

Goserelin (Zoladex)

This booklet explains what goserelin is, when it may be prescribed, how it works and what side effects may occur. Goserelin is the generic (non-branded) name of the drug and how it's referred to in this booklet. Its current brand name is Zoladex.



This information is by Breast Cancer Care.

We are the only specialist UK-wide charity that supports people affected by breast cancer. We've been supporting them, their family and friends and campaigning on their behalf since 1973.

Today, we continue to offer reliable information and personal support, over the phone and online, from nurses and people who've been there. We also offer local support across the UK.

From the moment you notice something isn't right, through to treatment and beyond, we're here to help you feel more in control.

For breast cancer care, support and information, call us free on **0808 800 6000** or visit **breastcancercare.org.uk**



What is goserelin?

Goserelin is a type of hormone therapy used to treat breast cancer in pre-menopausal women (women who have not been through the menopause). It is given as an injection into the abdomen (belly).

It can also be used to try to preserve fertility during chemotherapy (see page 4).

Goserelin as a treatment for breast cancer

How does it work?

Some breast cancers are stimulated to grow by the hormone oestrogen. Before the menopause, oestrogen is mainly produced in the ovaries. Goserelin switches off this production by interfering with hormone signals from the brain that control how the ovaries work. This is known as ovarian suppression. You may also hear it called ovarian function suppression or ovarian ablation.

Within about three weeks of the first injection, your oestrogen will be lowered to a level similar to that of a post-menopausal woman (a woman who has been through the menopause) and your periods will normally stop. This effect is generally temporary and will only last for as long as you are having goserelin.

When you stop having the drug, your ovaries will usually start to produce oestrogen again. Most women will start their periods again within three months to a year after finishing treatment. However, if you are approaching the age of natural menopause when your treatment finishes, your ovaries may not start working again.

For more information about stopping the ovaries working see our **Ovarian suppression and breast cancer** booklet.

To find out which breast cancers are stimulated to grow by oestrogen, they are tested for oestrogen receptors using tissue from a biopsy or after surgery. If your breast cancer has receptors within the cell that bind to the hormone oestrogen, it is known as oestrogen receptor positive or ER+ breast cancer and goserelin may be suitable for you. If oestrogen receptors are not found it's known as oestrogen receptor negative or ER- breast cancer.

Tests may also be done for progesterone (another hormone) receptors. The benefits of hormone therapy are less clear for people whose breast cancer is only progesterone receptor positive (PR+ and ER-). Very few breast cancers fall into this category. However, if this is the case for you your specialist will discuss with you whether goserelin is appropriate.

When is goserelin prescribed?

Primary breast cancer

Goserelin is used to treat some women with primary breast cancer. This is breast cancer that has not spread beyond the breast or the lymph nodes (glands) under the arm (axilla).

It will only be given if you are pre-menopausal and your breast cancer is ER+ and/or PR+. If your cancer is oestrogen and progesterone receptor negative, then goserelin will not be of any benefit to you.

Goserelin It may be given on its own or with another hormone therapy such as tamoxifen or drugs known as aromatase inhibitors. See our website or individual booklets for more information on aromatase inhibitors and tamoxifen.

Secondary breast cancer

Goserelin may also be used to treat women with secondary breast cancer (when cancer cells from the breast have spread to other parts of the body such as the bones, lungs, liver or brain).

It will only be given if you are pre-menopausal and your breast cancer is ER+ and/or PR+. If your cancer is oestrogen and progesterone receptor negative, then goserelin will not be of any benefit to you.

Goserelin may be given on its own or, more commonly, with other types of hormone therapy such as tamoxifen and aromatase inhibitors. See our website or individual booklets for more information on aromatase inhibitors and tamoxifen.

Preserving fertility during chemotherapy

Chemotherapy can cause damage to the ovaries and affect a woman's ability to become pregnant. Some studies have shown that goserelin may protect the ovaries during chemotherapy as it temporarily 'shuts' them down (known as ovarian suppression). However, some experts believe that ovarian suppression may have an effect on the way

chemotherapy works and are therefore more cautious about using goserelin during chemotherapy to protect fertility. More research is needed to establish the role of goserelin during chemotherapy.

Goserelin cannot replace other fertility preservation methods like egg and embryo freezing and even if your periods do return after treatment, this doesn't necessarily mean you have preserved your fertility.

If you want to try to preserve fertility during chemotherapy discuss this with your specialist team before starting treatment.

Goserelin is not suitable during pregnancy or while breastfeeding.

How is goserelin given?

Goserelin comes as an implant (a very small pellet) in a pre-filled syringe. It's given as a subcutaneous (under the skin) injection into your abdomen (belly). Some people find the injection uncomfortable.

You can be prescribed a local anaesthetic cream to numb the skin before the injection to reduce any discomfort. However, after the cream has been applied you will need to wait for at least an hour before the area is numb, so it's important to ask about using this cream well in advance of your injection so it can be arranged in time.

For primary breast cancer, it's recommended that goserelin is given every 28 days (four weeks). The injection is called a 'depot injection', which means that the drug is steadily released into the bloodstream over the four weeks. It may be given less frequently for secondary breast cancer. Your specialist can talk to you about this in more detail.

You may be given your first injection as an outpatient at the hospital. After this your GP (local doctor), community nurse or practice nurse may give the injections at the GP surgery or at home if you can't get to the surgery. You may find it easier to make an appointment for your next dose after each injection so it's given at the right time.

