1. What is bevacizumab?

Bevacizumab is a targeted therapy drug used to treat secondary breast cancer. It belongs to a group of cancer drugs known as monoclonal antibodies.

Bevacizumab is the drug’s generic or non-branded name. Its brand name is Avastin.

2. How does bevacizumab work?

For cancers to grow and spread, they need a constant supply of oxygen and other nutrients. Cancers can improve their access to these by developing their own blood supply. This process is called angiogenesis. You can find out more about blood supply and how cancers grow on the Cancer Research UK website.
Bevacizumab is an angiogenesis inhibitor. It works by blocking a protein called vascular endothelial growth factor (VEGF) that helps cancers form new blood vessels.

By stopping this process, bevacizumab ‘suffocates’ the blood supply to the cancer, shrinking it and stopping it from growing.

3. Who might be offered bevacizumab?

Bevacizumab is not routinely offered on the NHS. However, you may be given it as part of a clinical trial. Your specialist will be able to tell you if this is an option for you.

4. How is bevacizumab given?

Bevacizumab is usually given in combination with a chemotherapy drug such as paclitaxel, docetaxel or capecitabine. You may continue to have bevacizumab after the course of chemotherapy has finished for as long as it's keeping the cancer under control.

Bevacizumab is given intravenously (into a vein). This will usually be as an infusion (drip) into the hand or arm, although other intravenous methods may be used depending on factors such as how easy it is to find suitable veins, and your preferences.

Sometimes a central venous access device such as a skin-tunnelled catheter may be used. Find out more about central venous devices »

The first dose is given over about 90 minutes. Future doses can be given over 30–60 minutes as long as you don’t feel unwell while it’s being given.

You’ll have bevacizumab as an outpatient every two or three weeks for as long as your treatment team feels you’re benefiting from the drug and you’re coping with any side effects.

5. Common side effects of bevacizumab

Like any drug, bevacizumab can cause side effects. However, 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.

If you’re having bevacizumab alongside chemotherapy, you may also have side effects from the chemotherapy. If you’re concerned about any problems or side effects, regardless of whether they’re listed here, talk to your treatment team as they may be able to help.
High blood pressure (hypertension)
Bevacizumab can cause high blood pressure. Your blood pressure should be checked each time you’re given bevacizumab to ensure it’s not too high. If you have severe headaches, nose bleeds or if you feel dizzy, let your treatment team or GP know. You may be prescribed tablets to lower your blood pressure.

Nausea and vomiting
You may feel sick at times during your treatment, although most people will not actually be sick. You may be prescribed anti-sickness drugs to help. If your nausea or vomiting is not controlled by these, tell your treatment 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 and drink plenty of liquids.

Diarrhoea or constipation
Tell your GP or treatment team if you have diarrhoea during treatment as they can prescribe drugs to control it. It’s especially important to tell them if you’ve had four or more episodes of diarrhoea in a 24-hour period. Try to drink plenty of fluids to avoid being dehydrated.

Drinking plenty of fluids every day will also help with constipation. Try eating foods that contain fibre (such as fruit, vegetables and wholemeal bread) and doing some regular, gentle exercise.

Cancer-related fatigue (extreme tiredness)
Cancer-related fatigue is extreme tiredness that doesn’t go away with rest or sleep. It’s a very common side effect of breast cancer treatment and may affect you physically and emotionally. If you think you have fatigue, tell your GP or treatment team so you can be fully assessed and offered advice on how to manage your energy levels.

Find out more about managing fatigue »

Effects on the blood
Having this treatment can temporarily affect the number of blood cells in the body.
You’ll have regular blood tests to check your blood count. 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.

**Contact your hospital immediately if:**

- you have a high temperature (over 37.5°C) or low temperature (under 36°C), or whatever your 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 feeling cold or shivery

**Anaemia (having too few red blood cells)**

If you feel particularly tired, breathless or dizzy, let your treatment team know.

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

**Kidney problems**

Bevacizumab can cause protein in the urine, which stops the kidneys from working properly. This will be tested regularly throughout your treatment. If protein is found, you’ll be asked for a 24-hour collection of urine to make sure your kidneys are working normally.

**Joint pain and stiffness**

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

**Other common side effects**

Other common side effects may include:

- eye problems (such as excessive tears)
- voice changes (being croaky or hoarse)
Slow wound healing
If you have any problems with wounds not healing, speak to your treatment team straight away. You may have to stop taking bevacizumab for a short while to allow them to heal.

6. Less common side effects of bevacizumab

Allergic reaction
If you have an allergic reaction to bevacizumab, it will probably happen during treatment or within the first few hours afterwards and will most likely be the first or second time you have the drug. Reactions can vary from mild to severe, but severe reactions are uncommon.

