

This booklet belongs to:

# Your Guide to Breast Cancer Treatment



Developed for you by

**breastcancer.org**

The world's leading  
Internet-based nonprofit  
breast cancer organization

# Your Guide to Breast Cancer Treatment

There are different types of breast cancer, and different treatments that can work for each. If you've been diagnosed with breast cancer, your doctor can help you understand what type you have and what treatments would be best for you.

To learn about your type of cancer and to help you make the best treatment decisions, your doctor will look at three important things:

1. how you're feeling and changes you notice about your body,
2. what is found on your physical exam, and
3. results of your radiology tests and pathology reports.

**Remember:** No matter what your situation is, there are treatments that can help you.

This booklet will tell you about the main kinds of breast cancer treatment, so that, together with your doctor, you can make the best decisions for YOU.

**This booklet is divided into two sections:**

**Section A) Local Treatment**

**Section B) Systemic Treatment**

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# Introduction: Treatment Options

## Local Treatment and Systemic Treatment

Your doctor will talk to you about two ways to fight the cancer: local treatment and systemic treatment. Systemic means treatment of your whole body, or system. Local often means treatment of just your breast area and the lymph nodes near it.

If cancer has spread to other places beyond the breast, you may need a local form of treatment to those spots, in addition to systemic treatment.

The type of treatment you get depends on:

- the characteristics of the cancer,
- how much it has spread (also called the “stage” of the cancer),
- your general health, and
- your style of making decisions.

**My doctor recommends:** *(circle one)*

Local treatment

Systemic treatment

Local and systemic treatment

## Some important points to keep in mind about your treatment plan are:

- It may include more than one type of local or systemic treatment.
- Most people need both local and systemic treatment.
- Some treatments are given at the same time. Others may be given one at a time.
- As you move through your treatment, the plan can change, depending on how well it's working for you.

This booklet will help you understand the treatments and their timing. On page 34, you'll find an easy-to-understand word list.

We hope we can help you make sense of this information so you can get the best care possible.

**For more information go to:**

[www.breastcancer.org](http://www.breastcancer.org)

# Section A:

## Local Treatment

The two local treatments for breast cancer are surgery and radiation.

### SURGERY

There are two main kinds of surgery used to treat breast cancer:

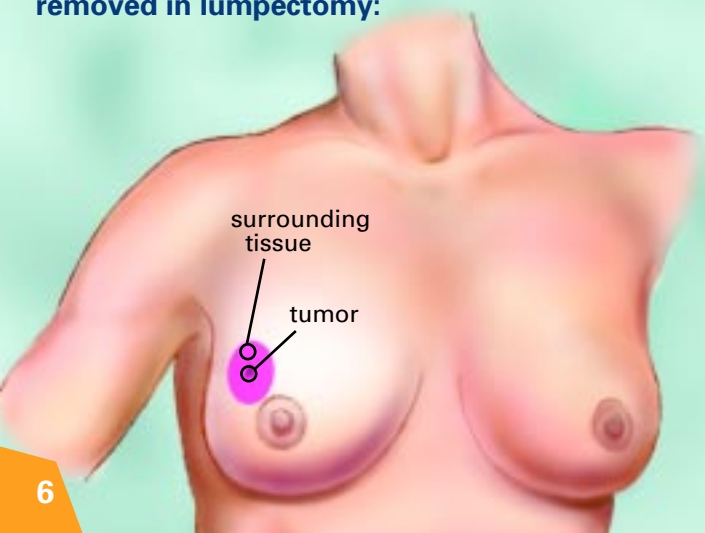
1. Breast saving surgery (lumpectomy)
2. Breast removing surgery (mastectomy)

Lymph node surgery may be done with both types of breast cancer surgery.

### Breast Saving Surgery (also called partial breast removal, lumpectomy, or excisional biopsy)

This surgery removes the breast tumor or lump, as well as a rim of normal tissue around it (called “margins”).

The pink area shows what's removed in lumpectomy:



## Breast Saving Surgery: What to Expect

To have a lump removed, you will only need pain medicine just around the area of surgery. You will not be put to sleep and you don't have to stay overnight in the hospital.

You might feel some pain the first few days after the lump is removed. This can be relieved with pain medicine. Or you may lose feeling in part of the breast. For most women, some or most of the feeling in the breast comes back in a few months.

