

2nd generation N containing bisphosphonates and other antiresorptive therapeutic agents are used in those with osteoporosis, bone metastasis associated with cancer, Paget's disease, and also those undergoing dialysis for chronic renal disease. These agents preserve bone density by inhibiting osteoclastic resorption; a serious adverse effect with dental implications is BONJ (see picture).

BONJ is more common in the mandible. People on IV bisphosphonates have a higher risk of developing BONJ (0.8% - 20%) than those taking them orally (< 0.05%). The incidence of BONJ is low, but prevention is important in order to avoid the severe symptoms and unreliable treatment options. Resection of the necrotic area and hyperbaric O₂ cannot be relied upon for healing. The so called 'drug holiday' appears ineffective in reducing the incidence of BONJ.

As for all patients, it is necessary to collect an accurate medical history including a list of current and past meds (bisphosphonates have half-lives > 10 years). The risk of developing BONJ is related to the entire class of antiresorptive drugs while the severity of the reaction is influenced by the specific drug, length of administration, and overall health of the person. BONJ can occur spontaneously and should be considered in the differential diagnosis for both non-odontogenic and odontogenic pain. The mechanism for BONJ is unclear. It is thought that surgical procedures will inadvertently expose more of the drug previously incorporated into bone producing an overdose of an osteoclastic inhibitor in a site of damaged bone -not a good combination.

Guidelines for people currently on or have a history of antiresorptive medication are:

I.V.

- **PRIOR** to starting the medication stabilise the oral health with:
 - Preventive procedures (i.e. hygiene care and instruction, also rinses -fluoride or 0.12% chlorhexidine)
 - Prophylactic procedures (i.e. orthodontics, full coverage restorations, surgeries, implants)
- Then preventive care including caries control, conservative restorative and periodontal treatment, and RCT's
- Rather than extraction, consider non-surgical RCT's or retreatment and 'bone banking' non-restorable teeth
- If possible avoid high risk procedures such as extractions, both endo or perio surgery, and implant placement

Oral

- Stabilise oral health prior to starting medication
- Proceed with conservative restorative, periodontal, and endodontic treatment as needed
- Exercise enhanced care for extractions, implant placement, or endo/perio surgeries

BONJ is painful, difficult to treat, and another reason why saving the teeth through endodontics is often the right thing to do.

Regards,



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Signs and symptoms of Bisphosphonate-Associated Osteonecrosis of the Jaw (BONJ) are:

- Pain
- Irregular mucosal irritation with exposed bone
- Infection associated with the exposed site
- Numbness or heavy sensation.



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