

# PREVENTION AND MANAGEMENT OF BISPHOSPHONATE RELATED OSTEONECROSIS OF THE JAW IN CHILDREN

**UPDATE**

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Bisphosphonates are a class of pharmaceutical agents widely used for the treatment of Osteogenesis Imperfecta, postmenopausal osteoporosis, malignant disorders of bone and orthopaedic conditions. They have been shown in numerous trials to benefit patients through improved bone density, decreased orthopaedic complications, decreased bone pain and improved quality of life.

The drugs in most common use in Paediatric practice are Pamidronate and Zoledronate which are administered by IV infusion and Risedronate and Alendronate which are given as oral preparations. These agents have been used for over a decade in children with OI in Australia. However none of the drugs is approved for use in children for any indication by the Therapeutic Goods Administration. They are therefore used under conditions of strict supervision in children.

Osteonecrosis of the Jaw (ONJ) or Bisphosphonate Related Osteonecrosis of the jaw (BRON) is a recently recognized potential side-effect of Bisphosphonate use. It was first reported by Marx in 2003. It is most simply described as non-healing, painful jaw wounds following dental extraction or other dental procedures. At the present time the risk from normal loss of baby (deciduous) teeth in children is not known but presumed to be extremely small.

**World wide there have been no reports of BRON in children who have received bisphosphonates.** A large study of 64 young people with Osteogenesis Imperfecta from Sweden treated with bisphosphonates for up to 12 years revealed no instance of BRON (Malmgren et al 2007). The risk of BRON in carefully supervised treatment of children is also believed to be very small.

There are now numerous warnings and guidelines about prevention of bisphosphonate related complications in adults provided to medical and dental practitioners in Australia and New Zealand (Osteoporosis Australia). The Centre for Children's Bone Health and the Department of Dentistry at The Children's Hospital at Westmead and Westmead recommend that we should take a cautious approach and have prepared guidelines for prevention of this complication in children. All children receiving bisphosphonates are referred for regular dental assessments and dental care. The guidelines can be obtained from the undersigned.

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1. Malmgren B, Åström E, Söderhäll S. No osteonecrosis in jaws of young patients treated with bisphosphonates. Journal of Oral Pathology and Medicine (on-line September 2007)
2. Osteoporosis Australia. Bisphosphonates and Osteonecrosis of the jaw. December 2007 ( [www.anzbms.org.au](http://www.anzbms.org.au) )