



### About us

The Leukaemia Foundation is the only national not-for-profit organisation dedicated to the care and cure of patients and families living with leukaemia, lymphoma, myeloma and related blood disorders.

We invest millions of dollars in the work of Australia's leading researchers to develop better treatments and cures and provide free services to support patients and their families.

We receive no ongoing government funding. We rely on the generosity of the community and corporate sector to further our Vision to Cure and Mission to Care.

### We can help you

Our range of free services supports thousands of Australians, from diagnosis, through treatment and beyond. To learn more, please call 1800 620 420 to speak with one of our Support Services team.

### You can help us

There are many ways that you can help us to improve the quality of life for people with blood cancer. From making a donation, to signing up for an event; from volunteering, or joining us as a corporate sponsor - please call 1800 500 088 or go to [www.leukaemia.org.au](http://www.leukaemia.org.au) to learn more.

## **Osteonecrosis of the jaw (ONJ) is a rare condition, the cause of which is not entirely known. It involves the loss or breakdown of a small segment of the jaw bone.**

It can be a serious condition and may cause difficult to treat pain. It appears to be related to long-term treatment with drugs used to treat bone disease in myeloma and other cancers, which are known as bisphosphonates, particularly in the intravenous (IV) type. It is not yet known how often ONJ occurs in myeloma, but from available reports, the incidence in patients on intravenous (IV) bisphosphonates can range between 1-15%. In Australia, the incidence is probably less than that.

### **About bisphosphonates**

Bisphosphonates are drugs used to strengthen and protect the bones, and are used in various conditions including myeloma. Bone damage is a common complication of myeloma. Studies have shown that regular treatment with bisphosphonates approximately halves the risk of spontaneous fractures in patients with myeloma, substantially improving quality of life and reducing the incidence of pain. A study from the Medical Research Council MRC Myeloma IX Study also found there was an overall survival benefit associated with bisphosphonates.

Bisphosphonates currently prescribed in Australia for myeloma are:

Zoledronic acid (Zometa®) - into the vein (IV) as a drip

Pamidronate (Aredia®) - into the vein (IV) as a drip

Sodium clodronate (Bonefos®) - by mouth as tablets (orally) every day

Your treating doctor will consider the below clinical information when deciding upon the type and duration of bisphosphonate treatment:

- The amount of myeloma bone disease
- How active your myeloma is
- The level of calcium in your blood. If there are high levels of calcium then IV bisphosphonates are usually preferred
- Previous bisphosphonate treatment that you have had
- Other complications you may have such as kidney function impairment
- Personal preference

For more information, freecall 1800 620 420  
email [info@leukaemia.org.au](mailto:info@leukaemia.org.au) or visit [www.leukaemia.org.au](http://www.leukaemia.org.au)



### **What is the connection between bisphosphonates and ONJ?**

The exact reasons why ONJ is linked to long-term use of some bisphosphonates are not fully understood. We know that bisphosphonates work by binding to calcium and reducing the activity of the cells that cause bone breakdown in myeloma (osteoclasts). It has been suggested that ONJ occurs because bisphosphonates disrupt normal bone remodelling, and affect the healing process after trauma or just every day injury that occurs to the tissues of the mouth. The bones of the jaw seem to be particularly prone to osteonecrosis. In the mouth, the bone is only covered by a small layer of tissue so it can become more easily exposed, particularly at the site of invasive dental procedures, and for this reason, people with otherwise poor dental health appear to be at greater risk.

### **Risk factors for ONJ**

There is a risk of ONJ for people with myeloma on regular, monthly administration of IV bisphosphonates.

The risk of ONJ occurring in myeloma is also closely related with:

- Removal of teeth while undergoing bisphosphonate treatment (this is the most common reported incident occurring before diagnosis of ONJ)
- Long time use of bisphosphonates (>12 months)
- Age > in the elderly
- A history of poor dental health
- Smoking
- Diabetes
- Poor fitting oral appliances

### **What are the symptoms of ONJ?**

Symptoms and signs can include:

- Pain or swelling in the mouth
- Non-healing of a tooth socket after removal of teeth
- Loosening of teeth
- An area of exposed bone in the mouth
- Poor healing or infection of the gums
- Numbness or the feeling of heaviness in the jaw
- Discharge of pus

If you experience any of these or any other dental symptoms, it is important to tell both your treating doctor and your dentist immediately. Your treating doctor may refer you to an oral surgeon with experience in osteonecrosis.

### **Treatment and management of ONJ**

To diagnose osteonecrosis of the jaw, doctors may use X-rays or other radiology. Treatments for osteonecrosis of the jaw may include antibiotics, pain relief medication or oral rinses. Minor dental work may be necessary to remove injured tissue and reduce sharp edges of the bone. Surgery is typically avoided because it has not been reliably shown to help. Regular dental check ups are also recommended.

# FACT SHEET

## Osteonecrosis of the jaw (ONJ)



If a person with myeloma is on bisphosphonate therapy and develops ONJ then the treating doctor will assess each individual case of ONJ and decide whether the bisphosphonate therapy needs to be stopped and for how long. The type and frequency of bisphosphonate therapy may also be changed. For instance in cases where there is a risk of the person with myeloma developing bone problems if not on bisphosphonate therapy then the doctor may decide on an interval of three months between bisphosphonate therapy or change the IV drug over to an oral drug.

### Prevention of ONJ

The following points are important in preventing or reducing the risk of ONJ occurring:

- If possible, you should have a routine dental examination and X-ray and any necessary invasive dental work carried out, before starting on treatment with bisphosphonates
- Once on bisphosphonates, you should maintain good mouth hygiene and have regular dental check-ups
- Invasive dental procedures (that is removal of a tooth or surgery) should be avoided if possible when on bisphosphonates. If invasive treatment is absolutely necessary this should be done in collaboration with an experienced oral and maxillofacial surgeon. Some doctors may recommend you stop bisphosphonate treatment before dental treatment and re-start once healing is complete. Other routine dental treatments such as cleaning and scaling, fillings etc are usually okay.

### Putting ONJ into perspective

The proven effectiveness of bisphosphonates in treating and preventing bone disease has to be balanced against the relatively small risk of ONJ occurring. Your doctor should discuss this with you.

### Self care tips

Below are some things you can do to help reduce the risk of ONJ occurring:

1. Maintain good mouth care—brush your teeth regularly and use any mouthwashes prescribed
2. Make sure dentures fit properly and don't rub
3. Visit your dentist regularly for check-ups
4. Make sure your dentist knows you are on a bisphosphonate treatment
5. Tell your doctor/nurse about any dental work you may need
6. Look out for any symptoms in your mouth such as pain, numbness or sore areas
7. If you are on IV or oral bisphosphonates you should report any such symptoms to your doctor/nurse

### References

Adapted from the Myeloma UK Fact sheet—Osteonecrosis of the Jaw (ONJ)