

# Osteoporosis Medications, Dental Health, and Osteonecrosis of the Jaw (ONJ): What You Need to Know



Brought to you by  
the International Task Force on ONJ

Osteoporosis causes bones to become weak and break (fracture) easily. These fractures can happen from simple falls or even from usual day-to-day activities (eg lifting, bending). Any bone can fracture with osteoporosis; however, the most common fractures are of the spine, hip, and wrist. Osteoporosis can affect men and women of all ages but is most common amongst women after menopause.



Fractures from osteoporosis are preventable with appropriate medications. Bisphosphonates are a class of drugs which can safely and effectively decrease the risk of fracture in osteoporotic patients. They represent a major advance in the treatment of osteoporosis and other bone diseases. Some of the oral bisphosphonates which are commonly prescribed include alendronate (Fosamax, Binosto), ibandronate (Boniva) and risedronate (Actonel, Atelvia)). Zoledronic acid (Aclasta, Reclast) given intravenously once yearly is also used for osteoporosis. Bisphosphonates remain in the skeleton for several years even after they are stopped. Bisphosphonates help reduce the risk of fracture and help maintain healthy bones. Denosumab (Prolia) is also an effective treatment for osteoporosis and can effectively lower the risk of fracture. Denosumab is given twice yearly by subcutaneous injection and does not remain in the skeleton for prolonged periods of time.

## What is Osteonecrosis of the Jaw?

Osteonecrosis of the jaw (ONJ) is a rare oral condition in which the jaw *bone's* ability to heal is impaired and may cause a wound which does not heal. The bone is bare and is not covered by the oral tissues.

This bare bone can become infected and lead to pain and swelling. The bone can then break and the

infection may be difficult to heal. ONJ does not affect the jaw *joint* (*temporomandibular joint* or *TMJ*), and pain or discomfort in the jaw *joint* is not related to ONJ or to bisphosphonate or denosumab treatment. Though sometimes painful and progressive, ONJ can be present without symptoms; it usually heals with appropriate treatment.

## How is ONJ Diagnosed?

Dentists or oral surgeons can diagnose ONJ by examining the soft tissue covering the jaw bones. If the jaw bone is not covered by a healthy soft tissue lining and remains uncovered or exposed for more than 8 weeks of appropriate treatment, this confirms the diagnosis of ONJ.

ONJ can occur in the general population in the absence of any bisphosphonate or denosumab therapy or other drugs, and usually heals within 12 weeks. ONJ can also develop in people who have risk factors for ONJ including poor blood supply to the bone cells in the jaw. It can also develop after major dental surgery which involves cutting the bone, chemotherapy, steroid therapy (such as prednisone) and from poor dental health and diabetes.

## Is ONJ Caused by the Osteoporosis Therapy -- Bisphosphonates or Denosumab?

ONJ has been noted in patients with cancer receiving high doses of intravenous zoledronic acid or denosumab to reduce the complications associated with cancer that has spread to the bones. In these patients, the risk increases with higher doses and with longer duration of treatment. In patients with cancer, ONJ has been estimated to occur in 1 to 15% of individuals receiving high dose bisphosphonate or denosumab therapy.

In patients with osteoporosis, denosumab or bisphosphonate medications are used in lower doses (much lower than in patients with cancer) and the risk appears to be only minimally higher than seen in

the general population not taking any bisphosphonate or denosumab therapy. The risk of ONJ with low dose bisphosphonate or denosumab treatment in osteoporosis patients is estimated to be between 1 in 10,000 and 1 in 100,000 per year of use and appears to be increased only slightly, if at all, compared with the risk for ONJ in the general population who have not taken any osteoporosis therapy.

### How can ONJ be Prevented?



The International ONJ Task Force recommends that everyone should maintain good oral hygiene and see their dentist every 6 months (or as recommended based on oral disease risk). Routine dental work, such as dental cleaning, fillings or root

canals should be performed as usual and do not require stopping your osteoporosis treatment. It is important to stop smoking. If possible, before starting high dose intravenous bisphosphonate or denosumab therapy in patients with cancer, a detailed dental examination should be completed with Xrays of the jaw bones. Any necessary dental surgery should be completed before starting high dose intravenous bisphosphonate or denosumab therapy in patients with cancer. The recommendations for patients with osteoporosis receiving low dose bisphosphonate or denosumab therapy are similar to those which apply to all individuals. They include maintenance of good oral hygiene and visiting your dentist regularly. If oral surgery is needed, it is ideal to have the surgery completed before starting low dose oral or intravenous yearly bisphosphonate therapy or denosumab therapy if possible. Individuals with risk factors for ONJ who are taking bisphosphonate or denosumab therapy may be advised to stop treatment after dental surgery and to restart therapy after the surgical site has completely healed. This usually takes place 1-2 months after the surgery. As

bisphosphonates and denosumab are extremely important in preventing fractures, this should be discussed with the health care provider who prescribed the osteoporosis treatment.

### How is ONJ Treated?

If ONJ does occur, treatment is usually managed by the dentist and/or oral surgeon and includes maintaining good oral hygiene, controlling pain and treating areas of infection with antibiotics and oral antibiotic mouth rinses. Making sure patients take lots of fluids and appropriate nutrition is also necessary. In certain circumstances, surgical treatment is required to remove dead bone tissue. This will be determined by the dentist and oral surgeon.

### Summary:

The International Task Force on Osteonecrosis of the Jaw has been established to look at research priorities in order to help us understand the causes of ONJ as well as the most effective forms of treatment.

Osteoporosis is a serious disease. Treatment with bisphosphonates or denosumab is a safe and effective way to reduce your chances of breaking a bone. Talk to your doctor about your concerns and make sure your dentist is aware if you are taking a bisphosphonate or denosumab.

If you are experiencing any of the following symptoms please contact your dentist: Infection of the gum, drainage of the gums, poor gum healing, numbness of the jaw, jaw pain or swelling or bare bone in the mouth.

### A JOINT MESSAGE FROM

The International Task Force on ONJ : ASBMR, AAOMS, CAOMS, CAOMP, ECTS, IBMS, IOF, ISCD, IAOMS, JSBMR, NOF, Osteoporosis Canada , PAOS, TES Aliya A. Khan, Archie Morrison, David L. Kendler, Rene Rizzoli, David A. Hanley, Dieter Felsenberg,

Laurie K. McCauley, Felice O’Ryan, Ian R. Reid, Salvatore L. Ruggiero, Akira Taguchi, Sotirios Tetradis, Nelson B. Watts, Maria Luisa Brandi, Edmund Peters, Teresa Guise, Richard Eastell, Angela M. Cheung, Suzanne N. Morin, Basel Masri, Cyrus Cooper, Sarah L. Morgan, Barbara Obermayer-Pietsch, Bente L. Langdahl, Rana Al Dabagh, K. Shawn Davison, George K. Sándor, Robert G. Josse, Mohit Bhandari, Mohamed El Rabbany, Dominique D. Pierroz, Riad Sulimani, Deborah P. Saunders, Jacques P. Brown, Juliet Compston on behalf of the International Task Force on Osteonecrosis of the Jaw. Case-Based Review of Osteonecrosis of the Jaw (ONJ) and Application of the International Recommendations for Management From the International Task Force on ONJ, published in “J. Clin. Densitom.”, 1-17, 2017 Additional Task force members are: Ethel Siris, Sakae Tanaka, Bo Abrahamsen and Akira Itabashi

## OSTEOPOROSIS