How long will I be given goserelin for?

If you have primary breast cancer, goserelin is usually given for up to five years or sometimes for longer.

If you have secondary breast cancer, you will be given goserelin for as long as it keeps the cancer under control.

If you are taking goserelin to try to preserve fertility, a dose of goserelin is usually given before chemotherapy starts, then every four weeks during chemotherapy, and a last dose after the final chemotherapy treatment.

Do I need to use contraception while I'm taking goserelin?

It's important not to get pregnant while you're having goserelin because the drug could harm a developing baby. It is possible to become pregnant while having goserelin, even if your periods have stopped or become irregular.

Use a non-hormonal method of contraception to avoid getting pregnant, such as condoms, Femidoms or a diaphragm. It may also be possible to use a coil (IUD or intrauterine device). However, you would need to discuss this with your specialist as not all types are suitable for women with breast cancer.

What happens if I miss an injection?

If you miss an injection, try to have it as soon as possible.

What are the possible side effects of goserelin?

Everyone reacts differently to drugs and some people have more side effects than others. As goserelin can be given in addition to chemotherapy or other hormone therapies, it's sometimes difficult to know which side effects are being caused by which treatment.

You can talk to your specialist team about any side effects you're having and how best to manage them.

Common side effects

The most common side effects of goserelin are menopausal symptoms such as hot flushes, night sweats, vaginal dryness, mood changes and a decrease in libido (sex drive). Although these symptoms may be quite intense in the beginning, they usually improve over time.

To find out more about coping with menopausal symptoms, see our **Menopausal symptoms and breast cancer** booklet.

After goserelin has been given, you may notice an area of redness or bruising at the injection site, but this should disappear within a few hours. Occasionally, bruising may stay for a few days.

Some women notice a change in their breast size. Acne (spots) is another commonly reported side effect.

Less common side effects

Less common side effects include headaches, mild skin rashes and tingling in fingers and toes. Some women have also reported weight gain, tiredness and nausea (feeling sick). You may also experience low mood or depression.

During the first month of treatment you may have some vaginal bleeding caused by the withdrawal of the hormone oestrogen.

Goserelin can sometimes cause hair thinning. This is usually mild. People don't always tell their specialist team about hair thinning when they are having hormone therapy so it's difficult to say how common this is.

Changes in blood pressure can also occur. Blood pressure can be higher or lower than normal, but does not normally need treatment or mean that goserelin has to be stopped.

When first starting goserelin treatment, some women notice joint pain and stiffness. This is due to the reduced oestrogen levels and usually improves over time. If it doesn't, talk to your specialist or breast care nurse.

Lack of oestrogen over a long period of time can cause thinning of the bones (osteoporosis). It is usually recommended that anyone with primary breast cancer having ovarian suppression treatment is offered a DEXA (dual energy X-ray absorptiometry) scan within three months of starting goserelin. A DEXA scan measures bone density. If you're having goserelin for secondary breast cancer, you can talk to your specialist breast team about whether a DEXA scan is appropriate for you.

If you're concerned about your risk of developing osteoporosis, talk to your specialist team. For more information see our **Osteoporosis and breast cancer treatment** booklet.

If you're given goserelin to treat secondary breast cancer in the bone, you may experience a temporary increase in your symptoms for

a short time following the start of treatment (sometimes referred to as 'tumour flare').

In rare cases the level of calcium in the blood may temporarily increase. This can cause symptoms such as nausea, vomiting (being sick), constipation or drowsiness. If you experience any of these symptoms, contact your specialist team.

If you have persistent side effects from goserelin, tell your specialist team so that they can decide how best to manage them.



4 ways to get support

We hope this information was helpful, but if you have questions, want to talk to someone who knows what it's like or want to read more about breast cancer, here's how you can.



Speak to trained experts, nurses or someone who's had breast cancer and been in your shoes. Call free on **0808 800 6000** (Monday to Friday 9am–5pm, Wednesdays til 7pm and Saturday 9am–1pm).



Chat to other women who understand what you're going through in our friendly community, for support day and night. Look around, share, ask a question or support others at **forum.breastcancercare.org.uk**



Find trusted information you might need to understand your situation and take control of your diagnosis or order information booklets at **breastcancercare.org.uk**



See what support we have in your local area. We'll give you the chance to find out more about treatments and side effects as well as meet other people like you. Visit **breastcancercare.org.uk/in-your-area**

We're here for you: help us to be there for other people too

If you found this booklet helpful, please use this form to send us a donation. Our information resources and other services are only free because of support from people such as you.

We want to be there for every person facing the emotional and physical trauma of a breast cancer diagnosis. Donate today and together we can ensure that everyone affected by breast cancer has someone to turn to.

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Please tick if you're happy to receive email from us

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Please return this form to Breast Cancer Care, Freepost RRRKZ-ARZY-YCKG,
Chester House, 1-3 Brixton Road, London SW9 6DE



About this booklet

Goserelin (Zoladex) was written by Breast Cancer Care's clinical specialists, and reviewed by healthcare professionals and people affected by breast cancer.



For a full list of the sources we used to research it:

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When you have breast cancer, everything changes. At Breast Cancer Care, we understand the emotions, challenges and decisions you face every day, and we know that everyone's experience is different.

For breast cancer care, support and information, call us free on **0808 800 6000** or visit **breastcancercare.org.uk**

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