

Radiation Therapy and Side Effects

Why radiation therapy?

Radiation therapy (also called radiotherapy) uses targeted, high-energy X-rays to kill cancer cells. It is very effective in killing fast-growing cells like breast cancer cells. It kills any cancer cells that may remain in or around the breast after surgery. This lowers the chance of the cancer returning (recurrence).

Radiation therapy can harm normal tissue, so it is carefully planned and precisely given. This helps ensure as many cancer cells as possible are killed with as little damage as possible to other parts of your body.

What to expect

The most common radiation treatment for breast cancer is external radiation therapy. It uses a large machine to direct a beam of radiation at the cancer site from outside the body.

During each radiation therapy session, you will lie on a special table. Most often your entire breast (and, if needed, the lymph nodes in the underarm area) will be given a dose of radiation. At each session, you get a small amount of radiation so that the least amount of damage is caused to normal cells. This allows the normal cells to recover more quickly.

Each radiation therapy session lasts about 20 minutes. Most of this time is spent positioning your body to ensure the treatment is given exactly as planned.

Treatment usually is given once a day, 5 days a week, for 3 to 7 weeks. Radiation therapy is an outpatient treatment (you do not stay overnight in the hospital).

After you complete your radiation therapy sessions, you may have more radiation (called a boost). This boost increases the radiation given to the part of the breast with the original tumor (the area most at risk for recurrence). Your boost radiation session is similar to a regular session.

Some women may get a shortened course (3 to 4 weeks) of radiation therapy. This is called accelerated, hypofractionated whole-breast irradiation. It is similar to standard radiation, but uses a slightly higher dose per session which reduces the number of treatment sessions.

Clinical trials in radiation therapy are ongoing. Some are looking at giving radiation only to the part of the breast that had the cancer, which reduces the number of treatment sessions. This is called accelerated partial breast irradiation and can be done in a few ways. For example, brachytherapy uses implanted radiation “seeds” or a single small balloon device to deliver radiation to the tumor area. The long-term effectiveness of this and other methods is still under study.

Step-by-step

1. Your radiation therapy is planned specifically for you and is based on:
 - Tumor size, type and location
 - The number of lymph nodes that contain cancer
 - The type of breast surgery (and lymph node surgery) you had
 - The shape of your breast and your body
2. Your radiation oncologist oversees the radiation planning session (called a simulation or mapping). During this session, you will lie on a special table while the radiation oncologist decides the proper dose and best areas to receive the radiation. He/she will use a CT scan to guide the radiation plan.

3. During the planning, the radiation oncologist will put small marks (about the size of a pinhead) on your skin. These marks ensure you are correctly positioned for each treatment. They may be ink spots, or they may be tattoos. If they are ink spots, it is important not to wash them off until after you finish radiation therapy. Be sure to tell your radiation therapist, who runs the radiation therapy machine, if they start to fade.
4. You will meet with your radiation oncologist to discuss your treatment plan in detail.
5. You will meet with a radiation therapy nurse to discuss skin care and how to cope with possible side effects.
6. Your treatment will begin a few days or weeks after the planning session.

Coping with side effects

Most often, side effects from radiation therapy begin within a few weeks of starting treatment and go away within a few weeks after treatment ends.

Symptoms vary depending on the area treated. The risk of having side effects increases as more skin and lymph nodes are treated.

Nausea is not common with radiation therapy to the breast. And, you shouldn't lose the hair on your head. However, you may lose some hair in the underarm area.

Skin irritation and redness

During and just after treatment, the treated breast may be rough to the touch, red (like a sunburn) and swollen. Sometimes the skin may peel, as if it were sunburned. Your radiation oncologist may suggest special creams to ease this discomfort. Try to treat your skin like you would if you had a sunburn — wear loose, soft clothing over the treated area (for example, wear a soft cotton bra without an underwire) and use lukewarm water for bathing.

Sometimes the skin peels further and the area may become tender and sensitive. This is most common in the skin folds and the underside of the breast. If this occurs, let your oncologist or nurse know, and he or she can give you creams and pads to make the area more comfortable until it heals.

Not all lotions and sunscreens can be used during treatment, so check with your doctor before using any on the treated skin. Cover up when you are outside and use a sunscreen of SPF 15 or greater.

Breast tenderness

During and just after treatment, your treated breast may be sore. Talk with your doctor about using mild pain relievers such as ibuprofen or acetaminophen to help ease breast tenderness. You may also help relieve some of the discomfort by wearing loose cotton clothing and not wearing a bra.

Fatigue

You may feel tired during and just after treatment. Your body is using a lot of energy to heal. Try to get as much sleep as possible. If you can, adjust your work schedule or activities to give you more time to rest. Exercise may help increase your energy.

Lymphedema (swelling of the hand or arm)

Lymphedema can occur after radiation therapy if the lymph nodes were treated. Although there is no known way to prevent lymphedema, injury or infection to the arm or hand may trigger it. So treat any infections right away. Ask your doctor for information about lymphedema and refer to *Facts for Life Lymphedema*.

Resources

Susan G. Komen
1-877 GO KOMEN (1-877-465-6636), www.komen.org
Questions to Ask Your Doctor
www.komen.org/questions

National Cancer Institute
1-800-4-CANCER, www.cancer.gov

National Comprehensive Cancer Network
1-888-909-NCCN, www.nccn.org

National Lymphedema Network
1-800-541-3259, www.lymphnet.org

Related fact sheets in this series:

- Clinical Trials
- Getting the Support You Need
- Lymphedema
- Making Treatment Decisions

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