Some Breast Cancer Facts

- Primary treatment methods include surgery, radiation therapy and chemotherapy
- Radiation therapy
  Radiation therapy is one of the most common treatments for cancer and is used in more than half of all cancer cases
  Radiation may come from a machine outside the body (external-beam radiation therapy)
  Radiation can be placed inside the body, in or near the tumor (there are a number of names to describe this type of radiation treatment including brachytherapy, internal radiation therapy, implant radiation or interstitial radiation)
- After skin cancer, breast cancer is the most common cancer diagnosed in women in the United States
- Breast cancer rates have fallen in recent years (though doctors are uncertain as to why)
- In 2006 (the most recent year numbers are available from the CDC)
  191,410 women were diagnosed with breast cancer
  40,820 women died from breast cancer
- The risk of getting breast cancer increases with age

Make an Informed Treatment Decision

"There are many sources that will be helpful in increasing your understanding of breast cancer and your various treatment options. In addition to the several associations and government organizations focused on breast cancer research and education, helpful material can also be found at your closest Gamma West clinic or on our website at www.gammawest.com. Additionally, it will be important for you to meet and discuss your diagnosis and treatment options with medical professionals dedicated to effectively treating, and in many cases, curing breast cancer. These medical professionals include radiation oncologists, medical oncologists and surgeons. Speaking with other breast cancer survivors can also provide a great deal of hope and support, along with practical information on what to expect. Gamma West can help you connect with other women who have utilized brachytherapy as their choice for curative treatment of their breast cancer."

John K. Hayes, Jr., M.S., M.D.
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For additional information visit us at www.gammawest.com and for a consultation contact us at the following Gamma West Cancer Services clinic locations

Gamma West Cancer Services
Salt Lake City, Utah
Salt Lake Regional Medical Center
1050 East South Temple
Salt Lake City, Utah 84102
(801) 350-8400

Gamma West Cancer Services
Ogden, Utah
Ogden Regional Medical Center
425 East 5350 South Suite 180
Ogden, Utah 84405
(801) 475-4571

Gamma West Cancer Services
Orem, Utah
Timpanogos Regional Hospital
674 West 800 North Suite B-10
Orem, Utah 84057
(801) 852-0210

Gamma West Cancer Services
St. George, Utah
Gamma West Cancer Services
1308 East 900 South Unit B
St. George, UT 84790
(435) 767-9104

Gamma West Cancer Services
St. George, Utah
Coral Desert Surgery Center
1490 East Foremaster Dr. Bldg. C
St. George, UT 84790
(435) 627-5327

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www.gammawest.com

Breast Cancer Answers

Less Invasive Procedure
Cosmetically Superior Results
More Convenient Treatment

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"Gamma West Radiation Oncologists work closely with Physicians to plan radiation treatments for the patient which are less invasive and result in curative outcomes"

What is Brachytherapy?

"Brachytherapy" comes from a Greek root meaning "from a short distance." It is the practice of treating cancer by placing a radioactive source(s) directly into the cancer tissue. Breast brachytherapy can be done either by placing multiple flexible plastic catheters into or around the cancer area, or with the FDA approved Contura Multi-Lumen Balloon (MLB), that is inserted directly into the tissue cavity where the cancerous lump used to be.

The Contura MLB uses a proprietary design that provides significantly improved dose distribution, allowing the radiation oncologist to optimize the dose coverage to the targeted tissue while significantly reducing radiation to healthy tissue.

The treatment can be customized to better fit the patients anatomy allowing us to avoid overtreating normal tissue such as the skin and underlying chest wall. The areas most at risk for recurrence are precisely treated from the inside out.

History of Breast Brachytherapy

Robert Kuske M.D. pioneered modern breast brachytherapy in 1991 at the Ochsner Clinic in New Orleans, although forms of this treatment date back to 1929. Dr. Kuske had a breast cancer patient insisting on a treatment that allowed her to keep her breast, and was shorter than the standard 6 - 7 weeks of external beam radiation. He performed a wide-volume flexible catheter implant surrounding the lumpectomy cavity then treated her with HDR brachytherapy. Success with this first patient led to multiple single institution phase II studies, and ultimately to a large National Cancer Institute sponsored multi-institutional study headed by the RTOG (Radiation Therapy Oncology Group), one of the United States' major cancer clinical trial organizations.

