

WHAT TO EXPECT DURING HIGH DOSE RATE (HDR) BRACHYTHERAPY TREATMENT

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Radiation Therapy in Cancer Treatment

About half of people treated for cancer will receive radiation therapy at some point during treatment. Focused radiation is used either alone or in combination with other treatments such as chemotherapy and surgery. Radiation therapy is the use of high-energy x-rays to target specific cancer sites and eliminate cancer cells. It works by damaging each cancer cell's ability to reproduce.

Radiation therapy may be used to treat cancer, relieve symptoms associated with cancer, and/or prevent the cancer from returning. Much of the newer, more advanced technology allows the radiation oncologists to better target these tumors while avoiding damage to the normal, healthy cells. Radiation can be delivered either from a machine outside the body (external beam radiation) or from a radiation source implanted permanently or temporarily in the body (brachytherapy). The treatment you receive will depend on the type of cancer you have as well as the location and size of the tumor(s). You may have imaging scans such as CT, MRI, PET/CT and ultrasound which may be helpful to clearly define the area receiving radiation and develop a treatment plan that is appropriate for you.

Meet the Treatment Team

Your care will be handled by a team of experienced oncology specialists dedicated to providing you and your family with the highest quality of care.

The Radiation Oncologist is the physician who will develop an individualized plan for how the radiation will be delivered and what doses of radiation are necessary to achieve successful treatment. If you are receiving brachytherapy, the radiation oncologist will be responsible for the placement of the radiation source at the target site.

Radiation Oncology Nurses will work closely with you to answer any questions you may have before, during and after treatment and to assist with the management of side effects.

Dosimetrists take the prescription written by the radiation oncologist and create the best treatment plan to ensure the tumor gets enough radiation while sparing the normal tissue.

Medical Physicists work closely with the radiation oncologist during treatment planning and delivery. They make certain that complex treatments are properly customized to each patient.

What is Brachytherapy?

Brachytherapy is an innovative form of internal radiation therapy that uses radioactive sources that are directly implanted into or around the tumor. In comparison to external beam radiation therapy which can cover a larger area of the body, brachytherapy delivers higher doses of radiation to more specific sites in the body which allows for quicker treatment times and possibly fewer side effects.

The two main methods of brachytherapy delivery are interstitial treatment and intracavitary treatment. Interstitial treatment involves placing the radioactive source directly into the tissue, such as the prostate, while intracavitary treatment involves placing the source into a space or opening where the tumor is located such as the cervix or windpipe (trachea).

Brachytherapy can be used either alone or in combination with other types of treatment. Sometimes it is used after surgery to ensure all cancer cells are eliminated, or it can be used in conjunction with external beam radiation.

How is Brachytherapy Done?

During interstitial treatment, devices that come in the form of balloons, wires and seeds are inserted in or adjacent to the tumor site. Some techniques include placement of catheters or applicators that are preloaded with radioactive seeds versus placement of catheters during surgery which may later be filled with the radioactive source when the patient is in the radiation treatment room. During intracavitary brachytherapy, a device that holds the radioactive source, such as a tube or cylinder is placed in the body opening. Imaging scans such as CT or ultrasound may be used to successfully place the devices properly in either case.

What is High-dose Rate Brachytherapy (HDR)?

High dose rate brachytherapy allows radiation oncologists to deliver the radiation quickly during an outpatient procedure. In HDR, catheters are placed in or adjacent to the cancer tissue after which a computer driven apparatus, called a remote afterloading device, pushes the radiation source through the catheters to the tumor site. The source remains in place for a predetermined amount of time. When the desired dose has been achieved, the remote afterloading device withdraws the radioactive source.

What are the Benefits of HDR Brachytherapy?

- Increased dose to the tumor while sparing the surrounding healthy tissue.
- Quick treatment sessions lasting only a few minutes
- Delivery in an outpatient setting after which a patient can return home
- Increased patient comfort with potential reduction in side effects

How do I Prepare for HDR Brachytherapy?

The exact preparation for the treatment may depend on the site receiving the radiation. Your physician and other members of the treatment team will give you specific instructions for how to prepare for your treatment(s).

How Long will my HDR Treatment Last?

Treatment times depend on many factors like the location, type and size of the cancer. Some HDR brachytherapy treatments are delivered only once, whereas other treatments may entail the patient coming in once or twice a day for a period of one or more weeks.

What are the Side Effects Associated with HDR Brachytherapy?

Brachytherapy is usually well tolerated. Side effects are generally specific to the area being treated and may include some tenderness and swelling in that location. Brachytherapy is focused on a smaller area, therefore there may be fewer side effects. If you do notice any changes that are concerning it is important for you to notify your treatment team.

Which Types of Cancer can be Treated with HDR Brachytherapy?

- Previously irradiated tumors
- Breast cancer
- Gynecologic cancers
- Prostate cancer
- Lung cancer
- Esophageal cancer
- Head and neck cancer
- Sarcomas
- Anal/rectal cancer

Will my Insurance Cover HDR Brachytherapy?

We are committed to helping you and your family have full access to all cancer services. Most insurance plans are accepted. If you have any questions regarding your insurance carrier, please contact our patient insurance specialist.



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