

About Brachytherapy

Brachytherapy has been used for over a century and is one of the fastest growing methods of treating cancer in the United States. Derived from ancient Greek words for "short distance," there are temporary types of Brachytherapy or permanent types (sometimes called "seed" implantation).

What is it?

Brachytherapy is a form of radiation therapy where a radioisotope is placed inside the tumor to deliver an intense dose of radiation in a precise manner. Often a course of Brachytherapy can be shorter in duration than other forms of radiation treatments. Brachytherapy allows the radiation dose to be conformed *within* the tumor treated, not just to the shape of the tumor, creating dose distributions superior to those obtained with any type of external beam radiation, including Cyberknife and Proton Beam.

How Does it Work?

Radioactive material is carefully placed inside of the cancerous tissue and positioned in a manner that will attack the cancer most efficiently. Brachytherapy has been proven to be very effective and safe, while reducing the risk of certain long-term side effects. The radioactive seeds, or capsules, are about the size of a grain of rice and give off radiation that travels only a few millimeters to kill nearby cancer cells.

Advantages of radioactive implants

The benefits of using Brachytherapy in the treatment of early stage cancer are quite pronounced in prostate cancer. There is a lower incidence of impotence and incontinence compared with a radical prostatectomy, and most men can return to normal activities a few days after treatment. In breast cancer, the dose to the lungs and heart is greatly reduced. It also offers quicker recovery time, no hospitalization, and a reduced risk of post-operative infections.

Brachytherapy selection criteria

Brachytherapy is an option for patients with localized (organ-confined) cancer. New advances in technology now allow doctors to securely place radioactive sources at the border of and adjacent to the tumor to treat cancer that might have extended to the surrounding tissue.

Effectiveness of Brachytherapy

In 2004, 15-year data was presented at the American Society of Clinical Oncology annual meeting by John E. Sylvester, MD, which demonstrated that Brachytherapy is effective for treating prostate cancer. Additionally, published 12-year data* showed that disease free survival rates were between 81-93%. In breast cancer, Brachytherapy has shown 10-year results equivalent to a longer course of external beam radiation or mastectomy. Other cancers show similar results.

* 12-year Outcomes Following Permanent Prostate Brachytherapy in Patients with Clinically Localized Prostate Cancer. Louis Potters, et al. *The Journal of Urology* Vol 173 (2005) 1562-1566

Additional Resources:

American Brachytherapy Organization: www.americanbrachytherapy.org/

Prostate Cancer Institute: www.prostate-cancer-institute.org/