Fluid can build up in the area of the surgery. There is a small risk of infection. Look for any redness or swelling in the surgery area.

### Is breast saving treatment right for you?

If you have only one tumor in the breast, removing the lump plus radiation can work as well as taking the whole breast. This is true if the tumor:

1. is smaller than about four centimeters (about one and a half inches) and
2. can be removed with a clear rim of normal tissue around it.

**For more information go to:**

[www.breastcancer.org](http://www.breastcancer.org)

# Section A:

## Local Treatment

### Re-Excision Surgery

This surgery takes out more tissue from the place where the first lump was removed. It is done to get clear margins around the place where the tumor used to be.

It is recommended for women who had cancer cells at the edge (positive margins) or very close to the edge (close margins) of the breast tissue that was removed. This is a choice for women who would like to keep their breast.

For this surgery you just need a local pain medication, and you don't have to stay overnight in the hospital. The same incision from the lump removal is used again. The side effects are like those of a lump removal.

### Breast Removing Surgery (mastectomy)

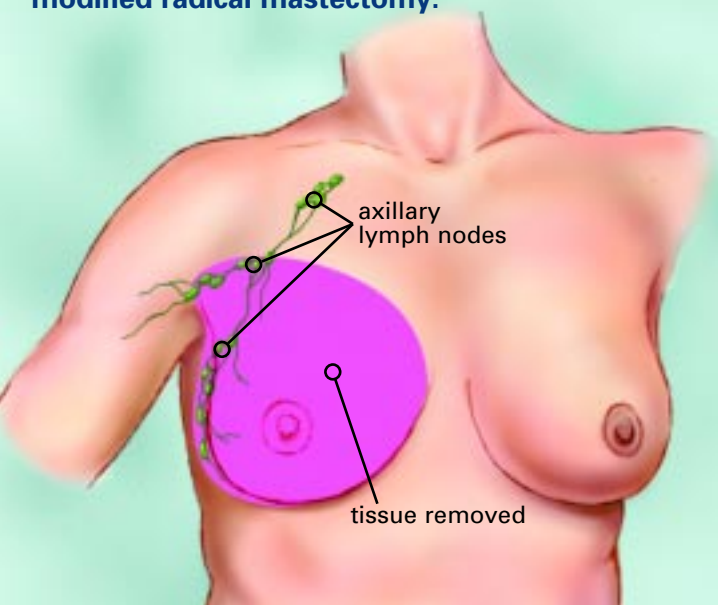
This surgery removes the whole breast. The nipple and area around the nipple (called the areola) are also removed.



There are three types of mastectomy:

1. **Simple or total mastectomy.**  
Just the breast is removed.
2. **Modified radical mastectomy.**  
The breast and lymph nodes under the arm are removed.

The pink area shows what's removed in modified radical mastectomy:



3. **Radical mastectomy.**  
The breast and underarm lymph nodes are removed along with the chest muscle under the breast. This type of surgery was done often in the past, but it is rarely done now.

For more information go to:

[www.breastcancer.org](http://www.breastcancer.org)

# Section A:

## Local Treatment

### Breast Removing Surgery: What to Expect

For this type of surgery you will get medicine that makes you sleep during the operation. You may go home soon after or stay a few nights in the hospital. If you choose to have breast reconstruction at the same time, your hospital stay may be longer.

You may feel pain after the surgery that usually gets better in a few weeks. It can be treated with pain medicine. You may feel stiffness or tightness in the surgery area. Fluid can also build up there. There is a small chance of infection. It can take weeks to months for you to get back to your normal daily life.

Some of the long-term side effects from the surgery may include loss of feeling in the skin where it was cut, and tenderness in the area. This is very common. The loss of feeling can last a long time. The tenderness often goes away in a few weeks. For some women, discomfort can last longer.

**My doctor recommends:** *(circle one)*

Breast saving surgery

Breast removing surgery

## Reconstructive Surgery

Many women who have mastectomy choose to have their breast reconstructed. Breasts can be rebuilt in two ways:

1. with implants filled with fluid or gel, or
2. with tissue taken from your belly or back.

Reconstruction is often done in a few steps. If you choose an implant, the skin in the breast area first needs to be stretched to fit the shape and size of the implant. This is done with an object like a small balloon, called an “expander.” It is put under the skin at the time of surgery. Over time, the expander is filled with fluid. The bigger it gets, the more it stretches out the skin in the breast area. When the skin is ready, and your cancer treatments are done, the expander can be taken out and the implant put in.

