

Ready to start planning your care? Call us at [800-525-2225](tel:800-525-2225) to make an appointment.

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Cancer Center

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There are two types:

High-Dose-Rate Brachytherapy

In high-dose-rate (HDR) brachytherapy, we deliver concentrated bursts of radiation in a short amount of time. After putting you under anesthesia, we insert a number of plastic catheters (tubes) into or near the tumor in your prostate. The catheters are attached to a machine that contains precise doses of radiation in the form of radioactive pellets. The pellets are released into the catheters for one or two 15-minute sessions, delivering radiation directly to the tumor.

After the final treatment, the catheters are removed and you can return home.

Our radiation oncology team uses computer technology during the procedure to ensure precise treatment. We often use real-time CT scans combined with MRI data gathered before the procedure to plan and guide your treatment, as well as to intensify the dose of radiation in regions of the prostate that require a more aggressive approach. We are one of the few hospitals in the world to use portable CT machines in order to get real-time information.

Typically, we recommend HDR brachytherapy for men with more advanced disease and follow the treatment with a short course of image-guided, intensity-modulated radiation therapy.

For all types of brachytherapy, we rely on MRI data to show us the location of the tumors so these areas can be targeted with exquisite accuracy and deliver high doses of radiation to these locations within the gland.

Brachytherapy may be considered as a treatment for men whose cancer returns after prior radiation therapy. This salvage treatment can be associated with fewer side effects than [prostate cancer surgery](#) and can potentially eliminate the residual cancer.

Low-Dose-Rate Brachytherapy

With low-dose rate (LDR) brachytherapy, we insert tiny titanium seeds containing radiation in or near the tumor while you're under anesthesia. We use ultrasound imaging to guide the placement of the seeds. In 95 percent of cases, this technique is successful in eliminating the cancer.

At Memorial Sloan Kettering, we perform LDR brachytherapy on an outpatient basis. It usually takes a little over an hour. Although the seeds are permanent, they cause little or no discomfort, and their radioactivity lessens after several weeks or a few months.

To ensure that the tumor receives the optimal dose of radiation while the surrounding tissue is protected, we developed and use real-time image guidance when implanting the radioactive seeds in your body.

During the procedure, a mobile CT scanner (called an O-arm) provides up-to-the-second images of your prostate. A sophisticated computer software system fuses the ultrasound images we take before the procedure with these real-time CT scans. Using this data, the computer analyzes millions of possible seed locations. In a matter of seconds, it selects the ones that will deliver a precise dose of radiation to the tumor while avoiding injury to healthy tissue.

Before you leave the operating room, we take a final CT scan to ensure that the seeds were placed at the ideal locations.

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