Fracture Prevention Protocol
For all men and women over 50 years with a Fracture

**ASSESS**
- Assess baseline bone mineral density by DXA (t-score hip and/or total spine)
  - If t-score is:
    - `< or = - 2.5`
    - `> - 2.5 to - 1.0`

**PRESCRIBE BONE ACTIVE MEDICATION**
1. Authority Streamline medication e.g.
   - Alendronate 70mg oral weekly
   - Risedronate 35mg oral weekly or 150mg monthly
   - Strontium ranelate 2g daily
   - Zoledronate 5mg IV annually
   - Denosumab 60mg sc 6 monthly
   - And ADD
2. Vitamin D 800-1000 IU cholecalciferol and oral calcium daily 500-1200mg (if dietary intake inadequate)

**MANAGE**
- Most specialists would treat with a prescription bone agent AND vitamin D3 and calcium
- However some would monitor and review in 12 months
- If `<50 nmol/L` start oral vitamin D3 1000-4000 IU cholecalciferol daily for 1 month then check level, aiming for a serum 25-OH vitamin D in the high normal range between 80-100 nmol/L
- Advise all patients to have sunlight exposure to arms and legs without sunscreen for at least 20 minutes, three times a week (avoiding the hours of 10am to 2pm or 11am to 3pm during daylight savings)
- The majority of patients will require supplementation as most older people have inadequate calcium intake
- Manage risks as appropriate including:
  - vision
  - postural hypotension
  - sedatives/hypnotics
  - other medications
  - poor balance, muscle weakness
  - footwear
  - excessive alcohol
  - low physical activity
  - smoking
  - home hazards

**MONITOR**
- 3 - 6 monthly review for adherence with therapy, exercises and monitoring of side effects
- 1 - 2 yearly DXA scan
- 6 monthly 25-OH vitamin D level until optimal level between 80-100 nmol/L, then measure yearly
- Dietary advice
- Check calcium levels yearly
- Encourage regular strength and balance exercises
- Assess regularly (e.g. tandem stance)

**REFER**
- If further investigation is warranted, or the patient is intolerant of, or not responding to, oral medication consider referral to a rheumatologist or an endocrinologist, or the Osteoporosis/Bone/Falls Clinic at your local hospital

All medications have some potential side effects. If these agents are contraindicated or not tolerated, alternatives such as raloxifene for females can be given orally, or parathyroid hormone injection may be appropriate through specialist referral. Osteonecrosis of the jaw while on oral osteoporosis medications is extremely rare - good dental hygiene and avoiding tooth extractions are preventative measures.

*Recommended to wait until six weeks after a fracture. For patient information sheets about medications see: [www.australianrheumatology.org.au](http://www.australianrheumatology.org.au)

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*While BMD is preferable, any high risk patient for whom BMD is unavailable, including nursing home patients and older, old people under active medical management, should receive a prescription bone agent, vitamin D and calcium without further investigation.

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