

Pertuzumab (Perjeta)

This booklet explains what pertuzumab is, when it's given and its possible side effects. Pertuzumab is the generic (non-branded) name of the drug, and is how it's referred to in this booklet. Its current brand name is Perjeta.



What is pertuzumab?

Pertuzumab belongs to a group of drugs called monoclonal antibodies. It is a targeted (biological) therapy.

How does it work?

Targeted therapies block the growth and spread of cancer. They target and interfere with processes in the cells that cause cancer to grow.

Some breast cancer cells have a higher than normal level of a protein called HER2 (human epidermal growth factor receptor 2) on their surface. Around 15–20% of invasive breast cancers (breast cancer that has the potential to spread to other parts of the body) have this and are called HER2 positive or HER2+.

When HER2 and other HER proteins pair together, they stimulate the breast cancer cells to grow. Pertuzumab attaches to HER2 and prevents this pairing. It may also help the body's immune system destroy breast cancer cells.

How do I know if my breast cancer is HER2 positive or HER2 negative?

All invasive breast cancers are tested for HER2 levels. This is done in a laboratory on a sample of breast cancer tissue removed during a biopsy or surgery. The results are usually available between one and three weeks later.

There are various tests to measure HER2 levels. The most commonly used tests are IHC (immunohistochemistry), FISH (fluorescent in situ hybridisation), CISH (chromogenic in situ hybridisation) and DDISH (dual-color dual-hapten brightfield in situ hybridization).

IHC is usually done first. It involves a special staining process performed on a sample of breast cancer tissue. It's reported as a score ranging from 0–3+. A score of 0 or 1+ means the breast cancer is HER2 negative. A score of 2+ is borderline and a score of 3+ means the breast cancer is HER2 positive.

Breast cancers with a borderline result (2+) should be re-tested with FISH, CISH or DDISH to determine if they are truly HER2 positive. These are more specialised tests and are usually reported as positive or

negative. If any of these further tests are needed, the results may not be ready for up to two weeks.

Who might be offered pertuzumab?

Only people with HER2 positive breast cancer will benefit from having pertuzumab. If your cancer is HER2 negative, then pertuzumab will not be of benefit to you.

Before surgery in primary breast cancer

Primary breast cancer is breast cancer that hasn't spread beyond the breast or the lymph nodes under the arm. Pertuzumab can be given to people with primary breast cancer before surgery (known as neo-adjuvant treatment) for:

- inflammatory breast cancer (a particular type of breast cancer)
- breast cancer that's at high risk of coming back (recurrence)

Before surgery in locally advanced breast cancer

Locally advanced breast cancer means the breast cancer has spread to the tissues and lymph nodes around the chest, neck and under the breastbone. Pertuzumab can be given to people with locally advanced breast cancer before surgery (known as neo-adjuvant treatment).

After surgery in primary breast cancer

Pertuzumab can be given after surgery to people whose breast cancer has spread to the lymph nodes under the arm. Giving pertuzumab after surgery (known as adjuvant treatment) is currently only available on the NHS in England and Wales.

Secondary and locally advanced breast cancer

Pertuzumab can be used to treat 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's also used for locally advanced breast cancer that can't be removed by surgery.

Pertuzumab is only suitable for people who haven't previously had targeted therapies such as trastuzumab, or chemotherapy for secondary or locally advanced breast cancer.

You may also be offered pertuzumab as part of a clinical trial.

How is pertuzumab given?

For primary breast cancer, pertuzumab is given in combination with the targeted therapy trastuzumab, and chemotherapy.

For secondary or locally advanced breast cancer, pertuzumab is given in combination with trastuzumab and a chemotherapy drug called docetaxel.

Pertuzumab is given once every three weeks. It is injected intravenously (into a vein), usually in the hand or arm, although there are other ways of giving it depending on factors such as how easy it is for chemotherapy staff to find suitable veins, and your preferences. If it's difficult to find a vein, a central venous access device such as a skin-tunnelled catheter can be used. This stays in place throughout the course of the treatment and the pertuzumab is given through it. You can find out more about central venous devices in our **Chemotherapy for breast cancer** booklet.

You'll be given your treatment as an outpatient at the hospital. It usually takes between 30 and 60 minutes to have pertuzumab.

How long will I have pertuzumab for?

Before surgery

If you are having pertuzumab before surgery, it's given for three to six cycles alongside trastuzumab and chemotherapy.

After surgery

If you are having pertuzumab after surgery, it's given alongside trastuzumab and chemotherapy for around one year.

Before and after surgery

Some people will have pertuzumab before and after surgery. Up to 18 cycles can be given in total.

Secondary and locally advanced breast cancer

If you're having pertuzumab to treat secondary or locally advanced breast cancer (that can't be removed by surgery) you will continue to have it alongside trastuzumab after the chemotherapy has finished, for as long as the drugs are keeping the cancer under control and you're coping with any side effects.

What are the side effects of pertuzumab?

Like any drug, pertuzumab can cause side effects. Everyone reacts differently to drugs and some people have more side effects than others. The side effects of pertuzumab can usually be controlled or reduced and those described here will not affect everyone.

This booklet does not list all the possible side effects. If you have any questions about side effects, whether they are listed below or not, talk to your specialist team.

Blood clots

People with breast cancer have a higher risk of blood clots. Their risk is higher because of the cancer itself and some treatments for breast cancer. If the cancer has spread to other parts of the body (secondary breast cancer), this also increases the risk.

