

Hormones and breast cancer

Estrogen and progesterone are female hormones. Some breast cancer cells need estrogen and/or progesterone to grow. When these hormones attach to special proteins called hormone receptors, the cancer cells with these receptors grow.

Hormone receptor-positive tumors have a lot of cells with hormone receptors. You may also hear them called estrogen receptor-positive and/or progesterone receptor-positive tumors.

Hormone receptor-negative tumors have few or no cells with hormone receptors. You may also hear them called estrogen receptor-negative and/or progesterone receptor-negative tumors.

All breast cancers are checked for hormone receptors.

Most breast cancers are hormone receptor-positive. They can be treated with [hormone therapies](#).

Hormone therapy for breast cancer

The hormone therapies [tamoxifen](#), [aromatase inhibitors \(AIs\)](#) and [ovarian suppression](#) are used to treat breast cancer. AIs include anastrozole (Arimidex), letrozole (Femara) and exemestane (Aromasin).

Hormone therapies act as “anti-hormone” or “anti-estrogen” therapies.

- Some hormone therapies, such as tamoxifen, attach to the hormone receptor in the cancer cell and block estrogen from attaching to the receptor.
- Others, such as AIs and ovarian suppression, lower the level of estrogen in the body so the cancer cells can't get the estrogen they need to grow.

Hormone therapy lowers the risk of:

- Breast cancer recurrence (return of cancer).
- Breast cancer in the other breast.
- Death from breast cancer.



Tamoxifen and aromatase inhibitors (AIs)

Tamoxifen and AIs are pills. You take one pill every day for 5 to 10 years.

- Premenopausal (before menopause) women may take tamoxifen, with or without ovarian suppression (see next page), or they may take an AI along with ovarian suppression.
- Postmenopausal (after menopause) women may take an AI, or they may begin hormone therapy with tamoxifen and after a few years, switch to an AI for a combined total of 5 to 10 years.
- Men with breast cancer can take tamoxifen.

To get the most benefit from tamoxifen or an AI, take it for the full length of time it's prescribed. People who complete the full course of treatment have higher rates of survival than those who don't. The benefit of these drugs continues after the drugs are stopped.

This fact sheet is intended to be a brief overview. For more information, visit [komen.org](https://www.komen.org) or call the Komen Patient Care Center's Breast Care Helpline at 1-877 GO KOMEN (1-877-465-6636) Monday through Thursday, 9 a.m. to 7 p.m. ET and Friday, 9 a.m. to 6 p.m. ET or email at helpline@komen.org. Se habla español.

HORMONE THERAPY

for Breast Cancer

Questions to ask your doctor

- If I need hormone therapy, what kind do you recommend for me and why?
- When will it be started? How long will I be on it?
- What are the possible side effects of the different hormone therapies? How long will they last? Which ones should I report to you?
- Are there clinical trials I can join?

The [Questions to Ask Your Doctor - Hormone Therapy and Side Effects](#) resource has more questions and a place to write notes when talking with your doctor.

Resources

Susan G. Komen®
1-877 GO KOMEN
(1-877-465-6636)
komen.org

Related online resources:

- [Breast Cancer Prognosis](#)
- [How Hormones Affect Breast Cancer Risk](#)
- [Treatment Overview for Breast Cancer](#)
- [Clinical Trials](#)
- [Questions to Ask Doctor - Hormone Therapy and Side Effects](#)

Ovarian suppression

Ovarian suppression uses drugs or surgery to stop the ovaries from making estrogen. This stops menstrual periods and lowers hormone levels in the body (similar to a natural menopause). The result is the tumor can't get estrogen to grow. Ovarian suppression is always given in combination with tamoxifen or an AI. It's not used instead of these therapies.

Ovarian suppression is only used in premenopausal women.

In most cases, once drug therapy is stopped, the ovaries begin making estrogen again. If surgery is used to remove the ovaries, this ends your periods and leads to permanent menopause.

Side effects of hormone therapies

Menopausal symptoms like hot flashes are common with both tamoxifen and AIs. However, other [side effects](#) differ. The three AI drugs have similar side effects.

If ovarian suppression is combined with tamoxifen or an AI, there are more side effects than with the use of tamoxifen or an AI alone.

Talk with your doctor about side effects and other rare but serious health risks that may occur with these drugs.

	Tamoxifen	Aromatase Inhibitors
Common side effects	<ul style="list-style-type: none"> • Hot flashes and night sweats • Loss of sex drive • Vaginal discharge • Vaginal dryness or itching 	<ul style="list-style-type: none"> • Hot flashes and night sweats • Joint and muscle pain • Loss of bone mineral density (may lead to osteoporosis or bone fracture) • Loss of sex drive • Vaginal dryness or itching

Cost

Tamoxifen is a generic drug and all three AIs come in generic forms and cost less than the name brands.

Medicare and many insurance providers offer prescription drug plans. One may be included in your policy, or you may be able to buy an extra plan for prescriptions. You may also qualify for programs that help with drug costs.

If you need help paying for medications, call our Patient Care Center for information, we can be reached Monday through Thursday from 9 a.m. to 7 p.m. ET, and Friday from 9 a.m. to 6 p.m. ET.

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