

Intraoperative Radiation Therapy (IORT) to the Breast

After a lumpectomy, there is a risk that the tumor will come back. The usual treatment to reduce this risk has been radiation therapy to the whole breast. It is given five days a week for five to six weeks after the surgery.

Another way to give radiation is at the same time you have the lumpectomy. After the cancer is removed, a single dose of radiation is delivered to the tissue that was near the cancer. Not all women can have this treatment. You must have a very small cancer (2 cm or less) and no signs of other tumors in the breast.

The Treatment

Everything takes place in the operating room. You will have general anesthesia or a local with sedation. First, your surgeon will remove the tumor. The site and length of the incision depend on the location and size of the tumor. Sometimes a small piece of the skin is removed with the tissue and cancer. The surgeon will also check nearby tissue to make sure there are no other lumps. Then the radiation oncologist will place an applicator into the space left after the cancer was removed. The incision line has to be long enough for the applicator to fit. This means it may be longer than it would be if you were just having the lumpectomy.

The applicator has thin catheters. These are connected to a machine that stores the radiation source. Once everything is set up, the doctors and nurses will leave the room so that you can get the treatment. They will be able to see you on a TV monitor while they stand just outside the room. You will be asleep during the radiation treatment. An anesthesiologist will monitor you the entire time.

It takes about 30 – 40 minutes to deliver the entire dose of radiation. When it is done, the staff will come back into the operating room. The surgeon will take the applicator out and close your incision. You may have a small drain in the breast. It allows fluid to exit. You may have antibiotics during the operation to help prevent infection. You may also need to take them after you go home. Follow-up care after IORT is the same as for any lumpectomy. You will also see the radiation oncologist and your surgeon in 3 months.

Potential Side Effects

Most early side effects from IORT to the breast are similar to those seen with external beam radiation to the breast. These include swelling and a deep redness of the skin overlying the treated area. In addition, the skin may feel dry and itchy. These reactions may last a couple of months. A nurse will teach you how to care for your skin. Very few women have had late bleeding, fluid build-up, infection, and a delay in wound healing. All have been successfully managed.

Late side effects from IORT can occur six months or more after treatment. These can result in permanent changes. The breast may feel hard in the area that was treated and you may notice a change in its appearance. For example, it may be pulled in a different angle. In addition, there may be a permanent lightening of the skin in some areas and small, dilated blood vessels may be seen under the skin. Our early experience showed that side effects are rare.

Risks

Most of the time, if the cancer does come back, it comes back near the site of the first cancer. This is the tissue that will be treated with IORT. Only the tissue surrounding the breast tumor is treated with IORT. You could get another cancer in another part of the same breast. This is less likely if the entire breast is treated, as is done with

standard radiation therapy. This risk is about 1% per year. This is the same as your risk for a new primary tumor in your other breast.

Conclusion

If you want to learn more about IORT, you may see a radiation oncologist or a breast surgeon. Before that visit, write down your questions. That will help you remember them. Make your decision about IORT once you feel that you have enough information.