Having this treatment increases the risk of blood clots such as deep vein thrombosis (DVT). People with a DVT are at risk of developing a pulmonary embolism. This is when part of the blood clot breaks away and travels to the lung.

Blood clots can be harmful but are treatable so it's important to report symptoms as soon as possible.

If you experience any of the following symptoms contact your local A&E department, GP or specialist team straight away:

- pain, redness/discolouration, heat and swelling of the calf, leg or thigh
- swelling, redness or tenderness where a central line is inserted (to give chemotherapy, for example) in the arm, chest area or up into the neck
- shortness of breath
- tightness in the chest
- unexplained cough (may cough up blood)

Because pertuzumab is given alongside other drugs, you may also experience side effects from these. It's sometimes difficult to know which drug causes which side effects because of this. Some of the side effects listed below won't apply if you are having pertuzumab and trastuzumab without chemotherapy.

For more information about the side effects of chemotherapy, see our **Chemotherapy for breast cancer** booklet. Our booklets on **Trastuzumab** and **Docetaxel** have details on the side effects of these drugs.

Common side effects

Diarrhoea

Tell your specialist or GP if you have diarrhoea as they can prescribe drugs to help. Contact your specialist team if you have four or more episodes of diarrhoea within 24 hours. Drink plenty of fluids to avoid getting dehydrated.

Itchy skin with or without a rash

This can be uncomfortable, but using a moisturiser and sunscreen may help. Your specialist team may suggest drugs such as antihistamines to reduce itching.

Upper respiratory tract infections

These affect the nose, sinuses and throat. You may develop a cough, shortness of breath, headaches, a blocked nose or a sore throat.

Sore mouth

Your specialist team may suggest non-alcohol mouthwashes to help. Use a soft toothbrush and take regular sips of water to keep your mouth moist. Some people need to take strong pain relief to help with the soreness so they can eat and drink.

Increased risk of infection

Having this treatment can affect the number of healthy blood cells in the body. Not having enough white blood cells can increase the risk of getting an infection. When white blood cells fall below a certain level, it's known as neutropenia.

Contact your hospital immediately if:

- you have a high temperature (over 37.5°C) or low temperature (under 36°C), or whatever your chemotherapy team has advised
- you suddenly feel unwell, even with a normal temperature
- you have any symptoms of an infection, for example, a sore throat, a cough, a need to pass urine frequently or feel cold and/or shivery

Anaemia (having too few red blood cells)

If you feel particularly tired, breathless or dizzy, let your specialist team know. A blood transfusion may be necessary during treatment.

Alopecia (hair thinning/loss)

Pertuzumab and trastuzumab don't usually cause people to lose their hair. Any hair loss caused by chemotherapy should be temporary and in most cases your hair will begin to grow back once your chemotherapy treatment has ended. You can read more information in our **Breast cancer and hair loss** booklet.

Fatigue (extreme tiredness)

It's common to feel extremely tired during your treatment. There are different ways of coping and managing fatigue. Speak to your specialist team if you experience fatigue. You can also read tips on managing fatigue on our website.

Nausea and vomiting

You may experience nausea (feeling sick) and vomiting (being sick). Anti-sickness drugs will be prescribed to help with this. If your nausea or sickness is not controlled by these, tell your specialist team as they may be able to change your anti-sickness drugs.

Loss of appetite

You may not feel like eating, especially if you're feeling sick. It might help to eat small meals, regularly.

Joint pain and stiffness

Your muscles and joints may ache, or you might feel stiff. Taking regular pain relief can help. Talk to your specialist team for advice.

Less common side effects

Infusion-related (allergic) reaction

Some people have a reaction while having pertuzumab or shortly afterwards. Reactions may include a fever (high temperature), feeling sick, shivering, chills, wheezing and an itchy rash. You will be monitored closely during your treatment so that any reaction can be dealt with immediately. If you have any of these symptoms soon after your treatment, contact your specialist team straight away.

Heart problems

Tell your specialist team if you have symptoms such as feeling like your heart is racing, or feeling dizzy or lightheaded. You will have heart tests before starting treatment and regularly throughout to check how your heart is functioning. This could be an echocardiogram (echo) or a multiple-gated acquisition (MUGA). Any problems should stop when the treatment has finished.

Contraception

It's important you don't get pregnant when you're having pertuzumab or for a few months afterwards because the drug can harm a developing baby. Use an effective barrier method of contraception, such as condoms.

Breastfeeding

You will be advised not to breastfeed during treatment and for a few months afterwards. This is because there is a chance your baby could absorb the drug through your breast milk, which could be harmful to them.

Vaccinations

Depending on whether or not you are having pertuzumab alongside or following chemotherapy, you may or may not be able to have travel or routine vaccinations. This is because some vaccines are safe to have during chemotherapy, while others are not. If you need a vaccination, talk to your specialist team.



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.

Donate today and together we can ensure that everyone affected by breast cancer has someone to turn to.

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Donate using your debit or credit card breastcancercare.org.uk/donate

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In addition, we'd love to keep you updated about our work and provide you with other opportunities to get involved with Breast Cancer Care. Please tell us how you would like to hear from us (by ticking these boxes you confirm you are 18 or over)

- I'd like to hear from you by email
- I'd like to hear from you by text message or SMS
- Please do not contact me by post
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We never give your information to other organisations to use for their own purposes. To change your preferences, or find out more information on how we use your data, please view our privacy policy at breastcancercare.org.uk or contact supporter services on 0345 092 0800.

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

Code: LP



About this booklet

Pertuzumab (Perjeta) 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:

Phone **0345 092 0808**

Email **publications@breastcancercare.org.uk**



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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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