Guidelines for Prevention and Treatment

Fragility fracture
- Defined as a fracture occurring on minimal trauma after age 40 years and includes forearm, spine, hip, ribs and pelvis

General measures
- Reduce dose of glucocorticoid when possible
- Consider glucocorticoid-sparing therapy, eg azathioprine, if appropriate
- Consider alternative route of glucocorticoid administration
- Recommend good nutrition especially with adequate calcium and vitamin D
- Recommend regular weight-bearing exercise
- Maintain body weight
- Avoid tobacco use and alcohol abuse
- Assess falls risk and give advice if appropriate

Commitment or exposure to oral glucocorticoids ≥3 months

Age <65 years
- No previous fragility fracture
- Previous fragility fracture or incident fracture during glucocorticoid therapy

Measure BMD * (DXA scan, hip ± spine)
- T-score above 0
- T-score between 0 and -1.5
- T-score -1.5 or lower

Age ≥65 years
- Investigations

General measures
- Advise treatment:
  - Alendronate (L)
  - Alfacalcidol
  - Calcitonin
  - Calcitriol
  - Clodronate
  - Cyclic etidronate (L)
  - HRT
  - Pamidronate
  - Risedronate (L)

General measures
- Reassure
- General measures
- General measures
- General measures

Repeat BMD not indicated unless very high dose of glucocorticoids required

Repeat BMD in 1–3 years if glucocorticoids continued

1. In patients with previous fragility fracture:
- FBC, ESR
- Bone and liver function tests (Ca, P, alk phos, albumin, ALT/γGT)
- Serum creatinine
- Serum TSH

If indicated:
- Lateral thoracic and lumbar spine X-rays
- Serum paraproteins and urine Bence-Jones protein
- Isotope bone scan
- Serum FSH if hormonal status unclear (women)
- Serum testosterone, LH and SHBG (men)
- Serum 25OHD and PTH
- BMD if monitoring required

2. Consider treatment depending on age and fracture probability

3. Treatments listed in alphabetical order. Vitamin D and calcium are generally regarded as adjuncts to treatment. HRT: oestrogen in postmenopausal women and testosterone in men. (L) indicates that the agent is licensed for glucocorticoid-induced osteoporosis

Key abbreviations
- ALT alanine transferase
- BMD bone mineral density
- ESR erythrocyte sedimentation rate
- FBC full blood count
- FSH follicle-stimulating hormone
- γGT gamma glutamyl transferase
- LH luteinising hormone
- 25OHD 25-hydroxyvitamin D
- PTH parathyroid hormone
- SHBG sex hormone binding globulin
- TSH thyroid-stimulating hormone