

The aetiology of MRONJ is uncertain, but appears multifactorial and related to dose and duration of antiresorptive exposure, pre-existing oral disease profile, type of dentoalveolar oral surgery, and genetic polymorphisms.⁶

Because the dose and duration of antiresorptive therapy are of concern in the development of MRONJ, patients who have been on more than four years of antiresorptive therapy are at greater risk of MRONJ. Patients should be educated to inform their dental provider if they are taking antiresorptive agents (bisphosphonates or denosumab).

Invasive dental surgery, including extraction, implant insertion, and limited surgical intervention to treat dental infection/abscess, such as periodontal scaling and endodontic (root canal) therapy, have been associated with osteonecrosis of the jaw.

Consensus recommendations from the American Association of Oral and Maxillofacial Surgeons¹ and the International Task Force on Osteonecrosis of the Jaw⁶ state that elective dentoalveolar oral surgery is not contraindicated in patients receiving antiresorptive therapy (bisphosphonate and denosumab) for osteoporosis. However, the identification and treatment of dental disease prior to the initiation of antiresorptive therapy, if possible, is recommended.⁶ Patients should be adequately informed of the very low risk of MRONJ.

The American Association of Oral and Maxillofacial Surgeons recommends that if systemic conditions permit, discontinuation of oral bisphosphonates for two months before and three months after elective invasive dental surgery may be considered to lower the risk of MRONJ.¹ This guidance contrasts with that of the American Dental Association and the International Task Force on Osteonecrosis of the Jaw, both of which state there is insufficient evidence to recommend a break from antiresorptive drug therapy, or a waiting period before performing minor oral surgical treatment.⁶⁻⁸ However, the International Task Force on Osteonecrosis of the Jaw recommends that in those at high risk of MRONJ, pausing antiresorptive therapy following extensive oral surgery should be considered until the surgical site heals with mature mucosal coverage.

The decision to initiate a treatment pause should be made in consultation with the prescribing clinician and incorporate consideration of the individual patient's fracture risk (refer to **Section 3.2** regarding the risk of rebound vertebral fracture following denosumab cessation). Patients at lower risk of fracture may safely undertake a brief treatment pause if undergoing an invasive dental procedure. There is no evidence to support the use of serum C-telopeptide (a bone turnover marker) to guide the timing of dental procedures in patients receiving antiresorptive therapy.^{1,3}

Optimising oral hygiene and addressing active dental disease prior to initiating antiresorptive therapy may reduce the incidence of MRONJ.⁶ Good dental hygiene and care are recommended for all patients undergoing antiresorptive therapy for osteoporosis, particularly in those on long-term bisphosphonates. There is a strong association between periodontitis and MRONJ due to the increased likelihood of extractions, the direct effects of bacterial infection, and delayed healing due to inflammation.⁸ Improved dental awareness and prophylactic intervention have significantly reduced the incidence of MRONJ in patients receiving antiresorptive therapy for bone-related cancer complications.⁹