

TRASTUZUMAB



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CANCER
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The research &
support charity

About this booklet

It's normal to have lots of questions when you've been offered a drug like trastuzumab.

You might want to know what it is, how it works, and how long you'll be on it.

This booklet answers these questions and explains when trastuzumab may be prescribed, the benefits of taking it and the side effects it may cause.

What is trastuzumab?

Trastuzumab is a targeted (biological) therapy. Targeted therapies block the growth and spread of cancer. They target and interfere with processes in the cells that help cancer grow.

You may have a brand of trastuzumab called Herceptin, or you may have a biosimilar (see page 3).

Trastuzumab may be given with the drug pertuzumab in a single injection. Its brand name is Phesgo.

Trastuzumab is different to trastuzumab deruxtecan (Enhertu) or trastuzumab emtansine (Kadcyla). You can find more information on these treatments on our website breastcancernow.org

What is a biosimilar?

The drug you're offered may be a trastuzumab biosimilar.

Biosimilars:

- Work in the same way as the original biological drug (trastuzumab)
- Are carefully tested for quality, safety and effectiveness
- Are cheaper than the original biological drug
- Have been used in the treatment of other diseases for several years

Trastuzumab biosimilars include:

- Herzuma
- Kanjinti
- Ontruzant
- Zercepac
- Trazimera
- Ogviri

How does trastuzumab work?

Some breast cancer cells have a higher than normal level of a protein called HER2 on their surface, which helps them to grow. This is known as HER2 positive breast cancer.

Trastuzumab works by attaching itself to the HER2 proteins so that the cancer cells are no longer stimulated to grow. It also helps the body's immune system destroy breast cancer cells.

Who might be offered trastuzumab?

Only people with HER2 positive breast cancer will benefit from having trastuzumab. If your cancer is HER2 negative, trastuzumab will not be of any benefit.

There are various tests to measure HER2 levels which are done on breast tissue removed during a biopsy or surgery (see page 5).

Trastuzumab may not be suitable for you if you have heart problems or high blood pressure (hypertension) that's not well controlled. You will usually have a test to check your heart (echocardiogram) before treatment. If you have heart problems you may be referred to a heart specialist (cardiologist) for further assessment before starting treatment.

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 hospital laboratory on a sample of breast cancer tissue removed during a biopsy or surgery. The results are usually available within 1 to 3 weeks.

There are various tests to measure HER2 levels. A test called IHC (immunohistochemistry) 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 to 3:

- 0 or 1+ means the breast cancer is HER2 negative
- 2+ is borderline
- 3+ means the breast cancer is HER2 positive

Breast cancers with a borderline result (2+) should be retested using more specialised techniques. These tests give a result of HER2 positive, HER2 low or HER2 negative.

There is some evidence that HER2 low breast cancer may benefit from targeted treatments, such as trastuzumab. However, more research is needed. Targeted treatment for HER2 low breast cancer is not yet available outside of a clinical trial. Speak to your treatment team for more information.

When is trastuzumab given?

Primary breast cancer

Trastuzumab can be used as a treatment for primary breast cancer (breast cancer that has not spread beyond the breast or the lymph nodes under the arm).

Before surgery

Sometimes, trastuzumab is given before surgery. This is known as neo-adjuvant or primary therapy.

It may be used to slow down the growth of breast cancer to reduce the chance of it spreading to other parts of the body. Or it may help shrink a large breast cancer before surgery.

Trastuzumab is given with chemotherapy, and usually with another drug called pertuzumab (Perjeta).

Your treatment team can explain the reasons for recommending each treatment and when it'll be given.

After surgery

Trastuzumab can be given after surgery to reduce the likelihood of the breast cancer returning or spreading to another part of the body. This is known as adjuvant treatment.

Trastuzumab may be given with or after chemotherapy, and sometimes with pertuzumab.

