

Bisphosphonate & Denosumab Therapy - Osteonecrosis of the jaw (ONJ) in Patients with Osteoporosis – A Note for Dentists:

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- ONJ is defined as exposed bone for despite 8 weeks of antibiotic therapy
- It can vary from asymptomatic to pain, discharge, numbness and deformity.
- Bisphosphonate and denosumab can result in ONJ^{1,2}.

- This risk is highest with the doses used in cancer (monthly dosing with IV zoledronate (4mg) or sc denosumab (120mg) in patients with malignancy.
- Due to the significantly lower and infrequent doses used for the treatment of osteoporosis, the risk of developing ONJ is much lower (<1:1000 to 1:10,000 patient years)
- The risk of ONJ is 1:1000 extractions in patients with osteoporosis and 1:10 to 100 extractions in patients with malignancy.

- Once on treatment, dental surgery is not contraindicated and atraumatic extractions are recommended⁴ with review at 1 and 2 weeks and low threshold for oral antibiotics if infection is suspected.
- Any oral symptoms need to be reported, e.g. dental mobility, pain, discharge or swelling⁵. The risk of dental implants is unknown and is likely similar to extractions.
- Additionally, in patients on denosumab, the next 6 monthly injection should be given once the soft tissue has healed.
- A standard of good oral hygiene should be achieved prior to treatment. Routine dental visits and oral hygiene should be recommended^{3, 4} **but should not delay starting treatment of osteoporosis if the benefits of treatment outweigh the potential risks of ONJ.** The FLS service should check for loose teeth or black stumps and refer to community services if present.
- Patients with malignancy planning to receive oncology doses of denosumab and intravenous bisphosphonate are required to have a dental check-up before commences and then every 6 months.
- Patients who have had recovered from ONJ and their oral hygiene has improved, anti-resorptive therapy can be commenced.

1. Saad F et al. Incidence, risk factors, and outcomes of osteonecrosis of the jaw: integrated analysis from three blinded active-controlled phase III trials in cancer patients with bone metastases. *Ann Onc* 2012; 1341-1347
2. http://www.aaoms.org/docs/position_papers/osteonecrosis.pdf
3. Arrain Y and Masud T. Recent recommendations on bisphosphonate-associated osteonecrosis of the jaw. *Dental Update* May 2008; 35:238-2 2
4. American Association of Oral and Maxillofacial Surgeons. Position paper on bisphosphonate-related osteonecrosis of the jaw—2009 update. http://www.aaoms.org/docs/position_papers/bronj_update.pdf
5. Drug Safety Update. (2009) Bisphosphonates: Osteonecrosis of the Jaw. 3(4) p2-3