

Osteonecrosis of the jaw (ONJ) and drug treatments for osteoporosis

What is osteoporosis?

Osteoporosis occurs when the struts that form the mesh-like structure inside bones become thin. This causes the bone to become fragile and break easily, even after a minor bump or fall. You might hear these breaks described as 'fragility fractures'. The terms 'fracture' and 'broken bone' mean the same thing.

Fractures can occur in many parts of the body, but they are most common in the wrists, hips and spine. These broken bones can cause pain. Spinal fractures can also cause height loss and a curved spine.

There is information suggesting a link between some drugs used to treat osteoporosis and a very rare condition called osteonecrosis of the jaw (ONJ). We have produced this fact sheet in response to the many questions our Helpline nurses receive on this subject. It is important to remember that osteonecrosis of the jaw is **very rare** in people taking drug treatments for osteoporosis. For most people, the benefits of taking a drug treatment will far outweigh the risk.

Why do I need an osteoporosis drug treatment?

Drug treatments are prescribed if you have osteoporosis and a high risk of broken bones. They help to strengthen your bones and reduce your risk of having fractures.

What is osteonecrosis of the jaw (ONJ)?

ONJ is a condition in which there is delayed healing of the jaw. This results in unhealed areas inside the mouth, and the underlying jaw bone remaining exposed for longer than would normally be expected. Most reported cases have been associated with dental disease such as infection, or invasive dental procedures such as tooth extraction, although ONJ may also occur for no obvious reason.

How common is ONJ in people taking drug treatments for osteoporosis?

Osteonecrosis of the jaw in those taking bisphosphonates for osteoporosis is very rare. The estimated incidence is between 1 in 1,000 and 1 in 10,000 per year of bisphosphonate use. The incidence for injectable bisphosphonates, denosumab and romosozumab is likely to be similar. A small amount of evidence from research trials suggests this risk may increase a little more if bisphosphonates are taken for a long time.

Which drug treatments for osteoporosis have been linked with ONJ?

The following treatments have been linked with ONJ:

- alendronic acid
- risedronate (Actonel)
- ibandronic acid (Bonviva)
- zoledronic acid (Aclasta)
- denosumab (Prolia)
- romosozumab (Evenity).

Do osteoporosis drugs increase the risk of ONJ and how do they do this?

The drugs listed above seem to increase the risk of ONJ although there is no clear understanding as to how they do this. ONJ can occur in people not taking an osteoporosis treatment – and among those taking such treatments, it is very rare. ONJ is more clearly linked, however, with the use of very high doses of bisphosphonates or denosumab in patients who are having treatment for cancer.

What can I do to reduce my risk of ONJ during osteoporosis treatment?

- If you are taking a bisphosphonate, denosumab or romosozumab, the expert advice, as with anyone, is to maintain good oral hygiene, see a dentist every six months, and tell them about any problems such as loose teeth, pain or swelling. The risk of ONJ related to bisphosphonates taken for osteoporosis is very small, so you don't need to take any special precautions.

- Some other factors, such as poor oral hygiene, cancer, chemotherapy or taking steroid (glucocorticoid) tablets, may slightly increase your risk of ONJ. In this case, you should probably have your teeth checked before starting an osteoporosis treatment. You may be referred to a dental hospital if you need an invasive procedure.
- If you are going to start a bisphosphonate, such as zoledronate, for treatment of cancer (where the doses are much higher than used for osteoporosis), you should have a dental examination and complete any dental procedure involving exposure of bone – such as tooth extraction – before starting the treatment.

Will stopping my osteoporosis drug before I have dental work reduce my risk of ONJ?

There is no research to suggest that stopping treatment with a bisphosphonate, denosumab or romosozumab before you have dental work will reduce your risk of ONJ.

You should discuss any necessary work with your dentist. But as long as you don't have other risk factors (such as poor oral hygiene, cancer, chemotherapy or steroid (glucocorticoid) therapy, it should be possible to go ahead without any significant concerns. In fact routine care by a dental professional would be recommended.

All dentists should be aware of professional guidance on how to manage patients on osteoporosis treatments such as bisphosphonates, denosumab and romosozumab. For example, the NHS Education for Scotland Dental Clinical Effectiveness Programme has produced guidance for dentists which is available on their website at sdcep.org.uk

Do I need a referral to a dental hospital for dental work if I'm having a bisphosphonate via injection or drip, or have been on osteoporosis drugs for many years?

No, if you don't have other risks (including having poor oral hygiene, cancer, chemotherapy or steroid tablets), your risk is considered to be low and you won't need to be referred to a dental hospital for invasive dental procedures.

The way you take your osteoporosis treatment and the length of time you have been taking it should not affect where you receive your dental treatment.

My dentist refuses to treat me because I am taking an osteoporosis treatment.

Despite the very low risk of ONJ, some dentists seem to be overly cautious and may not want to treat you. In this situation, talk to your doctor or other health professional involved in your care who may be able to help.

Your ONJ risk may be slightly higher if you've been having:

- a bisphosphonate for more than five years
- a bisphosphonate and steroids (glucocorticoids)
- denosumab injections
- romosozumab injections.

Even in these cases, your dentist should still be able to take a tooth out if you need an extraction, although other options will be explored first.

I understand the risk of ONJ is very low, but I'm still really worried – what can I do?

Talk to your doctor and explain your concerns. Ask about the likely benefits of treatment for you and also the risk of adverse effects, including ONJ. Unfortunately no drug treatment is free from side effects. But do talk to your doctor, as there may be a different drug you could take.

For more information on drug treatments for osteoporosis, such as how to decide which drug to take, see our other information resources. We have fact sheets on each osteoporosis drug.



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This information is based on the latest evidence and clinical practice. It should not replace advice from your own healthcare professionals.

To give us feedback on this fact sheet, email us at health.info@theros.org.uk

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