If you had trastuzumab before surgery, this will usually continue after surgery for around 6 to 12 months. However, some people may be given a different treatment called trastuzumab emtansine (Kadcyla) after surgery. See breastcancernow.org for more information on trastuzumab emtansine.

Breast cancer that has come back or spread

Trastuzumab may be used to treat people who have:

- Local recurrence – breast cancer that has come back in the chest/breast area or in the skin near the original site or scar
- Locally advanced breast – breast cancer that has spread to the tissues and lymph nodes (glands) around the chest, neck and under the breastbone (when surgery is not possible)
- Secondary (metastatic) breast cancer – breast cancer that has spread to other parts of the body

How is trastuzumab given?

Trastuzumab can be given:

- As a drip into a vein (intravenously), usually into your hand or arm
- As an injection into the fatty tissue under the skin (subcutaneous injection) in your thigh

It's usually given once every 3 weeks. This is known as a cycle.

If you have secondary breast cancer you may have it weekly.

You'll usually have your treatment as an outpatient at the hospital, although some people can have treatment at home.

Trastuzumab is usually given with chemotherapy. It can also be given alongside other treatments such as radiotherapy, hormone therapy and another targeted therapy called pertuzumab (Perjeta).

Into a vein

The drug may be given through a tube that's put into the vein each time you have the treatment.

It can also be given through a device that stays in place throughout the whole course of the treatment, such as a central venous line or port.

The first infusion is called a loading dose and is usually given over an hour and a half.

You may be asked to stay in the hospital for several hours after your treatment to make sure you're feeling well before leaving.

If there are no problems, future doses can be given over 30 minutes. You will not need to stay as long afterwards.

As an injection

Trastuzumab injections are given into the right and left thighs alternately.

Each injection is given over 2 to 5 minutes.

You may be asked to stay in the hospital for a few hours after your first injection to make sure you're feeling well before leaving. If there are no problems, you will not need to stay as long after future doses.

If you're already having trastuzumab as an intravenous infusion you may be switched to the subcutaneous injection.

Trastuzumab biosimilars are not available as a subcutaneous injection.

Phesgo

If you're having pertuzumab and trastuzumab together, it may be given as a single combined injection. You may hear it called by its brand name Phesgo.

Injections are not suitable for everyone. Some people may have trastuzumab and pertuzumab as separate intravenous infusions. Your treatment team will recommend the best option for you.

What happens if I miss a dose?

If you're having trastuzumab over many months you may want to miss or delay one treatment, for example to take a holiday. If you delay your dose by more than 7 days you may need to have another loading dose (first infusion).

If you want to do this, discuss it with your treatment team.

How long will I have trastuzumab for?

If you're having trastuzumab to treat primary breast cancer after surgery, it's usually given for 1 year (around 18 cycles). Some people may be offered trastuzumab for 6 months.

If you're having trastuzumab before surgery, you'll usually have 4 to 6 cycles. You may also be given trastuzumab after surgery for up to 1 year.

If you're having trastuzumab to treat secondary breast cancer, it's usually given for as long as it's keeping the cancer under control.

Side effects of trastuzumab

Like any treatment, trastuzumab can cause side effects. Everyone reacts differently to drugs and some people have more side effects than others. These side effects can usually be managed and those described here will not affect everyone.

Because it's given alongside other drugs, such as pertuzumab and chemotherapy, you may have side effects from these too. It's sometimes difficult to know which drug causes which side effects.

If you're worried about any side effects, regardless of whether they're listed here, talk to your treatment team.

Common side effects

Flu-like symptoms

Fever, chills and mild pain in some parts of the body can occur during or shortly after your treatment. These symptoms are more common the first time you have trastuzumab and do not usually last long. Taking pain relief can help.

Extreme tiredness

Fatigue is extreme tiredness and exhaustion that does not go away with rest or sleep. It can affect you physically and emotionally.