Reconstruction with tissue from the belly or back is done in one step. It can be done at the same time your breast is removed or at a later time.

You may also choose to have nipple reconstruction after implant or tissue reconstruction. The nipple can be made by a tattoo or with a piece of skin, or both.

You don't have to rush to decide about having your breast(s) reconstructed. This can be done at any time — at the same time as your mastectomy or years later.

# Section A:

## Local Treatment

### Lymph Node Removal (dissection)

During or after breast surgery, your surgeon may need to remove small organs called lymph nodes from under your arm. This is because breast cancer cells may travel from the breast into these nodes.

Your doctor will want to look at your lymph nodes:

- to see if cancer cells are there, which means an increased risk of the cancer spreading to other parts of the body,
- to guide treatment choices, and
- to improve control of the cancer if cancer cells were found in the nodes.

### There are two types of lymph node removal:

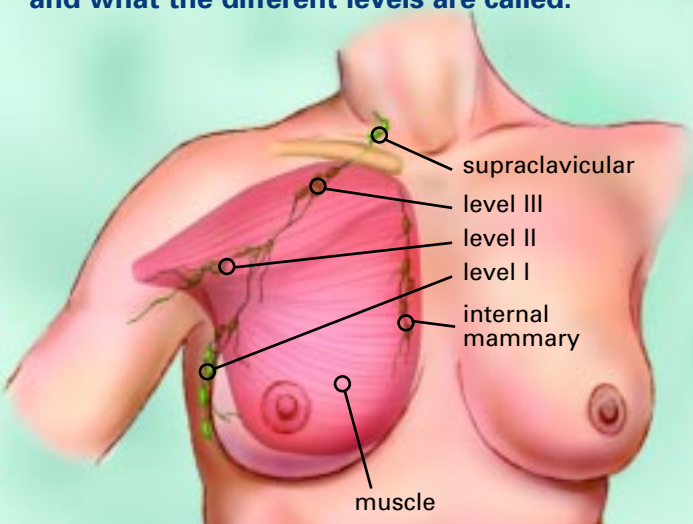
#### 1. Standard lymph node removal.

All lymph nodes from the first two levels of the underarm area are removed in case they have cancer in them. Level three is usually left alone. (There are three levels of lymph nodes.)

#### 2. Sentinel lymph node removal.

Only one or a few lymph nodes are removed to see if cancer is in them. The nodes that are removed are chosen carefully. They are the ones that are responsible for draining the area of the breast that was affected by cancer. If the sentinel lymph nodes contain cancer, your surgeon may want to remove more nodes.

## This is what the lymph nodes look like and what the different levels are called:



### Lymph Node Removal: What to Expect

To remove lymph nodes, you will get medicine that makes you sleep during the surgery. It may be done along with breast surgery. Sometimes it means one or a few nights in the hospital.

Some of the side effects may include:

- loss of feeling in the area of the surgery,
- discomfort in the back of the arm or armpit that can move down the arm,
- swelling of the arm that can start days, months, or years after surgery, and
- swelling of the armpit area that starts right after surgery.

The swelling in the arm and armpit can last a few weeks, or it may be an ongoing problem.

**My doctor recommends:** *(circle one)*

Standard lymph node removal

Sentinel lymph node removal

# Section A:

## Local Treatment

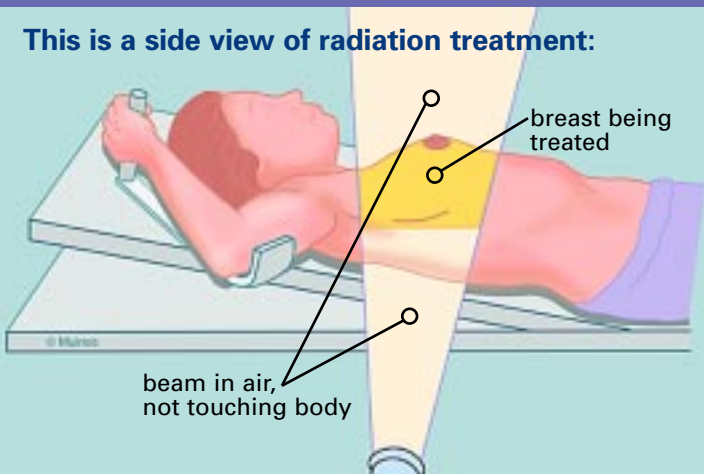
### RADIATION

There are different kinds of radiation. The most common type sends a high-energy beam of radiation to your breast area and sometimes to nearby lymph nodes. This is done in case some cancer cells are still there after surgery. The treatment is most often given five days a week for about six weeks.

