

## Patients receiving intravenous bisphosphonates should avoid invasive dental procedures

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**Reason for posting:** The intravenous bisphosphonates pamidronate (Aredia) and zoledronic acid (Zometa) are often used to treat cancer-related hypercalcaemia, Paget's disease and symptoms from solid-tumour bone metastases and osteolytic lesions of multiple myeloma. However, since 2003, osteonecrosis of the jaw has been reported in at least 217 patients taking the drugs,<sup>1</sup> often soon after procedures such as tooth extraction.<sup>2</sup> In light of this, the US Food and Drug Administration recently sent a letter to health care professionals warning that patients taking these drugs should avoid invasive dental procedures.<sup>2</sup>

**The drugs:** Bisphosphonates work by inhibiting osteoclast-mediated bone resorption. They are often prescribed for use over long periods and in conjunction with chemotherapeutic agents or steroids.

It is unclear why the osteonecrosis (avascular necrosis) experienced seems to affect the jaw preferentially. It occurs, often after many months of using the drugs,<sup>3</sup> in 1 patient in about 10 000.<sup>1</sup> Possible risk factors include having a diagnosis of cancer; using corticosteroids, chemotherapy or radiation therapy; and having a comorbid condition, including poor oral hygiene, dental disease and infection (including osteomyelitis), anemia and coagulopathies.<sup>2</sup> Although some affected patients notice no symptoms, others experience more serious signs and symptoms (see Box). Osteonecrosis of the jaw is rarely reported in patients who take bisphosphonates orally, including long-term users.<sup>3</sup>

**What to do:** Patients who are to receive intravenous bisphosphonates should be warned of this potential effect. If time permits before the drug therapy is initiated, a dental examination may detect and allow treatment of tooth or gum problems that could predispose a patient to osteonecrosis. Proper denture fit should be ensured and good dental hygiene reinforced. The oral hard and soft tissues of patients taking these drugs should be examined every 3 months or so. Invasive procedures that may require bone to heal, such as tooth extractions and bone biopsies, should be avoided if possible. When dental surgery is required, it is uncertain whether cessation of bisphosphonate therapy decreases the risk of

### Box 1: Signs and symptoms of osteonecrosis of the jaw

Infection of the gums  
Drainage from the gums  
Poor gum healing  
Numbness in the jaw, or a sensation of heaviness  
Jaw pain or swelling  
Exposed bone

necrosis. Prompt referral to a dentist or oral maxillofacial surgeon is recommended for patients with facial symptoms of osteonecrosis, although surgery in the affected area may exacerbate or prolong the condition. Conservative management includes culturing any lesions and using antibiotics as appropriate, and recommending an antiseptic oral rinse that contains chlorhexidine gluconate. Unfortunately, some affected patients ultimately require the resection of portions of their jaw.

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### References

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