

Bisphosphonate Therapy



Bisphosphonates are prescription drugs that act as powerful inhibitors of bone remodeling activity. They have been widely used since the mid-1990s to prevent bone deterioration in cases of osteoporosis, osteopenia, Paget's disease of bone, and other metabolic bone diseases, including childhood osteogenesis imperfecta, as well as in malignancies such as multiple myeloma and skeletal problems associated with metastatic cancer.

Bisphosphonates currently used in the United States

- Didronel (Etidronate)
- Skelid (Tiludronate)
- Fosamax (Alendronate)
- Actonel (Residronate)
- Boniva (Ibandronate)
- Xgeva or Prolia (Denosumab)
- Aredia (Pamidronate) – given intravenously
- Zometa (Zoledronate) – given intravenously

Bisphosphonate- or Medication-related Osteonecrosis of the Jaws

This condition of exposed, necrotic (dead) bone can occur as a result of the following:

- current or previous treatment with a bisphosphonate drug
- trauma or surgery to the jaw bone, including but not limited to tooth extraction, gum surgery, implant placement, or even from an ill-fitting partial or denture.

Risk Factors for Bisphosphonate-related Osteonecrosis

- Poor health with a compromised immune system
- Poor oral hygiene
- Cancer of the bone

Incidence of Osteonecrosis

- Oral Medication: 0.5% risk after tooth extraction, implant placement or periodontal surgery
- 0.5% risk occurs after you have been on oral medication for 4 years or longer
- IV Medication: risk is 100 times higher than oral medication after 4-6 months of use
- 73% of all cases of osteonecrosis occur in the lower jaw

Treatment of Osteonecrosis

If osteonecrosis occurs, the condition could last as few as 8 weeks or as long as a lifetime. The following could be used to treat this condition:

1. Antibiotic therapy (e.g., Penicillin, Clindamycin)
2. Antimicrobial daily rinses (e.g., Peridex, Perigard)
3. Bone debridement/cleaning
4. Surgical removal of necrotic bone

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Conclusion and Recommendations

According to an expert panel convened by the American Dental Association (ADA) Council on Scientific Affairs, patients taking bisphosphonates should be aware that:

1. Although actual incidence is unknown, taking oral bisphosphonates places people at low risk of osteonecrosis of the jaws;
2. The low risk of osteonecrosis may be minimized but not eliminated;
3. Good oral hygiene and regular dental care may lower osteonecrosis risk;
4. No validated diagnostic technique exists to determine if a dental patient is at increased risk of osteonecrosis; and
5. Giving up a bisphosphonate regimen may not reduce or eliminate the risk of developing osteonecrosis.
6. If you have been on oral bisphosphonates for 4 years or longer and require tooth extractions, implant placement, immediate dentures or periodontal surgery, your surgeon may have you stop taking the medication 2 months before surgery and stay off it for 3 months after surgery in order to reduce the risk of osteonecrosis.
7. If you have been taking oral bisphosphonates for less than 4 years, and there are no additional risk factors clinically, there is no need to stop the medication or delay dental treatment.