It's a very common side effect of trastuzumab and may last for weeks or months after your treatment has finished. Occasionally fatigue is a long-term effect.

Fatigue can also be caused by conditions such as anaemia (too few red blood cells). It's important to let your team know if you're affected by fatigue to rule out other conditions.

Fatigue affects people in different ways and there are a number of ways of coping with and managing it – your treatment team may be able to help you with this. You can find lots more information on our website or by calling our helpline on **0808 800 6000**. Macmillan Cancer Support also produces information on coping with fatigue.

Difficulty sleeping

If you have difficulty sleeping (insomnia), some simple things may help. Try limiting caffeine in the afternoon and evening, keeping your room dark and quiet, and going to bed and getting up at a set time each day.

Relaxation exercises can also be helpful. There are CDs, podcasts and phone apps that can guide you through these techniques.

If you continue to have difficulty sleeping your GP may prescribe something to help you sleep.

Pain in the joints and muscles

Pain in the joints and muscles is often mild and temporary for a few days after treatment. However, for some people it's more severe and longer lasting.

It can usually be relieved with mild pain relief like paracetamol or an anti-inflammatory drug such as ibuprofen. Before using anti-inflammatory pain relief, ask your doctor about the correct dose, how long you should use it for and any possible side effects. This is especially important if you have a stomach ulcer or asthma.

Nausea and vomiting

You may feel sick (nausea) and be sick (vomit). This is usually mild and does not last long.

If nausea and vomiting affect you, let someone in your treatment team know. Anti-sickness drugs can be prescribed to help.

Try to eat small regular meals if possible and have regular drinks.

Diarrhoea and constipation

If you have diarrhoea, it's important to drink enough fluids. Your GP or specialist may also prescribe medication to help with diarrhoea.

Keep active and eat a high-fibre diet to avoid constipation.

Contact your treatment team if you have 4 or more episodes of diarrhoea within a 24-hour period.

Soreness at the injection site

You may have some soreness at the injection site if you have trastuzumab as an injection under the skin.

Effects on the blood

Trastuzumab given with chemotherapy can temporarily affect the number of blood cells in the body.

If you're having chemotherapy, you'll have regular blood tests to check your blood count. Blood is made up of red cells, white cells and platelets. If the number of blood cells is too low, your next cycle of treatment may be delayed or the dose reduced.

Risk of infection

Not having enough white blood cells can increase the risk of getting an infection.

Your treatment team may give you guidelines to follow for reporting signs of an infection, but generally you should contact your hospital immediately if you experience any of the following:

- A high temperature (over 37.5°C) or low temperature (under 36°C), or whatever your chemotherapy team has advised
- Suddenly feeling unwell, even with a normal temperature
- Symptoms of an infection, for example a sore throat, a cough, a need to pass urine frequently or feeling cold or shivery

You may need antibiotics.

Before starting trastuzumab you should be given a 24-hour contact number or told where to get emergency care by your treatment team.

Anaemia

Having too few red blood cells is called anaemia. If you feel particularly tired, breathless or dizzy, let your treatment team know.

Bruising and bleeding

If you're having chemotherapy with trastuzumab this can reduce the number of platelets, which help the blood to clot. You may bruise more easily, have nosebleeds or your gums may bleed when you brush your teeth. Tell your treatment team if you experience any of these symptoms.

Other common side effects

After the first treatment you may have other side effects including:

- Headaches
- Dizziness
- Rash
- Breathlessness
- Sore eyes that may be red or watery
- Dry mouth

These side effects are often mild and do not usually happen with future treatments.

Rarer side effects

Allergic reaction

Some people have a reaction while having trastuzumab or a few hours afterwards. Reactions may vary from mild to severe, although severe reactions are uncommon.

Reactions may include:

- Fever (high temperature)
- Flushing
- Feeling faint
- Feeling cold or shivering
- Shortness of breath
- Wheezing
- Back pain
- Itchy rash

You'll be monitored closely during your treatment so that any reaction can be dealt with immediately.