#### You may need radiation for one of three reasons:

1. If you had a lump removed.  
Radiation is used to treat the rest of the breast.  
  
In some women with small cancers, radiation directed only to the cancer location may be given. This usually involves placing radiation into the space where the cancer used to be.
2. If you had a breast removed.  
Radiation may be recommended to the area where the breast used to be, if there is a significant chance that the cancer could come back.
3. If your doctor thinks your lymph nodes may have cancer cells in them.

## This is a side view of radiation treatment:



### Radiation to the breast or lymph node areas does NOT make you:

- vomit or feel nauseated,
- lose your hair (or limit your hair growing back after chemotherapy),
- radioactive, or
- at more risk for breast cancer in the other breast.

### But radiation does have other side effects. Some of these are:

- feeling tired,
- skin irritation, and
- soreness and swelling in the breast and chest area.

Most of these side effects go away weeks to months after treatment is over.

### My doctor recommends radiation to:

*(circle one or more)*

My breast

The area where my breast was

My lymph nodes

# Section B:

## Systemic Treatment

**There are three main kinds of treatments used for the whole body:**

1. chemotherapy
2. hormone therapy
3. immune therapy

### CHEMOTHERAPY

Chemotherapy drugs kill cancer cells. They stop them from growing and making new cells. Often two or more drugs are used at the same time, or one after the other. This will improve the chance of killing the different kinds of cells that can come from the same cancer.

Women with advanced disease usually get one type of chemotherapy at a time.

#### Expert Quote:

Treating breast cancer is not only about treating the breast. In terms of well-being, what happens to the rest of your body is also very important. The decisions involving systemic treatment are most critical. This is because it treats the rest of the body to get rid of the microscopic cancer cells that may be there.

– *Francene M. Fleegler,*  
*breast cancer doctor*



These drug combinations are known by the first letters in the drugs' names.

Here are a few of the main ones:

### **AC ± T**

Adriamycin (chemical name: doxorubicin) with Cytoxan (chemical name: cyclophosphamide), with or without Taxol (chemical name: paclitaxel) or Taxotere (chemical name: docetaxel)

### **AT**

Adriamycin with Taxol or Taxotere

### **CMF**

Cytoxan, methotrexate, and fluorouracil (also called “5-FU” or 5-fluorouracil)

### **CAF**

Cytoxan, Adriamycin, and fluorouracil

### **CEF**

Cytoxan, epirubicin (brand name: Ellence), and fluorouracil

### **FAC or CAF**

fluorouracil, Adriamycin, and Cytoxan; these drugs are given in different orders

Your doctor can tell you which drug “recipe” is likely to work best for you.

**My doctor recommends this chemotherapy combination:**

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**For more information go to:**

[www.breastcancer.org](http://www.breastcancer.org)

# Section B:

## Systemic Treatment

### You will probably need chemotherapy if:

- your lymph nodes had cancer,
- the cancer is more than a centimeter (half an inch), or
- the cancer, even if it is small, is the kind that might grow quickly or spread. This kind of cancer may be described by words like:
  - “high grade”
  - “lymphatic invasion”
  - “vascular invasion”
  - “hormone-receptor-negative”
  - “high growth rate”
  - “HER2-positive”

You might see these words in your pathology report.

