

Hormonal Therapy: Managing Side Effects in Women



Hormones are chemicals the body naturally makes to control the growth and activity of normal cells. Hormones can also speed the growth of some types of cancer. For example, the hormones estrogen and progesterone can stimulate the growth of some breast tumors.

Hormonal therapy is used to prevent or block hormones from speeding up the growth of cancer cells. It's also called hormone therapy or endocrine therapy. Different forms of hormonal therapy are used to treat breast, prostate, and endometrial cancers.

Gender words are used here to talk about anatomy and health risk. Please use this information in a way that works best for you and your provider as you talk about your care.

In general, there are two approaches to hormonal therapy:

- **Surgery.** Surgery is done to remove an organ in the body that makes the hormones that stimulate cancer growth. For example, in men, the testes make testosterone. The testes can be removed with a surgical procedure. This can slow the growth of some prostate cancers.
- **Medicine.** Medicines are used to block the hormones that stimulate cancer growth. For example, the medicine tamoxifen helps prevent estrogen from stimulating breast cancer growth.

The female hormones estrogen and progesterone promote the growth of some breast tumors. Hormonal therapy may be given to block these hormones from stimulating tumor growth.

Many breast cancer cells have proteins on their surfaces that can bind to estrogen. These proteins are called estrogen receptors. Tumors may also have progesterone receptors that bind to progesterone. When estrogen or progesterone binds to its receptor on the cancer cell, it signals that cell to grow.

Not all breast cancers have estrogen or progesterone receptors. In general, hormonal therapy is more effective in treating breast tumors that have hormone receptors. It is not effective in treating tumors that don't have these receptors.

Hormonal therapy is used in women with advanced breast cancer that has spread (metastasized) to other parts of the body. It's also sometimes used in women who have been recently diagnosed with a large breast tumor to shrink the cancer before surgery (neoadjuvant therapy). It may also be used to prevent cancer from returning after surgery or radiation (adjuvant therapy). In some women who have a high risk of getting breast cancer, hormonal therapy is used to prevent cancer from developing.

Like other types of cancer treatment, hormonal therapy has side effects. Read on for a look at hormonal therapies and ways to prevent or reduce their side effects.

Types of hormonal therapies

Many hormonal therapies are available for breast cancer. Each type works a bit differently. But all have the same goal of starving the tumor of estrogen:

- **Selective estrogen receptor modulators (SERMs).** SERMs are antiestrogen medicines that bind to the estrogen receptor. This stops estrogen from binding to the receptor and stimulating cancer cell growth. SERMs include tamoxifen, toremifene, and raloxifene. They are taken as a pill.
- **Aromatase inhibitors.** These medicines are used in older women who have been through menopause. The ovaries of these women no longer make large amounts of estrogen. But male hormones (androgens) do circulate in the blood and can be changed into estrogen. An enzyme called aromatase carries out this change. Aromatase inhibitors prevent aromatase from changing androgens into estrogen. These medicines include anastrozole, letrozole, and exemestane. They are taken as a pill.
- **Selective estrogen receptor degraders (SERDs)** This is a newer class of hormonal therapy medicines. One of them is fulvestrant. It's given by a monthly shot (injection) into the muscle. Like SERMs, SERDs bind to the estrogen receptor. They block estrogen from binding to it. They also break down the estrogen receptor. This lowers the number of receptors in the cell (called downregulation).

- **Megestrol acetate.** This is a progesterone-like medicine. It may be used in women with advanced breast cancer who aren't helped by tamoxifen.
- **Ovarian ablation.** The ovaries are the main source of estrogen in women who haven't reached menopause. They may be removed by surgery (called oophorectomy). Or they may be made inactive by radiation therapy. Removing or inactivating the ovaries causes premature menopause. Symptoms include hot flashes and vaginal dryness. Loss of bone mass also occurs in menopause. When the ovaries are removed, a large amount of bone can be lost in a short time. This can lead to brittle bones (osteoporosis) if not treated.

