

BISPHOSPHONATES

Bisphosphonates are a class of medications used to treat osteoporosis. They work by reducing the resorption of bone. This leads to the balance of bone turnover being in favour of bone formation, and hence stabilisation/improvement of bone density.

These medications come in 2 forms:

1. Tablets (weekly or monthly)

- Alendronate (brand name Fosamax)
- Risedronate (brand name: Actonel)

2. Once yearly intravenous infusion

- Zoledronic acid (brand name: Aclasta).

These medicines can increase bone density by approximately 4-8% in the spine and 1–3% in the hip, over the first 3-4 years of treatment. They have a beneficial effect on fracture rates and have been shown to reduce spinal fractures by 30 – 70% and hip fractures by 30 – 50%. A positive effect can be seen as early as 6 – 12 months after starting treatment).

PBS subsidy applies to men and women with osteoporosis and fractures, and older people (over 70) with low bone density. It also applies to people taking corticosteroids (eg: prednisone or cortisone) at a dose of 7.5 mg for at least 3 months.

Methods of administration

Tablet forms of these medications should be taken on an empty stomach with a full glass of water. NO food should be taken for 30 minutes following ingestion of the tablet & you should maintain an upright posture (ie. Standing/ sitting upright) for 30 minutes following ingestion of the medication. This will help with absorption of the medication and help minimise the gastrointestinal side effects of the medication.

Side effects

Gastrointestinal side effects are the most common, with reflux symptoms (heartburn), burning in the stomach, nausea or diarrhoea occurring.

Patients should be made aware of 2 potentially serious side effects:

1. Osteonecrosis of the Jaw. This is a potentially serious and painful side effect of these medications with a very low incidence. It leads to death of bone, causing exposed bone in the jaw which does not heal properly. It is painful and long lasting. The incidence is quoted at 1 in 10,000-1 in 100,000 patients (rare). The risk is greater in patients receiving high doses of this type of medication intravenously, such as in cancer patients receiving treatment for bony spread of cancer. The risk is also greater in patients with poor oral hygiene or those requiring invasive dental work, such as extraction. Recommendations for those people requiring invasive dental work whilst on these medications is to cease the medication for 3 months prior to invasive dental work, and use of prophylactic oral antibiotics around the time of extraction.

2. Atraumatic subtrochanteric Femoral Fracture. This refers to fractures occurring spontaneously (not related to trauma, or related to minimal trauma) in the femur (long bone between hip and knee) just below the hip. It appears to be related to the suppression of bone turnover over a prolonged period, and has led to recommendations that this class of drugs be used for a maximum of 5-10 years during each patient's lifetime.