



Practice Sting 2026-10

Practice Sting: Denosumab continued beyond the recommended

This Practice Sting is particularly relevant for pharmacists and prescribers involved in the treatment of osteoporosis.

treatment duration

Ensure that the maximum recommended 10-year duration of denosumab treatment is monitored accurately and that treatment is routinely reviewed every 3 years.

Incident

During a clinical review, an internist identifies that a patient has been receiving denosumab for 13 years, although the maximum recommended treatment duration is 10 years. The patient has developed fractures of the toes and osteoporosis of the hip, probably as a result of the excessively prolonged denosumab treatment.

Recommendations

For pharmacists

- Establish how the start date of denosumab treatment can be communicated to other pharmacies, prescribers and hospitals.
- For every patient receiving denosumab, establish the treatment start date and record the latest permissible end date.
- Ensure that pharmacy technicians are aware of the maximum recommended duration of denosumab treatment and its clinical importance.
- At each dispensing, verify whether the maximum recommended treatment duration has been reached.
- Contact the prescriber if denosumab is prescribed beyond the maximum recommended duration of 10 years.

For prescribers

- Review denosumab treatment for osteoporosis every 3 years and use the clinical findings to determine whether treatment should be continued for a further 3 years.
- Initiate sequential treatment with a bisphosphonate when denosumab is discontinued.

Analysis

Clinical guidelines recommend limiting denosumab treatment to a maximum of 10 years. Prolonged use of antiresorptive medicines such as denosumab is associated with an increased risk of osteonecrosis of the jaw and atypical femoral fractures. In this incident, the patient had received denosumab for 13 years and probably developed complications associated with excessively prolonged treatment.

Neither the pharmacist nor the prescriber had monitored the duration of denosumab treatment in this patient.

Denosumab is administered only once every six months, and pharmacies therefore process relatively few prescriptions for this medicine. Moreover, Dutch prescribing and pharmacy systems do not routinely generate an alert when the maximum recommended treatment duration is exceeded. As a result, the total duration of treatment may easily be overlooked. The pharmacy team must therefore verify the treatment duration whenever denosumab is dispensed. In practice, this may be challenging, particularly when a patient moves or is admitted to a nursing home.

To prevent excessively prolonged treatment, the *Osteoporosis and fracture prevention guideline* (2022) recommends reviewing denosumab therapy every 3 years. Regular review enables the prescriber to maintain clinical oversight of the patient and the treatment and reduces the risk of complications associated with prolonged denosumab use.

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This Practice Sting was co-authored by master’s students in Pharmacy at Leiden University as part of the pharmacy simulation exercise.