

RGH Pharmacy E-Bulletin

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A joint initiative of the Patient Services Section and the Drug and Therapeutics Information Service of the Pharmacy Department, Repatriation General Hospital, Daw Park, South Australia. The RGH Pharmacy E-Bulletin is distributed in electronic format on a weekly basis, and aims to present concise, factual information on issues of current interest in therapeutics, drug safety and cost-effective use of medications.

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Drugs associated with increased risk of fractures and/or osteoporosis

Several medications have been associated with a significant risk for osteoporosis and fractures, including corticosteroids, thyroid hormone excess, anticonvulsants, chronic heparin therapy, depot medroxyprogesterone acetate, cancer therapies, thiazolidinediones and antipsychotics. Before commencing these medications, strategies may be undertaken to minimise the risk of osteoporosis and/or fractures – some of these are summarised here:

Corticosteroids

- Measure bone mineral density (BMD) in patients starting corticosteroids if they are likely to take these long term, and assess the presence of risk factors (and modify these if possible)
- Use the lowest effective dose for the shortest possible duration.
- Educate patients about lifestyle changes to minimise concurrent risk factors (e.g. appropriate exercise, avoiding excessive alcohol intake and smoking cessation).
- Consider falls risk assessment and reduction strategies in patients at risk of falling.
- Ensure adequate calcium and vitamin D intake.
- Measure testosterone levels in men and consider testosterone supplementation in the presence of androgen deficiency.
- Consider specific treatments for osteoporosis for high risk patients when commencing long term steroid treatment.

Anticonvulsants

- Consider BMD assessment in patients taking enzyme inducing anticonvulsants (e.g. phenytoin, carbamazepine) and/or receiving long term anticonvulsant therapy (particularly polytherapy).
- Ensure optimal calcium intake and that vitamin D levels are maintained during treatment. Calcium and vitamin D supplementation alone may be inadequate to prevent bone loss but randomised controlled trials of osteoporotic medications for anticonvulsant-induced osteoporosis/osteomalacia are currently lacking.
- Lifestyle changes that may reduce the risk of osteoporosis and fracture are recommended, as is consideration of falls assessment and risk reduction strategies.
- Optimise seizure control.
- Note that some adverse effects associated with anticonvulsants (e.g. dizziness, ataxia, visual changes and cognitive slowing with high/toxic doses) may increase the risk of falls.

Thiazolidinediones (pioglitazone and rosiglitazone)

- Until further data is available, consider the potential for increased bone loss and fracture risk with these drugs.
- Screening is appropriate for patients at greatest risk for osteoporosis and fracture.
- BMD assessment is warranted in postmenopausal women taking these drugs.

There is also limited or conflicting data for a number of other medications with an increased risk of osteoporosis and/or fractures, including alpha blockers, antidepressants, benzodiazepines, HIV medications, loop diuretics, megestrol, methotrexate, narcotics, oral contraceptives, proton pump inhibitors, retinoids, excess vitamin A and warfarin.

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