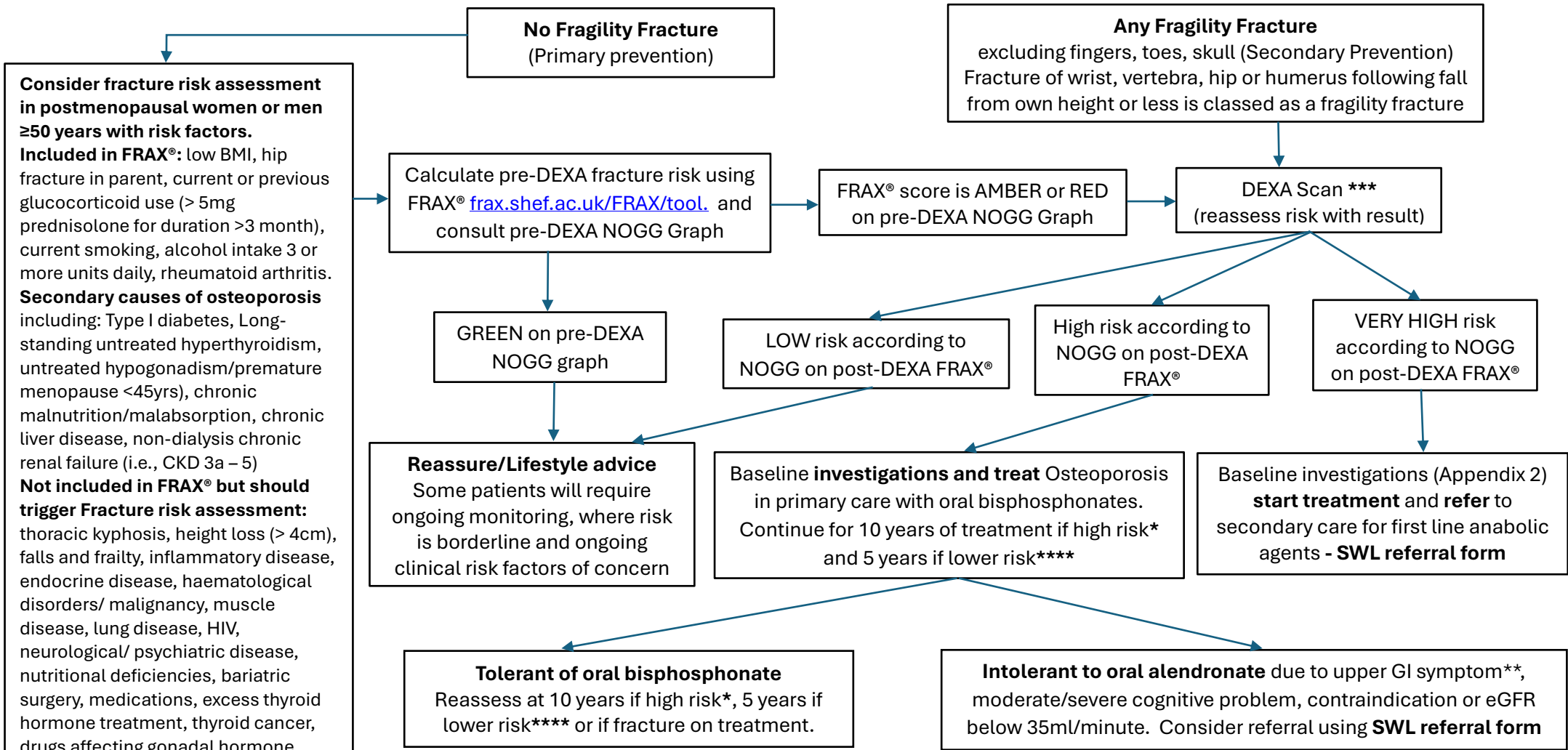


South West London Primary Care Flowchart for investigation and management of patients at risk of Osteoporosis and Fragility Fracture



*Patient >70 years, previous fractured a hip/vertebra, oral glucocorticoids > 3 months should be continued for at least 10 years of treatment when the bisphosphonate is started. It is good practice to consider reviewing and checking tolerance & compliance after starting oral bisphosphonate at 12-16 weeks, at 1 year, and at 5 years.

