

Denosumab

This is a treatment which works to slow down bone destruction caused by cancer that has spread to the bone (bone metastasis).

This treatment is used to prevent serious complications caused by bone metastasis such as fracture, pressure on the spinal cord, or the need to receive radiation therapy or surgery. It can help with bone pain and reduces the risk of too much calcium in the blood stream (also called tumour induced hypercalcaemia).

Your treatment

Denosumab is given as an injection just below the skin (subcutaneously).

This is initially given every 4 - 6 weeks. After 6 months, administration may be reduced to every 12 weeks and further reduced to 6 monthly if you have been receiving this treatment for more than 2 years.

Prior to starting denosumab you will need to have your vitamin D level checked with a blood test. If this is low you will be prescribed a course of vitamin D supplements. You will also be given calcium and vitamin D supplements to take alongside your denosumab.

You will have a routine blood tests throughout treatment. Occasionally we may not be able to go ahead with your treatment until your blood counts are back to a safe level. If this happens, your treatment may be delayed a week.

This treatment can have serious or possibly life-threatening side effects. It is very important that you report side effects straight away. Don't delay, if you feel unwell, please ring The Christie Hotline on **0161 446 3658**. The lines are open 24 hours a day.

Possible side effects

This treatment can cause many different side effects. Some are more likely to occur than others. Everyone is different and not everyone gets all the side effects. Most side effects are usually temporary, but in some rare cases they can be life-threatening. It is important to tell your clinical team about any side effects so they can be monitored and, where possible, treated.



Common side effects (more than 1 in 10)

- **Flu-like symptoms**

Denosumab may cause flu like symptoms such as fever, fatigue, weakness, drowsiness, headache, chills and aches in your muscles, joints and bones. In most cases you do not need any specific treatment and the symptoms should improve after a short time. However, taking paracetamol can be helpful.

- **Low calcium levels**

You will have regular blood tests to check your calcium levels and you will be given a calcium and vitamin D supplement.

- **Breathlessness**

If you develop any problems with breathing, please ring The Christie Hotline on **0161 446 3658** immediately.

- **Diarrhoea**

If this becomes a problem while you are having treatment, anti-diarrhoea tablets can be bought from a pharmacy or prescribed by your GP for a temporary period until this is resolved. If the problem persists contact The Christie. Ask the staff for a copy of The Christie booklet 'Eating - help yourself' which has some useful ideas about diet when you are having treatment.

Uncommon side effects (less than 1 in 10)

- **Skin reactions**

Some people may develop a rash and itching. If this happens, please tell your clinical team.

Occasional side effects (affecting between 1 to 10 in every 100 people)

- **Low phosphate levels**

You will have regular blood tests to check your phosphate levels.

- **Excessive sweating**

Speak to your cancer team if this becomes a problem.

- **Allergic reactions**

Symptoms may include a rash, shortness of breath, redness or swelling of the face and dizziness - some allergic reactions can be life threatening, tell your nurse or doctor if you notice any of these symptoms.

Rare side effects (less than 1 in 100)

- **Osteo-necrosis of the jaw (Warning!)**

Very occasionally, a rare side effect can occur with denosumab, when there is necrosis (a loss of jaw bone) or a breakdown of the jaw bone. It is called osteonecrosis of the jaw and can be a serious condition. Some of the symptoms are:

- pain, swelling or infection of the gums
- loosening of the teeth
- poor healing of the gums
- numbness or feeling of heaviness in the jaw

If you have any of the symptoms listed above or any other dental problems tell your clinical team immediately.

What you should do

We strongly recommend that you have a dental examination with your dentist before you start treatment with denosumab. If you need any dental work, this must be done before you start this treatment with denosumab. People who wear dentures should make sure their dentures fit properly before starting treatment. Tell your clinical team or dentist if you are a smoker.

If you need any dental treatment while taking denosumab.

While you are having treatment with denosumab you should try to avoid invasive dental procedures such as having teeth removed.

If you do have to have teeth removed **while you are having treatment** with denosumab or **soon after finishing treatment** with denosumab, it is important to discuss this with your clinical team first. They may be able to refer you to an oral surgeon at the hospital rather than to your local dentist.

Dental health

Brush your teeth regularly and try to keep your mouth clean and healthy at all times. You can continue to see your dentist for your normal, regular check-ups and cleaning (but not treatment). You can also see your dental hygienist. Show them this leaflet, as it is important that the dentist and dental hygienist know that you are taking denosumab.

Other rare side effects include

• **Osteonecrosis of the ear canal**

This is when healthy bone tissue in the ear canal becomes damaged and dies. It is important that you tell your cancer team if you have any ear pain, discharge from the ear, ear infection, loss of balance (vertigo), hearing loss or ringing in the ears.

• **Atypical hip fractures**

There is a rare but serious risk a fracture or break to the thigh bone. It is important to tell your cancer team if you have any pain in the thigh, hip or groin area.

Late side effects

Some side effects may become evident only after a number of years. In reaching any decision with you about treatment, the potential benefit you receive from treatment will be weighed against the risks of serious long term side effects to the heart, lungs, kidneys and bone marrow. With some drugs there is also a small but definite risk of developing another cancer. If any of these problems specifically applies to you, the clinical team will discuss these with you and note this on your consent form.

Flu vaccinations

Is it alright for me to have a flu jab during the time I'm having chemotherapy? It's safe to have a flu jab but depending on the sort of treatment you have had, it may not give quite as much protection against infection as usual. Some patients may need 2 vaccinations. However, if you're thinking of having any other vaccinations, do check with your Christie doctor first, because some vaccines should be avoided.

COVID-19 vaccinations

We advise that all patients receive a COVID-19 vaccination when this is offered. Your doctor will discuss with you the best time to have this.

Contacts

If you have any general questions or concerns about your treatment, please ring:

Administration enquiries - **0161 918 7606/7610**

Systemic anti-cancer therapy (SACT) nurse - **0161 918 7171**

Clinical trials unit - **0161 918 7663**

Breast care nurses - **0161 446 3996**

For advice ring The Christie Hotline on **0161 446 3658** (24 hours a day, 7 days a week).

Your consultant is:

Your hospital number is:

Your key worker is:

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If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard. If you would like to have details about the sources used please contact **the-christie.patient.information@nhs.net**

For information and advice visit the cancer information centres at Withington, Oldham, Salford or Macclesfield. Opening times can vary, please check before making a special journey.



Contact The Christie Hotline for
urgent support and specialist advice
The Christie Hotline: 0161 446 3658
Open 24 hours a day, 7 days a week