You'll be monitored closely during your treatment so that any reaction can be dealt with immediately. Symptoms of an allergic reaction include flushing, skin rash, itchiness, back pain, lip or tongue swelling, shortness of breath, faintness, fever or chills. If you have a severe reaction, treatment will be stopped immediately.

Occasionally these symptoms start later than six hours after your treatment. If this happens contact the hospital immediately.

Numbness and tingling in the hands or feet (peripheral neuropathy)
If you’re having bevacizumab with chemotherapy, you may have numbness or tingling in the hands and feet. This is due to the effect on the nerves and is known as peripheral neuropathy.

In most cases it’s mild and goes away soon after treatment stops, although in some cases it can be permanent. If it's severe, it may be necessary to reduce the dose of bevacizumab or to stop it completely.

If you have numbness or tingling, tell your treatment team so that the symptoms can be monitored.

Increased risk of bruising or bleeding
Bevacizumab can reduce the number of platelets, which help the blood to clot. This can increase the risk of bruising or bleeding from the gums or nose. It can also cause skin changes such as small red or purple spots. Talk to your treatment team as soon as possible if you have these symptoms.
**Stroke**
People having bevacizumab are at a very slightly higher risk of having a stroke. If you develop weakness in your arms or legs, drooping on one side of your face or difficulty talking, go to your nearest Accident and Emergency (A&E) department straight away.

**Heart problems**
Bevacizumab can cause heart problems. If you have any symptoms such as chest pain, dizziness, difficulty breathing, feeling like your heart is beating very fast or swollen ankles tell your treatment team straight away.

**Bowel perforation**
A very small number of people develop a perforation (small hole) in their bowel. If you develop sudden, severe pain in your tummy (abdomen), contact your local A&E department or your treatment team straight away.

**Fistula**
A fistula is the development of a small tunnel-like connection between two organs that are not normally connected. For example, a fistula between the bladder and vagina may cause symptoms such as urine leaking through the vagina. If you notice any unusual changes, contact your treatment team straight away.

**Hand-foot syndrome (Palmar-Plantar Erythrodysesthesia)**
If you’re having bevacizumab with chemotherapy, the palms of your hands and the soles of your feet may become red and sore. This is called hand-foot syndrome, or Palmar-plantar syndrome. Sometimes you may also notice a tingling sensation, numbness or some swelling.

[Find out more about managing hand-foot syndrome »](#)

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**7. Rare side effects of bevacizumab**

**Osteonecrosis of the jaw (when bone in the jaw dies)**
This is a rare side effect, but is more common in patients who are also having treatment with a [bisphosphonate](#) or with [denosumab (Xvega)](#).
Good dental hygiene reduces the risk. It’s important to discuss any dental problems with your specialist before starting bevacizumab. If you are having any dental treatment, tell your dentist you’re having bevacizumab.

**PRES (posterior reversible encephalopathy syndrome)**
A condition called PRES can very occasionally occur, usually due to very high blood pressure. If you notice changes in your vision or have headaches, confusion or seizures (fits) contact your local A&E department or your treatment team straight away.

**8. Blood clots**
People with breast cancer have a higher risk of blood clots because of the cancer itself and some treatments for breast cancer. Having bevacizumab increases the risk of blood clots such as a 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.

If the cancer has spread to other parts of the body this also increases the risk.

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, or treatment team straight away:**

- pain, redness/dischourlation, heat and swelling of the calf, leg or thigh
- swelling, redness or tenderness where a central line is inserted to give treatment, 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)

Find out more about blood clots »

**9. Sex and contraception**
It’s important you don’t get pregnant while you’re having bevacizumab as it can harm a developing baby.
If you haven't been through the menopause, talk to your treatment team about the most suitable method of contraception for you. You should carry on using contraception for at least six months after your last dose of bevacizumab.

10. Breastfeeding

It's possible for bevacizumab to be present in breast milk, so women should not breastfeed while having treatment or for six months afterwards.

11. Vaccinations

You shouldn’t have any live vaccines while you’re having bevacizumab. Live vaccines include mumps, measles, rubella (German measles), polio, BCG (tuberculosis), shingles and yellow fever.

Live vaccines contain a small amount of live virus or bacteria. If you have a weakened immune system, which you may do if you’re also having chemotherapy, they could be harmful.

It's usually safe to have these vaccines six months after your treatment finishes. Talk to your GP or treatment team before having any vaccinations.

If anyone you have close contact with needs to have a live vaccine, speak to your treatment team or GP. They can advise what precautions you may need to take depending on the vaccination.

Flu vaccination

Anyone at risk of a weakened immune system, and therefore more likely to get an infection, should have the flu vaccine. The flu vaccine is not a live vaccine so doesn’t contain any active viruses. Talk to your treatment team about the best time to have your flu jab.

Last reviewed: 2019
Next planned review begins 2021