

Dear Dr. _____,

Our mutual patient _____ (DOB _____) is under my care for his/her diagnosis of osteoporosis and is currently treated with _____ to reduce his/her risk of osteoporotic fracture. I want to take this opportunity to summarize my recent discussion with our patient about his/her high risk of fracture compared to his/her real but very rare risk of MRONJ (Medication-related osteonecrosis of the jaw).

MRONJ is a rare event associated with the following medications: oral alendronate (Fosamax), oral risedronate (Actonel/Atelvia), oral or IV ibandronate (Boniva), IV zoledronic acid (Reclast), SQ denosumab (Prolia®), and SQ romosozumab (Evenity). MRONJ has NOT been associated with oral Raloxifene (Evista), SQ Teriparatide (Forteo®), or SQ Abaloparatide (Tymlos®); therefore, there is NO recommendation for altering your standard dental plan if our patient is on one of these medications.

I know that you may have concerns about the risk of MRONJ; however, in a patient at high risk for fracture, the benefit of an approximate 40-70% reduction in fracture risk far outweighs the rare 1/10,000 to 1/100,000 risk of MRONJ. The most recent scientific summary reports by the ADA, AAOMS and the International Task Force for ONJ support this position. These societies also DO NOT recommend serum CTX testing.

In the publication of the FREEDOM extension trial (Bone HG, et al. *Lancet Diabetes Endocrinol.* 2017;5(7):513-523), the real-world incidence of MRONJ in osteoporosis patients treated with denosumab (Prolia®) for up to 10 years was 5.2 cases per 10,000 subject years. It should be noted that denosumab (Xgeva®) and zoledronic acid (Zometa®) are used in the setting of cancer treatment in significantly higher doses and administered monthly instead of every 6-12 months. The risk of adverse events like MRONJ is much lower in the doses and frequency used for treating osteoporosis patients than in the treatment of oncology patients.

A tooth extraction or invasive jaw surgery may impart additional risk for MRONJ, especially if there is periodontal disease or chronic infection; however, routine cleanings, fillings, scaling/root planing, root canals and even implants do not appear to increase the risk of MRONJ. In all patients, but especially in those with additional risk factors such as diabetes, dry mouth, smoking, periodontal disease, poor fitting dentures or steroid use, the best course of action is appropriate dental hygiene and preventive dental care. You may consider oral antibiotics before and after procedures and/or antimicrobial rinses or local antimicrobial solution application if any of these risk factors are present or where you deem appropriate.

We do not recommend interruption of osteoporosis treatment for dental procedures in patients with high risk of fracture, especially if they are receiving denosumab (Prolia®) where the risk of multiple vertebral fractures is increased if denosumab (Prolia®) is discontinued or dosing is delayed without starting an alternative antiresorptive therapy.

I appreciate being able to care for our patient's bone health and would be happy to address any additional concerns that you may have.

Sincerely,