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## FACTS ABOUT BREAST CANCER

Breast cancer is the most common type of cancer in American women, according to the American Cancer Society.

- Each year, nearly 216,000 women and 1,500 men learn they have breast cancer.
- Another 59,000 women learn they have in situ or non-invasive breast cancer.
- Nearly 40,000 women will die from breast cancer each year.

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## RISK FACTORS FOR BREAST CANCER

Most women who develop breast cancer do not have known risk factors, but some factors may increase the chance of developing this disease. One of these risk factors is age — more than 75 percent of women diagnosed with breast cancer are over age 50. Other factors include:

- Early onset of menstruation.
- Family history of breast cancer in your mother or sister.
- Hormone replacement therapy with estrogen and progesterone.
- Alcohol consumption.
- A personal history of breast cancer or prior breast biopsy for benign disease.

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## DIAGNOSING BREAST CANCER

Breast tumors are typically, but not always, painless, so it is important to have any breast or underarm lump checked. Swelling, discoloration, thickening of the skin or nipple discharge also should be checked immediately.

- In some cases, a biopsy to determine if you have breast cancer will be done in an office setting using a needle to remove cells from the lump.
- A stereotactic biopsy uses mammography targeting to pinpoint smaller tumors and permit a small amount of tissue to be removed by a needle for diagnosis.
- Your surgeon may suggest removing the lump to see if you have cancer.

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## LEARNING ABOUT CLINICAL TRIALS

The radiation oncology team is always exploring new ways to treat cancer patients through studies called clinical trials. Today's radiation therapy treatments are the result of clinical trials completed many years ago proving that radiation therapy kills cancer cells and is safe long-term. For more information on current clinical trials, please visit the following Web sites of the following organizations:

National Cancer Institute  
[www.cancer.gov/clinicaltrials](http://www.cancer.gov/clinicaltrials)

National Surgical Adjuvant Bowel and Breast Project  
[www.nsabp.pitt.edu](http://www.nsabp.pitt.edu)

Radiation Therapy Oncology Group  
[www.rtog.org](http://www.rtog.org)

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## ABOUT THE RADIATION ONCOLOGY TEAM

Radiation oncologists are cancer doctors who also oversee the care of each patient undergoing radiation treatment. Other members of the radiation oncology team include radiation therapists, radiation oncology nurses, medical physicists, dosimetrists, social workers and nutritionists. To locate a radiation oncologist in your area, visit [www.astro.org/patient/](http://www.astro.org/patient/).

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## ABOUT ASTRO

The American Society for Therapeutic Radiology and Oncology is the largest radiation oncology society in the world. ASTRO's mission is to advance radiation oncology by promoting excellence in patient care, supporting cancer research and distributing the results of clinical trials.

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## HELPFUL WEB SITES ON BREAST CANCER

American Cancer Society  
[www.cancer.org](http://www.cancer.org)

National Cancer Institute  
[www.cancer.gov](http://www.cancer.gov)

People Living With Cancer  
[www.plwc.org](http://www.plwc.org)

Susan G. Komen Breast Cancer Foundation  
[www.komen.org](http://www.komen.org)

Y-ME National Breast Cancer Organization  
[www.y-me.org](http://www.y-me.org)



## RADIATION THERAPY for BREAST CANCER

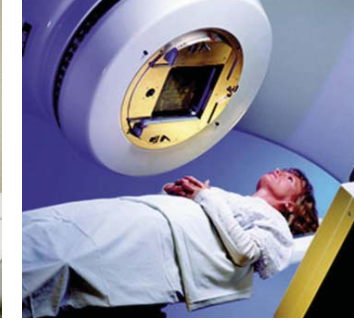
A Patient's Guide to Understanding Treatment



# ASTRO

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## TYPES OF BREAST CANCER

The breast is made up of ducts and lobules surrounded by fatty tissue.

- Cancer confined within a duct is called ductal carcinoma in situ (DCIS). Lobular carcinoma in situ (LCIS) is cells confined to a lobule.
- Tumors that break through the wall of the duct or lobule are called infiltrating ductal or infiltrating lobular carcinomas.
- Inflammatory breast cancer may involve the entire breast with specific skin changes and swelling.

## BREAST-CONSERVING SURGERY

Studies have shown that women with early-stage breast cancer who have a lumpectomy to remove the cancer followed by radiation live just as long as women who have a mastectomy and may be preferred by many women. The standard of care after breast-conserving surgery is external beam radiation therapy. Often, this follows chemotherapy.

- Your surgeon will perform an operation called a lumpectomy, also called a partial mastectomy, excisional biopsy or tylectomy, to remove the tumor. In some cases, a second operation called a re-excision may be needed if microscopic examination finds tumor cells at or near the edge of the tissue that was removed (called a positive or close margin).
- To see if your cancer has spread, your doctor may remove several lymph nodes from under your arm (axilla). If any of these nodes contain cancer cells, more nodes may be removed.
- Breast-conserving surgery is not suitable for all breast cancer patients. Talk with your surgeon to see if this is the best procedure for you.

## EXTERNAL BEAM RADIATION THERAPY

External beam radiation therapy involves a series of daily outpatient treatments to accurately deliver radiation to the breast.

- Painless radiation treatments are delivered in a series of daily sessions. Each treatment will last less than 30 minutes, Monday through Friday, for five to seven weeks.
- The usual course of radiation treats only the breast, although treatment of the lymph nodes around the collarbone or the underarm area is sometimes needed.
- 3-dimensional conformal radiotherapy (3D-CRT) combines multiple radiation treatment fields to deliver very precise doses of radiation to the breast and spare surrounding normal tissue.
- Intensity modulated radiation therapy (IMRT) is a form of 3D-CRT that further modifies the radiation by varying the intensity of the radiation beams. It is currently being studied for treating breast cancer.
- Side effects might include skin irritation, like a mild to moderate sunburn, mild to moderate breast swelling and fatigue.

## PARTIAL BREAST IRRADIATION

Doctors are studying ways to deliver radiation to only part of the breast.

- Available in a few clinics for a very select group of patients, these techniques are used after a lumpectomy to deliver radiation to the tumor site rather than the entire breast.
- Breast brachytherapy involves placing flexible plastic tubes called catheters or a balloon into the breast. Over one to five days, the catheters or the balloon are connected to a brachytherapy machine so high doses of radiation can treat the nearby breast tissue.
- Other techniques include 3-D conformal partial breast irradiation and intra-operative radiation therapy (IORT).
- The long-term results of these techniques are still being studied. Talk with your radiation oncologist if you would like more information.

## AFTER MASTECTOMY RADIATION

In cases where the breast is surgically removed, your doctor may suggest radiation therapy for the chest wall and nearby lymph node areas.

- Whether or not radiation therapy should be used after removal of the breast depends on several factors, including the number of lymph nodes involved, tumor size and surgical margins.

## OTHER TREATMENTS

Chemotherapy and/or hormonal therapy are often suggested.

- In some cases, chemotherapy may be advised to help keep the cancer from coming back.
- Sometimes, treatment with a drug to block the effects of estrogen and progesterone may be suggested.
- These decisions are usually made after talking with a medical oncologist, another important member of your treatment team.

