
Medication Related Osteonecrosis of the Jaw (MRONJ)

Medication related Osteonecrosis of the Jaw (MRONJ) is an uncommon, but significant complication of having some dental procedures whilst taking an anti-resorptive bone medication.

What are Anti-resorptive bone medications?

These medications are used to treat certain conditions that affect the bones.

The most common conditions include:

- Osteoporosis
- cancers that have spread to bone
- Multiple Myeloma
- raised calcium levels associated with malignancy (cancer)

These medications include bisphosphonates (e.g. Alendronic acid) or human monoclonal antibodies (e.g. Denosumab). These medications enable the bone to become stronger and can help manage the adverse effects of cancers that have spread to the bone. They are given orally (by mouth) or as an injection.

How do these medications affect the jaw bone?

A possible side effect of these medications is part of the jawbone inside of the mouth could become exposed. This is called Medication Related Osteonecrosis of the Jaw (MRONJ). This can sometimes be uncomfortable and episodes of associated infection can occur, which may require antibiotic therapy for a period of time or a surgical operation to clear away the damaged bone.

How does dental treatment affect the risk of MRONJ?

Any dental treatment that causes insult to the jawbone may cause MRONJ. Examples of these include, dental extractions, gum surgery, dental implants or an apicectomy (surgery to the end of the root of tooth). Routine dental treatment, such as a filling, can be carried out by your dentist without risk. The greatest risk for patients is for those patients prescribed these medications by injection for metastatic disease (cancers that have spread around the body) that have got into the bone. Your dentist or surgeon will discuss your risk depending on the particular medication you have been taking, how long you have been taking it, as well as any other medicines you may also have taken (e.g. steroids) and your general health.

Preventing MRONJ

The best way to avoid MRONJ is to avoid having a tooth extracted but often this cannot be avoided. Gum disease and dental infection can also make patients more likely to get MRONJ. Therefore, regular dental check ups and maintaining good oral health before, during and after prescription of these medications is very important to avoid the need for dental treatment. Should any treatment be required that may cause insult to the jawbone, you may be prescribed antibiotics and antibacterial mouthwash. These may reduce the risk, but they are not guaranteed to prevent MRONJ. It may be suggested that you stop taking the medicines for sometime before and after your dental treatment. Sometimes dental treatment is delayed until the negative effects of the anti- resorptive medication are reduced, treatment is carried out, and the medication given only when healing has occurred.

*It is very important that you do **not** stop taking your medications without the agreement from the doctor who prescribes the medicine.*

What are the signs and symptoms of MRONJ?

- possible numbness, heaviness or other unusual sensations in the jaw
- pain in your jaw
- a bad taste in your mouth
- swelling of the face or affected gum area
- loose teeth
- exposed bone

These signs and symptoms may also be due to a simple infection following treatment. You should contact your dentist /surgeon immediately if you develop any of these signs or symptoms, or have any concerns.

Further information about MRONJ can be found from the following sources:

Patient.co.uk website; "Bisphosphonates Condition Leaflet"

<http://www.patient.co.uk/health/Bisphosphonates.htm>

Scottish Dental Clinical Effectiveness Programme
"Oral Health Management of Patients Prescribed
Bisphosphonates Patient Advice Leaflet"

<http://www.sdcep.org.uk/index.aspx?o=3017>

American Association of Oral and Maxillofacial Surgeons.

Position Paper: Medication-Related Osteonecrosis of the Jaw—2014 Update.

[https://www.aaoms.org/docs/position_papers/mronj_position_paper.pdf?pdf=MRONJ-Position-Paper.](https://www.aaoms.org/docs/position_papers/mronj_position_paper.pdf?pdf=MRONJ-Position-Paper)