

# High Dose Rate (HDR) Brachytherapy Treatment for the Breast

There are many ways to treat breast cancer today. Treatment types depend on many factors. These include:

- The size and location of the tumor
- Whether the lymph nodes have been affected
- The nature of the disease (what it looks like under the microscope)

BCT stands for breast-conserving therapy. This means that the breast is not removed. BCT often is used for early breast cancer. First, surgery is done to remove the tumor. This is called a lumpectomy. This is followed by radiation therapy. Radiation helps kill any cancer cells that may remain after surgery.

## What is HDR brachytherapy?

HDR (high dose rate) brachytherapy (bray-key-THAIR-uh-pee) is a type of radiation used as part of BCT. HDR brachytherapy delivers a high dose of radiation in and around the tumor. It spares (does not affect) much of the surrounding healthy tissue.

Brachytherapy may be used alone or with surgery, external beam radiation, and chemotherapy. It may cure, control, or relieve symptoms of many types of cancer.

Radiation is given for a set length of time by a small, radioactive source. The radiation dose and length of time depend on the tumor size and location.

## Preparing for treatment

During brachytherapy, a radioactive source comes out of a machine and goes through a flexible tube into your breast to where the tumor was. This tube, called a catheter, is put in your breast during your lumpectomy or after the surgery. The part of the catheter that is inside you has a small balloon or a multi-channel catheter on the end. This balloon is filled with sterile salt water. It stays inflated in your breast until your treatments are done (about a week). Your breast will feel heavy while the balloon is in place.

Part of the catheter sticks out of the skin and has a cap on the end. Again, the catheter stays in place the whole time you're having treatments. Your doctor may use one or more catheters. Your surgeon and radiation oncologist will decide how many to use based on your tumor size

You will have a planning CT (computed tomography) after the catheter is placed. This scan checks to be sure the balloon is in the right place. It also makes sure there are no air pockets around the balloon. During the scan, the doctor takes measurements to plan your treatments.

## Brachytherapy treatment

You will have brachytherapy treatments twice a day, 6 hours apart, for 5 days. You may drive yourself to your treatments if you are feeling well and not taking any medicines that keep you from driving. Before your first treatment each day, a CT scan of your breast will be taken. This is done to check the balloon inflation and position. You will be taken to the treatment room and will lie on an x-ray couch. The therapist will connect your catheter to the HDR machine. The radioactive source is stored in the machine.

After that is done, the radiation therapy staff will leave the room. You will be alone in the room during your treatment. Staff will watch you closely on a monitor. You can talk with the staff over an intercom.

During your treatment, the radiation source will come out of the machine and go into your catheter. You need to stay still during this time. You will not feel anything. After the treatment, the therapist will check to make sure the radiation source has returned to the machine. Then you will be taken off the machine. A nurse will help you to an exam room. The treatments will not make you radioactive and there are no special precautions that need to take place.

### **While the catheter is in place**

Your doctor or nurse will give you a surgical bra or a prescription for one. Wear the bra at all times, even while sleeping. It is for support and comfort, and it protects the catheter. You may do your normal daily activities as you feel able. Your doctor may prescribe pain medicine to take as needed. He or she also may prescribe an antibiotic. If you are prescribed antibiotics, take them as directed until you have finished them.

#### **Other precautions:**

- **Do not** shower while the catheter is in place. You may sponge bathe and wash your hair over a sink.
- Avoid getting the treated breast wet.
- Avoid carrying or lifting anything with the arm on your affected side.

### **Caring for your catheter during treatment**

Be sure to clean the catheter site each day after your treatments. You can use a solution made of equal parts peroxide and sterile water. Put an antibiotic cream on the catheter site. Then cover it with a sterile gauze pad. The nursing staff will teach you how to do this. They can give you supplies and help you. If you have a lot of clear, pink drainage, you may have to change the dressing more often. Do not touch the Steri-Strips tapes that are over the incision(s) on your breast and/or armpit. They will come off on their own over time. Do not remove any of the caps from the catheter(s).

Check your temperature 3 times a day. Call your doctor if you have a fever over 100.5 F (38.0 C).

#### **Temporary side effects include:**

- Mild – Moderate breast tenderness or discomfort
- Mild breast swelling (edema)
- Small amount of reddish-pink drainage from around the catheter site. The drainage may increase as treatments continue.
- Mild breast redness. There may be more redness as treatments continue.
- Bruising

### **When to call the doctor**

Call your doctor right away if you have any of the following:

- Temperature above 100.5 F (38.0 C)
- Sudden and large amount of drainage from catheter site (may be red, pink, or clear)

- Sudden or extreme breast redness and pain
- Pus-like or foul-smelling drainage from the catheter site
- Trauma to the catheter or dislodgement of the catheter.

### **Removal of the catheter**

Your catheter will be removed in the Radiation Oncology Department after your last treatment. This may be a little uncomfortable. You may take an oral pain medicine before your last treatment to ease your discomfort. This can be an over-the-counter medicine or a prescribed pain medicine. Some patients take prescribed pain medicine leftover from their surgery.

### **After the catheter is removed**

Continue to care for your breast as described above until the catheter site is dry and healed. Avoid showering during this time (about 3 days). You may have some increased redness and swelling for several days after your treatments are done. If the skin of the treated breast peels or becomes moist or “weepy,” call your radiation oncology nurse.

### **Follow-up care**

You will be seen in your surgeon’s office the week after your treatments are done. You will see the radiation oncologist about a month after your treatment. After this visit, you should have a follow-up visit that includes a breast exam every 3 months for 2 years. Then you should follow up every 6 months for 5 years. Photographs of your treated breast will be taken at your follow-up appointments. These will be compared with photographs from before therapy.