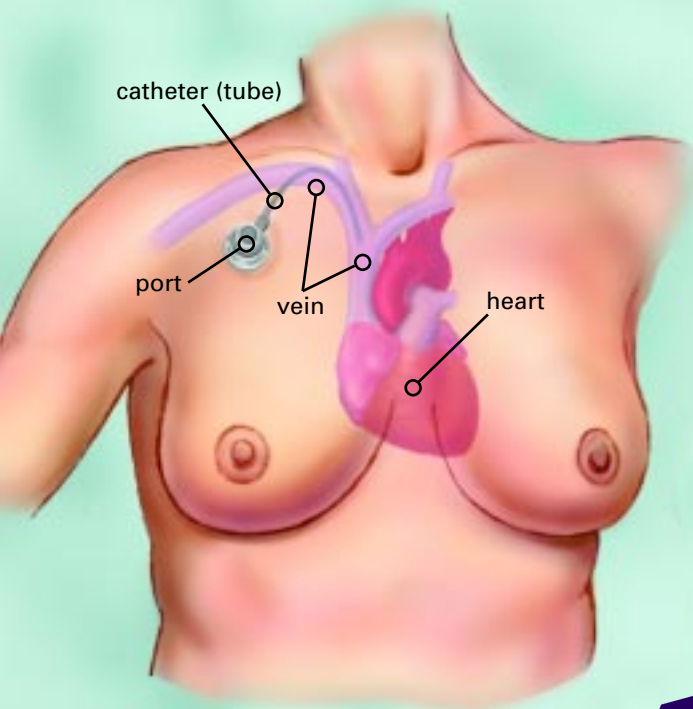
Chemotherapy is not used for cancers with a low risk of spreading to other parts of the body.

## Chemotherapy: What to Expect

You get chemotherapy as pills or through a needle placed in your vein.

To make it easier for you to get the treatments as well as blood tests, your doctor may want you to have a “port.” This is a plastic device that sits just under the skin of the upper chest or upper arm and empties into a blood vessel. A special needle fits into the port to give chemotherapy or to take blood for tests.

**This is what a port looks like under the skin:**



# Section B: Systemic Treatment

## Where You Get Chemotherapy

You may get your treatments at your doctor's office, clinic, or hospital. Some can be taken at home. It depends on what drugs your doctor prescribes for you.

## When You Get Chemotherapy

Treatments may be given for a few days with a few weeks off before the next dose. They also may be given once a week. This cycle of treat-then-rest is repeated until the treatment course is finished. Depending on what drugs you take, the chemotherapy will be over in about three to six months.



## Side Effects of Chemotherapy

Chemotherapy attacks all the cells in your body that are fast-growing. Cancer cells tend to grow fast. But so do cells in your mouth, nose, and blood. The cells on your head that make hair are also fast-growing, and so are cells in your immune system and digestive system. When chemotherapy affects cells that are not cancer, it can cause side effects.

### Some of the main ones are:

- nausea • vomiting • diarrhea
- mouth sores • tiredness
- higher risk of infection • hair loss
- aches and discomforts
- taste and smell changes

There are medicines that can take away or reduce most of the side effects. You will be able to take some of these before and after each treatment. Most side effects go away within weeks or months after the end of treatment.

**For more information go to:**

[www.breastcancer.org](http://www.breastcancer.org)

# Section B: Systemic Treatment

## HORMONE THERAPY

The hormone estrogen can make some breast cancer cells grow. Hormone therapy is drugs or surgery that keep estrogen away from breast cancer cells.

But they only work on breast cancer that reacts to estrogen. The breast tumor has to be:

- ER-positive (also called estrogen-receptor-positive),
- PR-positive (also called progesterone-receptor-positive), or
- both ER-positive and PR-positive.

You can read more about these terms in the Word List on page 34.

Hormone therapy works for women of all ages. It is NOT the same as hormone replacement therapy (HRT). (Some women take HRT after menopause.)

### There are four kinds of hormone therapy:

1. SERMs (tamoxifen and others)
2. Aromatase inhibitors (or AIs)
3. ERDs (Faslodex)
4. Ovary removal or “shutdown”

## SERMs (selective estrogen receptor modulators)

SERM drugs block estrogen by filling up all its parking places (or receptors) on breast cancer cells. This stops estrogen from hooking up to the breast cancer cells and telling them to grow. You take SERMs as a pill once a day.

### Tamoxifen

The most commonly used SERM is tamoxifen. It has the longest track record for the best results.

Tamoxifen can reduce the chances of breast cancer coming back, spreading, or starting in the first place. It is used in women who are before or after menopause, who have breast cancer with hormone receptors.

**My doctor recommends tamoxifen:**  
*(circle one)*

Yes

No

# Section B: Systemic Treatment

## Tamoxifen: What to Expect

You take tamoxifen for five years, but its benefits can last up to ten years. Some of the side effects can be:

- hot flashes • vaginal dryness or discharge
- irregular periods • nausea • cataracts

More serious, but rare, side effects are:

- a higher risk of cancer in the lining of the uterus
- cancer in the wall of the uterus (more rare), and
- blood clots that can break off and travel to the lung or brain.

