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Medication-related osteonecrosis of the jaw (MRONJ)

Oral & Maxillofacial Surgery

Information for Patients

Last reviewed: September 2026
Next review: September 2029
Leaflet number: 915 Version: 4

What is MRONJ?

Medication-related osteonecrosis of the jaw (MRONJ) is a rare but major complication. It is related to the group of drugs known as anti-resorptive bone medication (ARBM). Osteonecrosis means ‘death of the bone’.

You have a higher risk of MRONJ after dental or oral surgery. MRONJ can also happen for no clear reason and is not always linked to dental surgery. For example, it may be caused by loose or poorly fitting dentures.

Anti-resorptive bone medications (ARBM) are used to treat some bone conditions such as:

- brittle bone disease (osteoporosis)
- cancers in the breast and prostate, or cancers which spread to the bone
- cancer of the white blood cells (multiple myeloma)
- raised calcium levels

Medications such as alendronic acid or denosumab are most often given to strengthen your bones. ARBM can be given orally once a week as a tablet, or by injection every 3 months.

You are at higher risk of getting MRONJ if you have ARBM by injections. This risk is also raised if you are on long term steroids or have a medical condition which affects your immune system.

Should I stop taking the medication?

No, carry on taking your medication as the medical benefits outweigh the risks. We also know that ‘medication holidays’ have limited effectiveness with these drugs, as they work by binding to the bone. Their presence and effect are long-term, lasting years, sometimes lifelong.

You must have a dental check-up before starting ARBM and tell your dentist about this new medication.

Why have I been referred to the Maxillofacial Unit?

You have been referred to the Oral and Maxillofacial Unit by your dentist. You need to have teeth removed or you need a minor surgical procedure and have been taking ARBM treatment.

At your consultation your surgeon will discuss with you all the possible treatment options available. These include:

- leaving the teeth in place if you are not in pain or discomfort, or do not have an infection.
- filling the teeth to help with decay or pain relief, by your dentist.
- possibility of your dentist providing root canal therapy, rather than extraction.
- having teeth taken out (extracted) by a member of our team.
- possible surgical intervention.

If your dentist has already taken out your teeth and you have developed MRONJ, we will assess how best to manage it. This may include more surgery.

How do I know I have MRONJ?

Symptoms include:

- pain, swelling, redness
- signs of infection of the jaw or gums
- empty tooth socket which does not heal after an extraction.
- loose teeth (gum disease may lead to MRONJ in some cases).
- numbness of the lip
- bone exposure
- discharge and bad taste.

There are 4 stages of MRONJ. These range from a tooth socket that heals slowly and may take a few weeks or months to heal, to an area of exposed bone that has lost its blood supply.

Severe MRONJ can cause infection and pain at the site. It can also spread to the bone around it. It may not be possible to cure the symptoms fully or stop the condition from getting worse.

The **risk** of developing MRONJ for no clear reason is between 1 in 1,000 and 1 in 10,000. This depends on different factors, such as your general health and any other medicines or treatments you are having.



Image referenced from the Scottish guidelines www.sdcep.org.uk/media/m0ko0gng/sdcep-oral-health-management-of-patients-at-risk-of-mronj-guidance-full.pdf

What is the risk of MRONJ with dental or oral surgery?

The risk of developing MRONJ after dental extractions if you are already on ARBM varies from low to high risk.

- For cancer patients it is about 1% (1 in 100).
- For patients with brittle bone disease (osteoporosis) it is 0.1% (1 in 1000).
- In some cases, the risk can be as high as 10% (10 in 100).
- It is highest in patients on intravenous ARBM.
- It is lower if taken in tablet form, usually if taken for less than 5 years.

There will always be a risk, however, even if you have stopped taking these medications. Factors such as:

- diabetes,
- steroid treatment,
- having had MRONJ before,
- cancer,
- radiotherapy or other immune suppression diseases,
- the type of surgery needed all increase the risk.

Can my dentist take my teeth out?

Your dentist can safely carry out procedures for fillings, gum treatment and extractions. Some patients are also referred to the Maxillofacial Unit for our advice and skill in removing teeth. There is still a risk of developing MRONJ no matter where you have the procedure.

What to do before a tooth is taken out

- Your consultant may advise a drug holiday or schedule the start of your drug for after the extraction.
- Follow oral hygiene instructions.
- Take antibiotics and regular mouthwash if prescribed.
- Stop smoking, especially after the tooth is taken out.

Is there a cure?

There is no definite cure, but MRONJ can usually be managed successfully.

Sometimes we need to remove any dead bone. This helps the gum heal over the healthy bone underneath. However, your body may treat any surgery as an injury, and this may sometimes make the condition worse. We will see you regularly to check the area closely. You should also have regular check-ups with your dentist. This can help reduce the need to have a tooth taken out.

What else can I do to lower the risk of developing MRONJ?

As there is no clear way of knowing who will get MRONJ, there are a few things you can do to help lower your risk. This includes:

- have a dental check-up before taking ARBM so your dentist can get your dental health as fit as possible before you start. Have regular check-ups after starting ARBM.
- have any teeth with a poor long-term outlook taken out, before you start ARBM.
- increase your oral hygiene routine, with regular visits to a hygienist.
- stop smoking.
- reduce the amount of sugary snacks and drinks you have.
- reduce your alcohol intake.
- always let your dentist about all medications you take, and any new drugs you may have started since your last appointment.
- if you notice any symptoms of MRONJ, contact your dentist, in the first instance, as soon as possible.

Contact details

Reception: 0116 258 5301

Nurses station: 0116 2585671

Health information and support is available at www.nhs.uk or call 111 for non-emergency medical advice
Visit www.uhleicester.nhs.uk for maps and information about visiting Leicester's Hospitals.
To give feedback about this information sheet, contact uhl-tr.informationforpatientsmailbox@nhs.net

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