Bisphosphonates – team work required.

The Australian Dental Association (ADA) has issued a public statement for dental patients taking bisphosphonates following the ***7.30 Report*** on the ABC last night.

Bisphosphonates are a group of medications that are prescribed for the management of bone diseases such as osteoporosis, Paget's disease, cancers which spread to bone (especially breast and prostate), multiple myeloma and other bone conditions.

In Australia, in 2005 there were 3 million bisphosphonate prescriptions written for 300,000 patients.

In 2003, an Australian study first reported the incidence of osteonecrosis of the jaw (ONJ) in patients taking bisphosphonates.[1] ONJ is death of a section of the jaw following surgery or trauma (usually an extraction). It often involves pain, and there may be obvious exposure of bone in the mouth. Sometimes there is a draining sinus, with extensive undermining of the surrounding mucosa overlying the necrotic bone. The most common complication of ONJ is soft tissue infection, which may be extensive.[2]

Dr John Matthews, Federal President of the ADA, said "Bisphosphonate use associated osteonecrosis of the jaw is a relatively new phenomenon. Currently there is no evidence that bisphosphonates cause ONJ[3] however we do acknowledge there is a strong association. The level of incidence is low (about 500 cases so far reported in Australia). With proper care being exercised osteonecrosis risk is minimized.

"Patients who have commenced bisphosphonate therapy must inform their dental practitioner before undertaking any dental treatment. Likewise a patient should advise their medical practitioner of their dental health before being prescribed bisphosphonates. The relationship between the dentist, doctor and patient is critical for the patient's health and well being," Dr Matthews said.

Dental patients should be aware of the following:

Before commencing bisphosphonate therapy, a medical practitioner should refer the patient to a dental practitioner to ensure they are dentally fit and unlikely to require extractions in the foreseeable future.

The medical practitioner should:
- ensure the patient has a proven indication for bisphosphonate therapy
- refer the patient for dental assessment
- commence bisphosphonate therapy (after dental treatment, if required)

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[1] Cheng A, Mavrokokki A, Carter G, Stein B, Fazzalari NL, Wilson DF, et al (2005) The dental implications of bisphosphonates and bone disease. *Aust Dent Journal*, 50 (Suppl 2): S4-13.
[2] Australian Dental Association (2007) *Therapeutic Guidelines Oral and Dental*, version 1.
[3] Goss A (2007) 'Bisphosphonate Update 2007' in *News Bulletin*, ADA Inc, October 2007 No 359.

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The dental practitioner should establish dental fitness:
- eliminate caries (extractions, restorations)
- establish healthy periodontium (scaling, extractions)
- advise the medical practitioner when the patient is dentally fit

After commencing bisphosphonate therapy, the dental practitioner should monitor oral health regularly.

Patients who are taking bisphosphonates should not have extractions or bone surgery until careful assessment of the risk of ONJ has been undertaken. Patients should not cease or change their bisphosphonate therapy without the consent of their medical practitioner.[4]

The most commonly prescribed biphosphonates are:

- nitrogen-containing bisphosphonates
  - alendronate (Fosamax)
  - risedronate (Actonel)
  - disodium pamidronate (Aredia, Pamisol)
  - zoledronic acid (Zometa)
- non-nitrogen-containing bisphosphonates
  - etidronate
  - sodium clodronate
  - tiludronate [5]

Individual risk factors of ONJ associated with bisphosphonate therapy that have been identified include:

- Age – generally the older the patient the greater the risk.
- Medical state – ONJ is more likely in patients who are immuno-compromised with the statistically demonstrable ones being cortico-steroids and diabetes.
- Heavy smoking may be a risk factor.
- Bone disorder – the risk greatest for multiple myeloma, bone cancer and Paget's disease with the least risk being for osteoporosis.
- Drug – the more potent the drug and the longer the duration, thus the higher total dose the greater the risk.
- Bone invasive procedures – three quarters of all cases directly follow dental extraction. Other procedures involving bone, including periodontal scaling and trauma from dentures have also been identified. [6]

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The Australian Dental Association (ADA) is the peak national professional body representing about 10,000 registered dentists engaged in clinical practice. ADA members work in both the public and private sectors. The primary objectives of the ADA are to promote the practice of evidence-based dentistry and encourage access for all Australians to affordable preventive oral care. Further information on the activities of the ADA and State and Territory Branches can be found at www.ada.org.au

[4] Australian Dental Association (2007) *Therapeutic Guidelines Oral and Dental*, version 1.
[5] Ibid.
[6] Goss A, *op cit*.