## Other SERMs

- Another SERM is toremifene (brand name: Fareston).
- Raloxifene (brand name: Evista) is a SERM that hasn't been tested in women with breast cancer. But it can reduce the risk of breast cancer in postmenopausal women taking it to keep their bones strong.



## Aromatase Inhibitors or AIs

These drugs reduce the estrogen that is made in the body after menopause.

There are three AI drugs:

- Arimidex (chemical name: anastrozole),
- Femara (chemical name: letrozole), and
- Aromasin (chemical name: exemestane).

You take an AI as a pill once a day.

They are used only for women who have gone through menopause and who have breast cancer with hormone receptors.

All of the AI drugs are effective in women with advanced or metastatic cancer.

Arimidex is also useful for early stages of cancer.

Some side effects can be:

- nausea • vomiting • constipation
- diarrhea • stomach pain • headaches
- back pain • hot flashes
- muscle and joint aches • throat pain

Compared to tamoxifen, AIs cause fewer hot flashes and do not increase the risk for cancer of the uterus. The risk for blood clots is also lower with AIs, but the risk of osteoporosis is higher.

**My doctor recommends:** *(circle one)*

Arimidex   Femara   Aromasin   No AIs

# Section B:

## Systemic Treatment

### ERDs (estrogen receptor down regulators)

These drugs block and destroy the estrogen receptors on breast cancer cells. The receptors are like parking places for estrogen. Without these parking places, estrogen can't hook up to the cells and tell them to grow.

Right now there is only one ERD, named Faslodex. (The chemical name of Faslodex is fulvestrant.)

Faslodex is used for women who:

- have cancer that has spread beyond the breast area,
- have cancer with hormone receptors,
- have gone through menopause, and
- have had other hormone therapy that stopped working.

Faslodex is given as a shot once a month. Side effects are like those of aromatase inhibitors.

**My doctor recommends Faslodex:**

*(circle one)*

Yes

No

## Ovary shutdown or removal

Removing or shutting down the ovaries is a very effective way to lower estrogen levels in women before menopause. This may be done to treat women with hormone-receptor-positive breast cancer.

### There are three main ways to do this:

1. **Remove ovaries.** This is done through small cuts in the lower belly.
2. **Radiate ovaries.** This stops their ability to make estrogen.
3. **Take medication.** Zoladex is a drug that tells the brain to stop telling the ovaries to make estrogen. (The chemical name for Zoladex is goserelin acetate.)

Stopping the ovaries from making estrogen can work as well as tamoxifen. For some, Zoladex plus tamoxifen can work just as well as chemotherapy.

Shutting down the ovaries can cause the same side effects as menopause. Some of these are hot flashes, vaginal dryness, and weaker bones.

#### **My doctor recommends:**

*(circle one or more)*

**Radiation to the ovaries**

**Zoladex**

**Removing the ovaries**

**No ovary shutdown or removal**

# Section B:

## Systemic Treatment

### IMMUNE THERAPY

#### Herceptin

The immune system is your body's way of fighting disease. Immune treatments help this system control or kill cancer cells.

Herceptin is the most commonly used immune treatment for advanced breast cancer at this time. (The chemical name for Herceptin is trastuzumab.)

#### How Herceptin Works

Herceptin only works against breast cancers that have extra HER2 genes. When there are extra HER2 genes, the cells make too many HER2 receptors. These work like parking spots on breast cancer cells. They receive signals telling the cells to grow and spread.

Herceptin targets and blocks the parking places so the signals to grow and spread can't be delivered. Herceptin also hooks on to the cancer cells and "marks" them. The immune system notices these marked cells and destroys them.

**My doctor recommends Herceptin:**

*(circle one)*

Yes

No

## Herceptin: What to Expect

Herceptin is given through a needle in the vein. It is usually given once a week, but can also be given every three weeks. It works alone or together with chemotherapy.

It won't make you lose your hair. But it can cause flu-like symptoms. These symptoms usually get better after the first few treatments. They may include:

- chills • fever • nausea
- vomiting • headache • pain.

Herceptin can also, in rare cases, cause heart damage. To minimize this risk, Herceptin is not given with other drugs that can also damage the heart. There is little risk to the heart when you get Herceptin alone. Other serious but rare side effects include severe allergic reactions and lung problems.



