-ray. X-rays enter the body and leave it immediately once the beam is off. You will not become radioactive, nor will any radioactive material be used to treat you, so you can carry on about normal life with no risk of harming those around you because of your treatment. However, you cannot receive ULDRT if you are pregnant, and you should have a pregnancy test before being treated if you are a woman of childbearing age who could possibly become pregnant.

Is this something new or experimental?

No, radiotherapy has been used to treat benign inflammatory conditions like osteoarthritis in the past, but it fell out of favor in the U.S. when some of the newer drugs like NSAIDs were developed. Unlike the U.S., in Germany, it continued to be used and studied, and we can now benefit from the German experience.

Will my insurance cover the cost of treatment?

Yes, at the time this hand-out was written, a majority of insurance carriers cover the cost of ULDRT for osteoarthritis. This includes Medicare and Medicaid, as well as Blue Cross Blue Shield of Alabama, Humana, and others. You may be responsible for a copay or coinsurance.

But doesn't radiation potentially cause cancer?

Radiation can cause cancer, but the risk is typically associated with the dose used and the extent of the area treated. Radiotherapy for benign disease has been used to treat thousands of patients throughout the world. In the entire world, there is one reported case of a skin cancer that might have been caused by treatment with ULDRT. Experts in radiation biology have estimated that the risk of causing cancer with a course of ULDRT is about the same as the risk of causing cancer with a CT scan of the abdomen. Younger people may be at slightly higher risk, so we typically avoid treating anyone younger than 45 years old.

My questions about ULDRT: