

## Denosumab

This is a treatment which works by attaching itself to bone and slows down the rate of bone change. In the bone there are 2 types of bone cells: osteoclasts, which break down old bone and osteoblasts which build up new bone. This treatment helps to ensure the balance of these cells is correct and bone stays healthy.

Some types of cancer can increase the rate of bone change. This can cause a number of problems, such as:

- bone pain
- fractures
- release of too much calcium into the blood stream (this is 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. Your clinical team may discuss reducing this to 3 monthly.

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 supplements to take alongside your denosumab.

You will have a routine blood test before the start of each cycle of 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.

## 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..

## 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.

### • **Increased risk of infection**

You may be more vulnerable to infection. If you develop any symptoms of infection such as urinary symptoms, an ear infection, respiratory tract infection, cellulitis or any other sites of infection, **please contact The Christie Hotline for advice immediately.**

### • **Clouding of the eye (cataracts)**

If you notice any visual changes, please tell your clinical team.

### **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**

We advise that all patients receive a flu vaccination when this is offered.

### **COVID-19 vaccinations**

We advise that all patients receive a COVID-19 vaccination when this is offered.

However, if you are thinking of having any other vaccines, check with your Christie team first, because some vaccines should be avoided.

### **Contacts**

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

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

Chemotherapy 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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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