Side effects of hormonal therapy and ways to manage them

The side effects of hormonal therapy tend to be less severe than those caused by chemotherapy (chemo). In fact, some women have few symptoms. Or they have side effects that get better with time. But when side effects do arise, it's important to report all symptoms to your healthcare provider. This includes even minor symptoms. Hormonal therapy is often taken for long periods of time. Symptoms can last throughout treatment if they aren't addressed. You should also always talk with your provider about any alternative remedies you might want to try. Some of these can interfere with treatment.

Below are some ways to cope with some of the side effects of hormonal therapy.

More common side effects

Hot flashes

A hot flash is also called a hot flush. It is a sudden rush of warmth to the face, neck, upper chest, and back, with or without sweating. This can last for a few seconds to an hour or more. This side effect is quite common with hormonal therapy. Some women have mild symptoms. Others have more severe effects. In many cases, hot flashes stop when hormonal treatment stops. Some women report that hot flashes last for years after treatment is done. Here are some treatment choices for managing hot flashes. Not all have been scientifically tested:

- Megestrol acetate is a form of progesterone called progestin. It seems to ease hot flash severity, but it has some side effects. These include breast soreness, irregular vaginal bleeding, mood changes, and bloating.
- Antidepressants, such as venlafaxine
- Gabapentin
- Oxybutinin
- Clonidine. This is normally used to lower high blood pressure. But it may be no better than a placebo. Side effects include dry mouth, dizziness, drowsiness, and sleep problems.
- Phytoestrogens. These are estrogens that come from plants. Soy products and some herbs contain phytoestrogens. Adding more phytoestrogens to the diet is often advised to ease the severity of hot flashes. But studies have shown conflicting results about how well they work.
- Relaxation training
- Dietary changes. Don't have caffeine, alcohol, or spicy foods.
- Clothing. Wear absorbent cotton clothing in layers that can be easily removed.
- Sprays or moist wipes can help lower skin temperature.
- Acupuncture

Vaginal dryness and other vaginal issues

Vaginal dryness and vaginal discharge can be bothersome. Vaginal moisturizers and lubricants can help with this symptom. Vaginal moisturizers can be used as needed to keep the vagina moist. Water-soluble lubricants or any vaginal moisturizers can be used before having sex.

Women may also have vaginal thinning. It may be difficult or painful to have sex. Lubricants can help with some of these problems, as well.

Vaginal infections may also occur more often. Over-the-counter antifungal creams can provide relief for yeast infections. But talk with your gynecologist for symptoms that don't go away.

Fatigue

A common problem in women with cancer is severe tiredness (fatigue) or a lack of energy. Many things can cause fatigue. These include anemia, depression, pain, poor nutrition, medicines, and not enough sleep. Some ways to prevent fatigue are:

- Go to bed at a regular time.
- Take short power naps during the day.
- Start an exercise routine, with your healthcare provider's supervision. For instance, walk 10 to 30 minutes a day.
- Eat healthy foods and drink fluids.

Anemia can also add to your fatigue. If this is the case, your provider may prescribe blood growth stimulators. Or you may have blood transfusions.

Nausea and vomiting

This side effect is less common with hormonal therapy than it is with chemo. Nausea often goes away on its own. Women can help manage symptoms by eating bland foods, such as crackers, toast, and cereal. Also drink lots of fluids: 6 to 8 glasses of liquids daily. This includes water, broth, and electrolyte solutions. Your healthcare provider may advise anti-nausea or anti-anxiety medicines that prevent or treat nausea or vomiting. If you get dehydrated, you may need IV (intravenous) fluids.

Diarrhea

Diarrhea is a less common side effect of hormone therapy. Dietary measures can help ease symptoms. This includes eating a bland diet and staying away from foods, such as dairy products and spicy foods. Medicines, such as loperamide and diphenoxylate, can be used to treat diarrhea.

