

## Tamoxifen and breast cancer

The drug tamoxifen (brand name Nolvadex) is a hormone therapy. It can be used by pre- and postmenopausal women to treat both early and advanced breast cancer. It is used by some women who have breast cancer to reduce the chance of getting breast cancer in the opposite breast. It can also be a preventive therapy for women who are at high risk for breast cancer.

### How does it work?

Some types of breast cancer need estrogen to grow. They have receptors or sites to which estrogen attaches, promoting cancer growth. These are known as estrogen receptor-positive cancers. Tamoxifen blocks the estrogen from binding to these receptors, preventing the breast cancer from growing.

### What are the benefits?

For women with estrogen receptor-positive breast cancer, taking tamoxifen for five years greatly reduces the risk of recurrence of breast cancer and the risk of dying from breast cancer. Tamoxifen can reduce the chance of getting breast cancer by nearly 50 percent in women who are at higher risk. Tamoxifen may also decrease the risk of osteoporosis (bone loss).

### How is it given?

Tamoxifen is given in pill form. Women who take tamoxifen to reduce risk or treat breast cancer that has not spread to other parts of the body usually take it for five years. To get the full benefit, it should be taken every day as prescribed. Be sure to report any side effects to your doctor. Do not stop taking tamoxifen without first talking to your doctor. Women who have metastatic breast cancer (when the cancer has spread to other organs) generally take it as long as it keeps the cancer from spreading.

## The side effects

Most side effects from tamoxifen can be managed. Common side effects include hot flashes, vaginal dryness or vaginal discharge. These are similar to symptoms commonly experienced during menopause. A few women may experience mild nausea, weight gain, decreased libido, fatigue or depression.

One rare, but potentially serious side effect, is an increased risk of a blood clot in the lungs (pulmonary embolism) or in the major veins of the legs (deep vein thrombosis). Because about one percent of women taking tamoxifen may develop endometrial (uterine) cancer, routine pelvic exams are recommended. Eye problems such as blurred vision and cataracts have also been reported, so yearly eye exams are encouraged. Let your doctor know if you are having any of these problems while taking tamoxifen.

Certain types of anti-depressants can interfere with the way tamoxifen works in the body. Be sure to talk to your doctor if you take anti-depressants and tamoxifen.



## The cost

A generic form of tamoxifen is available at a cost of about \$100 per month. If your insurance will not cover your prescription, you can purchase it through the American Association of Retired People (AARP) at a discounted rate even if you are not a member of AARP or are younger than 50 years old. Call 1-800-456-2277 for more details. If you qualify as a senior citizen, your local pharmacy may give discounts on prescription drugs.

The Patient Advocate Foundation provides direct co-payment assistance for pharmaceutical products to insured Americans who qualify. For more information, call 1-866-512-3861 or visit [www.copays.org](http://www.copays.org).

Another program, Partnership for Prescription Assistance, offers a single point of access to public and private patient assistance programs. Call 1-888-4PPA-NOW (1-888-477-2669) or visit [www.pparx.com](http://www.pparx.com).

## Ask your doctor

### For women at higher risk

- What is my risk of getting breast cancer? Am I at higher risk?
- Should I take tamoxifen to reduce my risk of getting breast cancer?

### For women with breast cancer

- Was my tumor estrogen or progesterone receptor-positive?

### For both women at higher risk and women with breast cancer

- Do you think tamoxifen is right for me?
- How much will tamoxifen lower my risk of recurrence?
- How long should I take tamoxifen?
- What are the possible side effects?
- What can I do to relieve or manage the side effects?

- How will I be followed for the more serious side effects such as endometrial cancer or blood clots?
- How high are the risks based on my age?
- How much does tamoxifen cost?
- Will my insurance cover it?
- Are there any programs that will help pay for tamoxifen?

## Preventing breast cancer?

The Food and Drug Administration (FDA) has approved tamoxifen to be used to reduce the risk of breast cancer in women at higher risk. The FDA's approval is based on results from the Breast Cancer Prevention Trial (BCPT). The BCPT examined the effect of tamoxifen on reducing the risk of breast cancer and found a significant reduction in breast cancer cases among women who are at higher risk.

Women at higher risk of getting breast cancer should consider taking tamoxifen. In some cases, the risk of side effects can outweigh the benefits for a woman at higher risk. Talk with your doctor and make an informed decision based on your age, risk factors and your present health. For more information about BCPT, call the Cancer Information Service at 1-800-4-CANCER.

## What can be used instead of tamoxifen?

Recent studies have looked at a different hormone therapy to treat breast cancer — aromatase inhibitors. These drugs may be used for postmenopausal women with estrogen or progesterone receptor-positive breast cancer. They may be used instead of, or after tamoxifen. Another choice for reducing the risk of breast cancer may be raloxifene. The benefits and side effects from these other drugs differ from tamoxifen. Talk with your doctor to see what may be right for you.

### Related fact sheets in this series:

- Aromatase Inhibitors
- Hormone Therapy
- How Hormones Affect Breast Cancer
- Making Treatment Decisions