Occasionally these symptoms start later than 6 hours after your treatment.

If you have any of these symptoms after your treatment, contact your treatment team straight away.

Heart problems

There's a small chance of developing heart problems, such as an abnormal heart rhythm.

Tell your treatment team if you feel breathless, like your heart is racing, or you feel dizzy or lightheaded.

You'll have heart tests before starting treatment and regularly throughout to check how your heart is working. This could be an echocardiogram (echo) or a multiple-gated acquisition (MUGA) scan.

You may continue to have tests every 6 months for 2 years after your last dose of trastuzumab.

Heart problems are more likely when trastuzumab is given at the same time as chemotherapy or if you already have a heart condition.

If you develop heart problems, treatment may be stopped temporarily or permanently. You may need to have treatment for any heart problems that develop as a result of having trastuzumab.

Only a small number of people having trastuzumab develop heart problems and they usually get better once treatment has finished.

Blood clots

People with breast cancer have a higher risk of blood clots such as a deep vein thrombosis (DVT). 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.

People with a DVT are at risk of developing a pulmonary embolism (PE). This is when part of the blood clot breaks away and travels to the lung.

Blood clots can be life-threatening 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 treatment team straight away:

- Pain, redness/discolouration, heat and swelling of the arm or leg
- 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
- Pain or tightness in the chest
- Unexplained cough or coughing up blood

Other important information

Sex, contraception and pregnancy

Taking trastuzumab while pregnant may be harmful to a developing baby. It's possible to become pregnant while taking trastuzumab even if your periods have stopped.

If you're sexually active with a chance of becoming pregnant, your specialist is likely to advise you to use a non-hormonal method of contraception during and for 7 months after treatment has finished. Non-hormonal methods include condoms, Femidoms or a diaphragm. It may also be possible to use a coil (IUD or intrauterine device). Discuss this with your treatment team as not all types are suitable for women with breast cancer.

If you think you may be pregnant, stop trastuzumab and tell your specialist as soon as possible.

Fertility

More research is needed to know about the effects of trastuzumab on fertility.

It's important to discuss any fertility concerns with your treatment team before you begin your treatment.

For more information see our booklet **Fertility, pregnancy and breast cancer**.

Breastfeeding

Breastfeeding is not recommended while taking trastuzumab and for 7 months after treatment has finished. This is because there's a risk the drugs could be passed on through breast milk.

Vaccinations

Depending on whether you're having trastuzumab alongside or after chemotherapy, you may or may not be able to have travel or routine vaccinations such as flu or Covid-19 vaccines. If you need a vaccination, discuss this with your treatment team first.

See our **Chemotherapy for breast cancer** booklet for more information.

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Finding support

If you'd like any further information on trastuzumab or just want to talk things through, our nurses are ready to listen on our free helpline. Call **0808 800 6000** (Monday to Friday 9am to 4pm and Saturday 9am to 1pm). You can also email nurse@breastcancernow.org

You never have to face breast cancer alone. Find somebody who understands what you're going through with Someone Like Me on **0114 263 6490**.

You can find out more about our support services online at breastcancernow.org/oursupport

HELP US TO HELP OTHERS

Breast Cancer Now is a charity that relies on voluntary donations and gifts in wills. If you have found this information helpful, please visit breastcancernow.org/give to support our vital care and research work.

About this booklet

Trastuzumab was written by Breast Cancer Now'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:
Email health-info@breastcancernow.org



You can order or download more copies from
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We welcome your feedback on this publication:
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BREAST CANCER NOW

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Information you can trust, support you can count on

Whatever breast cancer brings, we're here for you.

Whether you're looking for information about breast cancer or want to speak to someone who understands, you can rely on us.

Call **0808 800 6000** to talk things through with our helpline nurses.

Visit **breastcancernow.org** for reliable breast cancer information.

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