**For more information go to:**

[www.breastcancer.org](http://www.breastcancer.org)

# Conclusion

## Experimental Treatments

Researchers are working hard to find new treatments for breast cancer. Some of these may work better than the current standard treatment.

The only way to tell for sure if these new treatments will be useful is to test them in women with breast cancer. But they can only be tested in women who choose to be in such a test — called a clinical trial.

Clinical trials are tests of new drugs or a new way of giving an old drug. People who agree to be in clinical trials get the best medical care there is. In a clinical trial, you might get a new treatment. Or you might get the best-known treatment. The new treatment has already been tested to make sure it's safe.

You can only get these new treatments if you join a clinical trial. To find out about these trials, talk to your doctor. Or you can contact the National Cancer Institute at [www.nci.nih.gov](http://www.nci.nih.gov) or at 1-800-4-CANCER (1-800-422-6237).

## The Order of Treatment

Your team of doctors will most likely suggest that you do your cancer treatments in a certain order.

Here is the most common order:

**Surgery.** This is most often first.

**Chemotherapy.** If it is going to be part of your care, it often goes second. Sometimes you get chemotherapy before surgery to try to make the cancer smaller.

**Radiation.** This usually follows surgery and any chemotherapy that you may get.

**Hormone therapy.** This often starts at the end of the other treatments.

**Herceptin.** This can be given after surgery, with or after chemotherapy, for women with advanced disease.

There are also many other ways to set up your treatments. Talk with your doctor to find the best treatment plan for you.

**This is the order of treatment my doctor and I have decided on:**

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**For more information go to:**

[www.breastcancer.org](http://www.breastcancer.org)

# Conclusion

## Take Your Time

Luckily, there are many treatments that work well against breast cancer. But trying to choose the best ones can be very hard and confusing. It takes a lot of time and careful thought to sort through all this complicated information.

Don't feel pressured to decide right away — most people can't make fast decisions about such an important subject. You can usually take a few weeks to get the information you need to make the best decisions for you. Getting another doctor's opinion can also be very helpful.

### Expert Quote:

Lots of women are afraid they will “make the wrong choice” (for example: lumpectomy and radiation versus mastectomy; one chemotherapy regimen versus another). I tell them, “There are no wrong choices, only choices that are right for you.” Each person is different, and you will make choices in your treatment that are NOT different in outcome, but make a huge difference for how you feel about yourself and the process.

– *Lisa Weissmann, breast cancer doctor*



## More Than One Right Way

You may find that your doctors don't agree on the same treatment. This doesn't mean one is right and the other wrong. It could just mean that they have different treatment styles. There often is more than one right way to treat a cancer.

Talk to your doctor and loved ones about your treatment choices.

If you make your health your highest priority and you focus on that, it becomes much easier to go through with your treatment, no matter how hard it is or how long it takes.

Remember that this is the next step on a very important road: the road to a better, healthier place. We hope the information in this booklet helps you get there.

**For more information go to:**

[www.breastcancer.org](http://www.breastcancer.org)

# Word List

**5-FU:** a chemotherapy drug; also called fluorouracil.

**Adriamycin:** a chemotherapy drug (chemical name: doxorubicin).

**Areola:** the dark area around the nipple.

**Arimidex:** an aromatase inhibitor (chemical name: anastrozole).

**Aromasin:** an aromatase inhibitor (chemical name: exemestane).

**Aromatase inhibitor:** a drug that reduces the amount of estrogen made in the body after menopause. This can help slow down or stop the growth of hormone-receptor-positive breast cancer.

**Breast implant:** a “pillow” of salt water or silicone gel that is placed in the breast area or where the breast used to be. This is done with surgery.

**Cataract:** when the lens of the eye gets cloudy, making it hard to see.

**Chemotherapy:** drugs that kill cancer cells by stopping their ability to grow, repair damage, and produce new cells.

**Clear margins:** means that the normal tissue around the tumor (that was removed) is free of cancer cells.

**Clinical trial:** a test of a new treatment compared to the best-known treatment.

**Cytosan:** a chemotherapy drug (chemical name: cyclophosphamide).

**ERDs** (estrogen receptor down regulators): drugs that slow down or stop the growth of breast cancer by destroying estrogen receptors on breast cancer cells.