Why HDR Brachytherapy for Breast Cancer?

Seven randomized clinical trials were conducted in order to compare mastectomy to lumpectomy plus radiation. The results showed, that without exception, these two treatments are absolutely equal in terms of cancer cure and recurrence rates. It is estimated that less than 50% of women in the United States receive breast-conserving treatment. The primary obstacle for these women is the inconvenience of 6 - 7 weeks of external beam radiation therapy. Patients who live a long distance from a radiation oncology center, who depend on others for transportation, are frail, or elderly may prefer an accelerated 5-day brachytherapy treatment as opposed to traditional external beam radiation treatments.

Contura Multi-Lumen HDR Treatment Balloon

In summary, some of the most significant benefits of using HDR brachytherapy for breast cancer treatment include:

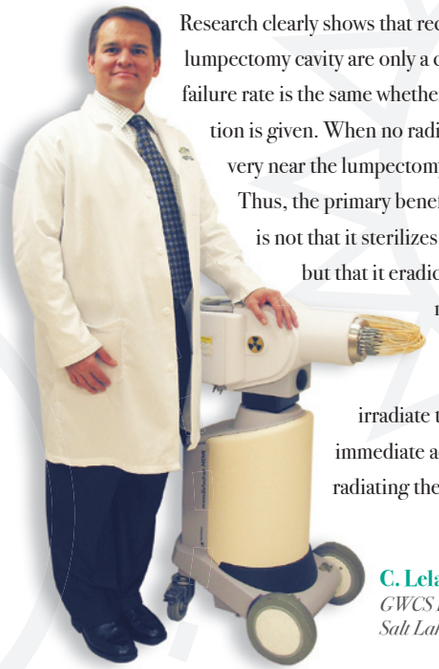
- Breast conservation (equally effective as a mastectomy)
- Superior cosmetic results
- Convenience – 5-day treatment versus 6 to 7 weeks with external beam radiation treatments
- Precise and accurate treatments at high dose levels
  Critical organs spared radiation
  (lungs, heart, spinal cord, lymph nodes)
- Inside out radiation therapy minimizing impact to healthy tissues

Brachytherapy, therefore, will allow for breast conservation in a group of women who at this point are treated with mastectomy. An additional advantage is that the cosmetic outcome appears to be superior with brachytherapy, especially for large breasted women, because less of the breast is irradiated. Skin dose, lung dose, and dose to the lymphatic drainage area under the arm is significantly less as well.

Treatment Rationale

When mastectomy specimens are fixed and analyzed slice by slice, the distribution of breast cancer cells within the breast can be determined. Research has shown that cancer spreads outward from the epicenter. The chance of finding cancer decreases as the distance from the epicenter increases. The vast majority of true recurrences after breast conservation therapy occur within and surrounding the original tumor site. Very few patients have recurrences in a different part of the breast. The question arises whether this low recurrence rate in other parts of the breast is attributable to treating the whole breast with external beams, or if it was radiation going to the lumpectomy cavity that gave the benefit? If whole breast radiation were essential, then one would expect the rate of recurrence away from the lumpectomy cavity to increase dramatically in studies where women underwent lumpectomy alone, without any radiotherapy. This, however, is not the case.

Research clearly shows that recurrences away from the lumpectomy cavity are only a couple of percent. This low failure rate is the same whether or not whole breast radiation is given. When no radiation is given, recurrences very near the lumpectomy cavity are very high. Thus, the primary benefit of whole breast radiation is not that it sterilizes other parts of the breast, but that it eradicates microscopic cancer near the original tumor. In other words, it appears to be more important to irradiate the lumpectomy cavity and immediate adjacent tissue, rather than radiating the entirety of the breast.



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