



Tamoxifen and Raloxifene for Lowering Breast Cancer Risk

Tamoxifen and raloxifene have been shown to reduce the risk of breast cancer in women with a higher-than-average risk, but these drugs can have their own risks and side effects. Tamoxifen and raloxifene are the only drugs approved in the US to help lower the risk of breast cancer, although for some women, other drugs called [aromatase inhibitors](#) might be an option as well.

What kind of drugs are tamoxifen and raloxifene?

Both of these drugs are **selective estrogen receptor modulators (SERMs)**. This means that they act against (or block) estrogen (a female hormone) in some tissues of the body, but act like estrogen in others. Estrogen can fuel the growth of breast cancer cells. Both of these drugs block estrogen in breast cells, which is why they can be useful in lowering breast cancer risk.

These drugs are used more often for other reasons.

- Tamoxifen is used mainly to treat [hormone receptor-positive breast cancer](#) (breast cancer with cells that have estrogen and/or progesterone receptors on them).
- Raloxifene is used mostly to prevent and treat osteoporosis (very weak bones) in post-menopausal women.

When used to lower the risk of breast cancer, these drugs are typically taken for 5 years. Both drugs are pills taken once a day. Tamoxifen also comes in a liquid form.

Tamoxifen can be an option whether or not you have gone through menopause, but raloxifene is only approved for post-menopausal women.

To learn more about who should (and should not) consider taking one of these drugs, see [Deciding Whether to Use Medicine to Reduce Breast Cancer Risk](#).

How much do these drugs lower the risk of breast cancer?

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Although a medicine that cuts your risk by about 40% sounds like it must be a good thing, what it means for you depends on how high your risk is in the first place (your baseline risk).

For example, if you had a 5% risk of getting breast cancer in the next 5 years, you would be considered at increased risk. A 5% risk would mean that over the next 5 years, 5 of 100 women with your risk would be expected to get breast cancer. A 40% reduction in your risk would mean your risk goes down to 3%. This would be a 2% change overall.

Since the change in your overall risk depends on your baseline risk, you would benefit less if you had a lower baseline risk, and you would benefit more if your risk was higher. If you had a baseline risk of only 1.7% in the next 5 years (which is what many expert groups use as a cutoff point for being at 'increased risk'), a 40% change would mean that your risk would go down by less than 1% overall (to about 1%) in the next 5 years.

Your doctor can estimate your breast cancer risk based on factors like your age, medical history, and family history. This can help you see how much benefit you might get from taking one of these drugs.

Are there other benefits to taking these drugs?

Both tamoxifen and raloxifene can **help prevent osteoporosis**, a severe weakening of the bones that can increase the risk of bone fractures and is more common after menopause.

What are the main risks and side effects of taking these drugs?

Menopausal symptoms

The most common side effects of these drugs are symptoms of menopause. These include hot flashes and night sweats. Tamoxifen can also cause vaginal dryness and vaginal discharge. Pre-menopausal women taking tamoxifen can have menstrual changes. Menstrual periods can become irregular or even stop. Although periods often start again after the drug is stopped, they don't always, and some women go into menopause. This is more likely in women who were close to menopause when they started taking the drug.

Other, more serious side effects are rare. These include serious blood clots and cancer of the uterus.

Blood clots

Both tamoxifen and raloxifene increase your risk of developing blood clots in a vein in your leg (deep venous thrombosis) or in your lungs (pulmonary embolism). These clots can sometimes cause serious problems, and even death. In the major studies looking at these drugs for breast cancer prevention, the overall risk of these blood clots over 5 years of treatment was less than 1%. This risk could be higher if you had a serious blood clot in the past, so these drugs are generally not recommended to lower breast cancer risk for anyone with a history of blood clots.

Because these drugs increase your risk of developing serious blood clots, there is also concern that they might also increase your risk of heart attack or stroke, although this is not clear. You might want to discuss this with your doctor, especially if you have a history of a heart attack or stroke, or if you are at increased risk for them. (See [Deciding Whether to Use Medicines to Reduce Breast Cancer Risk](#).)

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Cancers of the uterus

This website uses cookies that help the website function and that help us understand how you interact with it. You can manage cookie settings using the [Manage Cookies](#) link. Because **tamoxifen** acts like estrogen in the uterus, it can increase your risk of cancers of the uterus, including [endometrial cancer](#) and [uterine sarcoma](#). It's also linked to a higher risk of endometrial pre-cancers. The increased risk seems to affect women over 50, but not younger women.

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The overall increase in the risk of uterine cancer with tamoxifen use is low (less than 1%), and it goes back to normal within a few years of stopping the drug.

If you have had a hysterectomy (surgery to remove the uterus), you are not at risk for endometrial cancer or uterine sarcoma and do not have to worry about these cancers.

If you are taking tamoxifen, tell your doctor if you have any abnormal vaginal bleeding or spotting, especially after menopause, as these are possible symptoms of uterine cancer.

Raloxifene does not act like estrogen in the uterus and is not linked to an increased risk of uterine cancer.

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