

# Treatment for triple-negative breast cancer: a focus on “systemic” therapy

An Educational Resource for Patients With Triple-Negative Disease

Treatment for most breast cancers, including the triple-negative kind, usually includes:

- **Surgery** to remove the tumor and any affected lymph nodes
- **Radiation** to the area around the tumor to kill any remaining cancer cells
- **Systemic therapy** (such as chemotherapy) with drugs to kill cancer cells that may have escaped the area of the tumor and moved to other parts of the body via the blood stream or lymph system

Surgery and radiation are “local” therapies that focus on the breasts and lymph nodes in the armpits. Systemic therapy is moved throughout the body by your blood. Systemic therapy given before surgery is called neoadjuvant therapy. If given after surgery, it is called adjuvant therapy.

It is important to know that many women receive a combination of these different kinds of treatment so that doctors can remove as much of the cancer as possible. For example, women who undergo surgery to remove a tumor will very often also receive systemic therapy even if it looks like the surgery removed the entire tumor.



The treatments you receive will depend on many things, and not all women will receive all three types of treatment. Your oncologist will talk to you about which treatments are best for your specific situation.

Here, we will focus on some common areas of confusion about systemic treatment.

## Chemotherapy vs. targeted therapy

Basically, there are two groups of systemic therapy:

- **Chemotherapy** involves combinations of drugs

that attack cells that are in the process of dividing. All human tissues, including tumors, grow by cell division. Tumors tend to grow faster than normal tissue, which means that, at any given time, they contain a larger percentage of cells that are in the process of dividing and, therefore, that can be damaged by chemotherapy.

- **Targeted therapy** is directed at specific “receptors” (think of receptors as tiny loading-docks for chemical signals that encourage cell growth) inside or on the surface of breast cancer cells. In breast cancer therapy, the receptors of greatest interest are the “estrogen receptor” (ER), “progesterone receptor” (PR), and “human epidermal growth factor receptor 2” (Her2). Patients with ER-positive and PR-positive tumors can be treated with **tamoxifen, aromatase inhibitors, and other agents** because they block these receptors. Patients with Her2-positive tumors can be treated with **trastuzumab**.



## How is the treatment of triple-negative breast cancer different?

Breast cancer is called “triple-negative” if its cells test negative for the three receptors mentioned above. In other words, if the tumor cells are ER-negative, PR-negative, and Her2-negative, the cancer is classified as triple-negative.

The treatment of triple-negative breast cancer is different from other types of breast cancer because only certain types of drugs are effective on it. A woman with an ER-positive, PR-positive, or Her2-positive tumor may receive chemotherapy and a targeted therapy described above. A woman with triple-negative breast cancer will receive chemotherapy, but no targeted therapy.

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## Reading the alphabet soup of combination chemotherapy

Chemotherapy rarely involves just one drug. In most cases, two to four drugs are combined in a single “cocktail.” The combination of medications is known by letters that stand for the drugs it contains. The table below lists some of the chemotherapy drugs most often used to treat a first occurrence of triple-negative breast cancer and their common abbreviations. (This list is not all inclusive.)

Generic Name	Brand Name*	Abbreviation
Cyclophosphamide	Cytoxan®	<b>C</b>
Docetaxel	Taxotere®	<b>T (or D)</b>
Doxorubicin	Adriamycin®	<b>A</b>
Epirubicin	Ellence®	<b>E</b>
Fluorouracil (5FU)	Adrucil®	<b>F</b>
Methotrexate	none	<b>M</b>
Paclitaxel	Taxol®	<b>T</b>

\*The same drug or a slightly different version of the drug may be sold under another brand name. All the drugs listed here, except docetaxel (TAXOTERE), are available as unbranded generics.

## New approaches to systemic therapy

Researchers continue looking for new drugs to treat triple-negative breast cancer, including drugs that target receptors that have not been tried yet. Examples of these types of drugs include **PARP inhibitors**, which prevent cancer cells damaged by chemotherapy from repairing themselves, **angiogenesis inhibitors**, which “starve” cancer cells by preventing new blood vessels from growing in tumors, and others.

If trials are available in your area, your oncologist might talk to you about participating in one.



## DO YOU HAVE QUESTIONS RELATED TO OTHER COMMON ASPECTS OF TRIPLE-NEGATIVE BREAST CANCER?

Additional **free** patient education fact sheets are available on the following topics:

- Chemotherapy side effects
- Myths/misconceptions about triple-negative disease
- Wig selection and care
- Diet and exercise during chemotherapy

Ask your doctor about these additional resources today!

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