

# CLINICAL INSIGHTS

PRESENTED BY

## ESCONDIDO ENDODONTICS

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### Bisphosphenate Induced Osteonecrosis

Osteonecrosis of the jaws in patients with bone metastasis from a variety of solid tumors, breast cancer, and multiple myeloma has been reported in the literature. In the last two years the number of reports of this type has increased significantly. The patients are invariably on an intravenous bisphosphenate regimen. Bisphosphenates have a primary function of inhibiting bone resorption and maintaining bone density. Common names for these medications are: Zometa, Aredia, Fosamax, Bonvia, Actonel, Skelid, Bonafos, and Didronel. Also any generic drugs ending in the suffix - “**dronate**” are included. There have been multiple case reports in the medical literature, however, none have appeared earlier than 2003 and the drug company Novartis Pharmaceuticals did not alert dentists to possible oral problems with the drug until May of 2005.

The mechanism is thought to be inhibition of osteoclastic function which results in the suppression of normal bone metabolism and inhibited vascularity. In the oral cavity, the maxilla and mandible are subjected to constant stress from masticatory forces. This combined with the bacterial flora of the oral environment make bisphosphenate related osteonecrosis more common in the mouth than other parts of the body.

The initial clinical presentation may be seen as a bony sequestrum protruding through the mucosa. Some sequestra occur spontaneously or can be associated with trauma from sharp food items.

Bisphosphenate associated osteonecrosis has significant clinical implications because many patients fail to heal after dental surgical procedures.

#### CLINICAL CONSIDERATIONS

Routine restorative treatment with local anesthesia can be provided. The mucosa should be as trauma free as possible, especially during scaling and prophylaxis.

Teeth that are extensively carious should be considered for endodontic treatment, extraction should be avoided whenever possible.

Orthodontic extrusion until the root tip is free of the alveolar bone is an alternative for extraction.

The exposed bone can only be treated minimally with superficial debridement. Antibiotic and chlorhexidine rinses are recommended.

\*\* Patients may not remember to inform their dentist that they have received an intravenous drug because it may only be administered once per month in a hospital oncology unit.

\*\* The oral medication Fosamax is more likely to be reported on the medical history because it is taken daily or weekly. Fosamax is sometimes used with intravenous bisphosphenates.

\*\* Written medical histories can be used to query the patient for specific drug use, for example, past use of the diet drug Phen-Fen. A recommendation for managing potential problems with bisphosphenates is to specifically ask about use of Fosamax or “other osteoporosis type medications” in the medical history.

**The December 2005 issue of the Journal of the American Dental Association has devoted the cover story and three clinically significant articles to this important topic.**