Constipation

Constipation is a less common side effect of hormone therapy. You may be able to ease symptoms by:

- Exercising every day.
- Eating high-fiber foods. These include fruits, vegetables, and whole-grain breads and cereals.
- Drinking lots of liquids—6 to 8 glasses a day

If these things don't work, you may need a stool softener or laxative.

Weight gain

A daily exercise routine of 20 to 30 minutes per day and a weight management program can help. Talk with your healthcare provider before starting an exercise program. Try eating low-fat foods, such as fruits and vegetables.

Mood swings

Nervousness, depression, and anxiety are some of the symptoms that women may have. It's natural to have strong emotions when you are diagnosed with breast cancer. These may become stronger when a woman gets hormonal therapy. Relaxation, meditation, and yoga may help control mood swings. Exercise may help boost your mood and ease anxiety. Support groups and professional counselors may also help. Your healthcare provider may also prescribe an antidepressant.

Pain, including pain in joints, back, and bones

Over-the-counter pain medicine can help ease mild to moderate pain in many parts of the body, such as the joints or back. Pain felt at an injection site can be treated with warm or cold compresses. You can also use an anesthetic cream on your skin. Talk with your healthcare provider about pain medicines, even over-the-counter ones.

Cough

Hormonal therapies, such as the aromatase inhibitor anastrozole, can increase coughing. Try to drink at least 8 glasses of fluid a day to keep the lining of your breathing tube moist. Use a humidifier to increase the moisture in the air. Your healthcare provider may prescribe medicines to stop or control coughing.

Osteoporosis

Osteoporosis is a disorder in which bones become porous and break more easily. Women who have gone through menopause have a higher risk for bone loss. Some hormone therapies, such as tamoxifen, may lower bone loss in postmenopausal women. Other hormone therapies may not prevent or change a woman's risk of getting osteoporosis. For this reason, postmenopausal women with breast cancer should have a bone mineral analysis to find out if they need preventive therapy.

Women treated with hormonal therapy should have routine screenings (bone density scans) for osteoporosis. These suggestions are advised for people at risk:

- Take calcium and vitamin D supplements, as directed by your healthcare provider.
- Get regular physical activity. This includes weight-bearing exercises that put stress on bones, such as jogging, stair climbing, and dancing. It also includes resistance exercises, such as weightlifting. Talk with your healthcare provider about the right exercise program for you.
- Quit smoking. Ask your healthcare provider for resources to help you quit.
- Drink less alcohol, if needed.

Medicines that prevent bone loss include the bisphosphonates risedronate, zoledronic acid, alendronate, denosumab, and calcitonin. Talk with your healthcare provider about which medicines are best for you.

Rare but serious side effects

Endometrial cancer or uterine sarcoma

Most side effects of hormonal therapy are not life-threatening. But in very rare cases, tamoxifen can raise a woman's chances of getting endometrial cancer or uterine sarcoma. Women taking tamoxifen should report any abnormal vaginal discharge, vaginal bleeding, menstrual irregularities, or pain or pressure in the lower belly (abdomen) to their healthcare provider. Get an annual pelvic exam to look for signs of cancer.

Blood clots

Some hormonal therapies carry a slight risk of blood clots forming in the deep blood vessels of the legs and groin. Clots can break off and spread to the lungs. Blood clots stop the flow of blood and can cause serious

health problems. Signs of a blood clot in the lungs are sudden chest pain, shortness of breath, or coughing up blood. Symptoms of a blood clot in the legs include redness, pain, swelling, or soreness in the groin or legs. Let your healthcare provider know if you have a history of blood clots. Get medical care right away if you have any symptoms of a blood clot.

Effects on the eye

Tamoxifen can cause cataracts or changes to the cornea and retina in the eye. Report any vision changes—including an inability to tell the difference between colors—to your healthcare provider.

Stroke

Tamoxifen raises a woman's chance of having a stroke. Call 911 or get medical care right away for any symptoms of a stroke. Symptoms of stroke include:

- Weakness
- Sudden severe headache
- Slurred speech
- Trouble with seeing in one or both eyes
- Trouble walking or talking
- Numbness of the face, arm, or leg

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