**ER-positive:** a cancer that has estrogen receptors (parking places for estrogen).

**Estrogen:** a hormone that signals some breast cancer cells to grow.

**Evista:** a SERM (chemical name: raloxifene). This drug helps build bone strength in postmenopausal women. It is being tested for reducing breast cancer risk.

**Excisional biopsy:** surgery that takes out the breast abnormality and a rim of normal tissue around it.

**Fareston:** a SERM (chemical name: toremifene).

**Faslodex:** an ERD (chemical name: fulvestrant).

**Femara:** an aromatase inhibitor (chemical name: letrozole).

**Fluorouracil:** a chemotherapy drug; also called 5-FU.

**HER2:** a gene that helps control the growth and repair of cells.

**HER2-positive:** breast cancers that have too many HER2 genes or too much HER2 protein.

**Herceptin:** an immune treatment for advanced breast cancer (chemical name: trastuzumab). It only works for cancers that are HER2-positive.

**Hormone therapy:** breast cancer treatment that blocks or lowers the amount of estrogen. This can help slow down or stop the growth of hormone-receptor-positive breast cancer.

**Hormone receptors:** places on breast cancer cells that receive signals from estrogen or progesterone.

**Hormone replacement therapy (HRT):** hormone treatment to ease symptoms of menopause, like hot flashes.

**Immune system:** the body's own system for fighting disease.

**Immune therapy:** treatment that helps the immune system fight disease.

**Lumpectomy:** surgery that takes out the breast lump or cancer and a rim of normal tissue around it.

**Lymph nodes:** tiny organs found throughout the body that filter lymph fluid and trap bacteria, viruses, and cancer cells.

**Mastectomy:** surgery that removes the whole breast, including the nipple.

**Menopause:** a time in a woman's life when her menstrual periods stop for at least a year.

**Methotrexate:** a chemotherapy drug.

**Modified radical mastectomy:** surgery that removes the breast and lymph nodes under the arm.

**Ovary:** the female organ that produces eggs and hormones, including estrogen and progesterone.

**Port:** a small device placed under the skin that empties into a blood vessel. A port makes it easier to give chemotherapy and take blood for tests.

**Progesterone:** a female hormone.

**PR-positive:** a cancer that has receptors for progesterone.

**PR-negative:** a cancer that does not have receptors for progesterone.

**Radiation therapy:** a high-energy beam that helps kill cancer cells. It is carefully designed to target the area at risk for cancer recurrence and avoid normal tissue.

**Radical mastectomy:** surgery that takes out the breast, chest muscles under the breast, and lymph nodes under the arm.

**Reconstructive surgery:** surgery that rebuilds the breast after it's been removed.

**Re-excision surgery:** surgery that takes out more tissue from the place where the cancer was removed. This is done to get clear margins and reduce the chance of cancer cells being left behind.

**Sentinel node removal:** surgery that takes out just one or a few key lymph nodes to see if cancer has spread outside the breast.

**SERMs** (selective estrogen receptor modulators): drugs that blocks estrogen by filling up its receptors on breast cancer cells. This can help stop or slow down the growth of hormone-receptor-positive breast cancer.

**Tamoxifen:** a SERM; look on this list for "SERMs".

**Taxol:** a chemotherapy drug (chemical name: paclitaxel).

**Taxotere:** a chemotherapy drug (chemical name: docetaxel).

**Zoladex:** a drug that stops the ovaries from making estrogen. This can help stop or slow down the growth of hormone-receptor-positive breast cancer in women before menopause (chemical name: goserelin acetate).

# Key Questions

Here are important questions to be sure you understand, with your doctor's help:

1. What kind of surgery would be best for me?
2. What kind of lymph node removal would be best for me?
3. Will I need radiation? To what area of the body and for how long?
4. What type or combination of chemotherapy would be best for me?
5. How will I get the chemotherapy and how often?
6. Is hormone therapy right for me? If so, what kind and for how long?
7. Is immune therapy right for me? If so, what kind and for how long?
8. Is there any other type of treatment I should consider?
9. What can I do to reduce the side effects before, during, and after my treatments?
10. How will I know if the treatment is working for me?

[breastcancer.org](http://breastcancer.org)

“To help women and their loved ones make sense of the complex medical and personal information about breast cancer, so they can make the best decisions for their lives.”

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