**Please consider risedronate (2nd line) or effervescent alendronate (3rd line) before referring for this reason. Also, consider alendronic acid effervescent tablets in patients with swallowing difficulty.

***If patient unable to attend/comply with DEXA scan then treat as per FRAX® intervention threshold on NOGG graph.

****In those who are at lower risk, treat for 5 years in the first instance with a plan to re-assess. If a patient experiences a fracture during treatment, review choice of medication; seek specialist input via advice and refer.

Clinical risk factors for osteoporosis/fractures, not accommodated in FRAX®, which should trigger fracture risk assessment- from Table 4 NOGG Guidelines. [Section 3: Fracture risk assessment and case finding | NOGG](#)

- **Thoracic kyphosis, Height loss (> 4cm), Falls and Frailty**
- **Inflammatory disease:** e.g., ankylosing spondylitis, other inflammatory arthritides, connective tissue diseases, systemic lupus erythematosus
- **Endocrine disease:** e.g., Type I and II diabetes mellitus, hyperparathyroidism, hyperthyroidism, hypogonadism, Cushing's disease/syndrome
- **Haematological disorders/malignancy** e.g., multiple myeloma, thalassaemia
- **Muscle disease:** e.g., myositis, myopathies and dystrophies, sarcopenia
- **Lung disease:** e.g., asthma, cystic fibrosis, chronic obstructive pulmonary disease
- **HIV**
- **Neurological/ psychiatric disease** e.g., Parkinson's disease and associated syndromes, multiple sclerosis, epilepsy, stroke, depression, dementia
- **Nutritional deficiencies:** calcium, vitamin D [note that vitamin D deficiency may contribute to fracture risk through undermineralisation of bone (osteomalacia) rather than osteoporosis]
- **Bariatric surgery** and other conditions associated with intestinal malabsorption
- **Medications, e.g.:**(Excess) **thyroid** hormone treatment (levothyroxine and/or liothyronine)
- Patients with **thyroid cancer** with suppressed TSH are at particular risk
- **Drugs affecting gonadal hormone** production -aromatase inhibitors (i.e letrozole/anastrazole) androgen deprivation therapy (i.e Zoladex®) medroxyprogesterone acetate (i.e Depo-Provera® starting <20 years or used after 35years), gonadotrophin hormone releasing agonists, gonadotrophin hormone receptor antagonists
- Some **diabetes drugs** (e.g., thiazolidinediones)
- Some **antiepileptics** (e.g., phenytoin and carbamazepine)
- **Some immunosuppressants** (tacrolimus/ciclosporin)

Recommended baseline clinical investigations to consider for the investigation of osteoporosis/ fragility fractures:

- Clinical history
- Physical examination including measurement of height and assessment of thoracic kyphosis
- Consider x ray Thoracic/ lumbar spine if loss of height >4cm from baseline or clinical kyphosis
- Full blood cell count
- Erythrocyte sedimentation rate or C-reactive protein
- Serum calcium, albumin, creatinine, phosphate, alkaline phosphatase and liver transaminases -*Persistent low phosphate or alkaline phosphatase should not be overlooked as this can indicate underlying metabolic bone disease.*
- Serum 25-hydroxyvitamin D
- Thyroid function tests
- Myeloma screen -Serum electrophoresis, serum immunoglobulins and urine Bence Jones protein
- Consider checking Plasma parathyroid hormone (PTH) if raised serum calcium >2.6 mmol/L on 2 occasions
- Consider coeliac screen if suspicious of malabsorption
- For referral for very high-risk patients - QRISK

Useful Resources:

- [ROS Patient resources on treatments](#)
- [NOGG FAQs](#)
- [Atypical \(unusual\) thigh bone fractures and drug treatments for osteoporosis](#)
- [Osteonecrosis of the jaw \(ONJ\) and drug treatments for osteoporosis](#)

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