OSTEOPOROSIS

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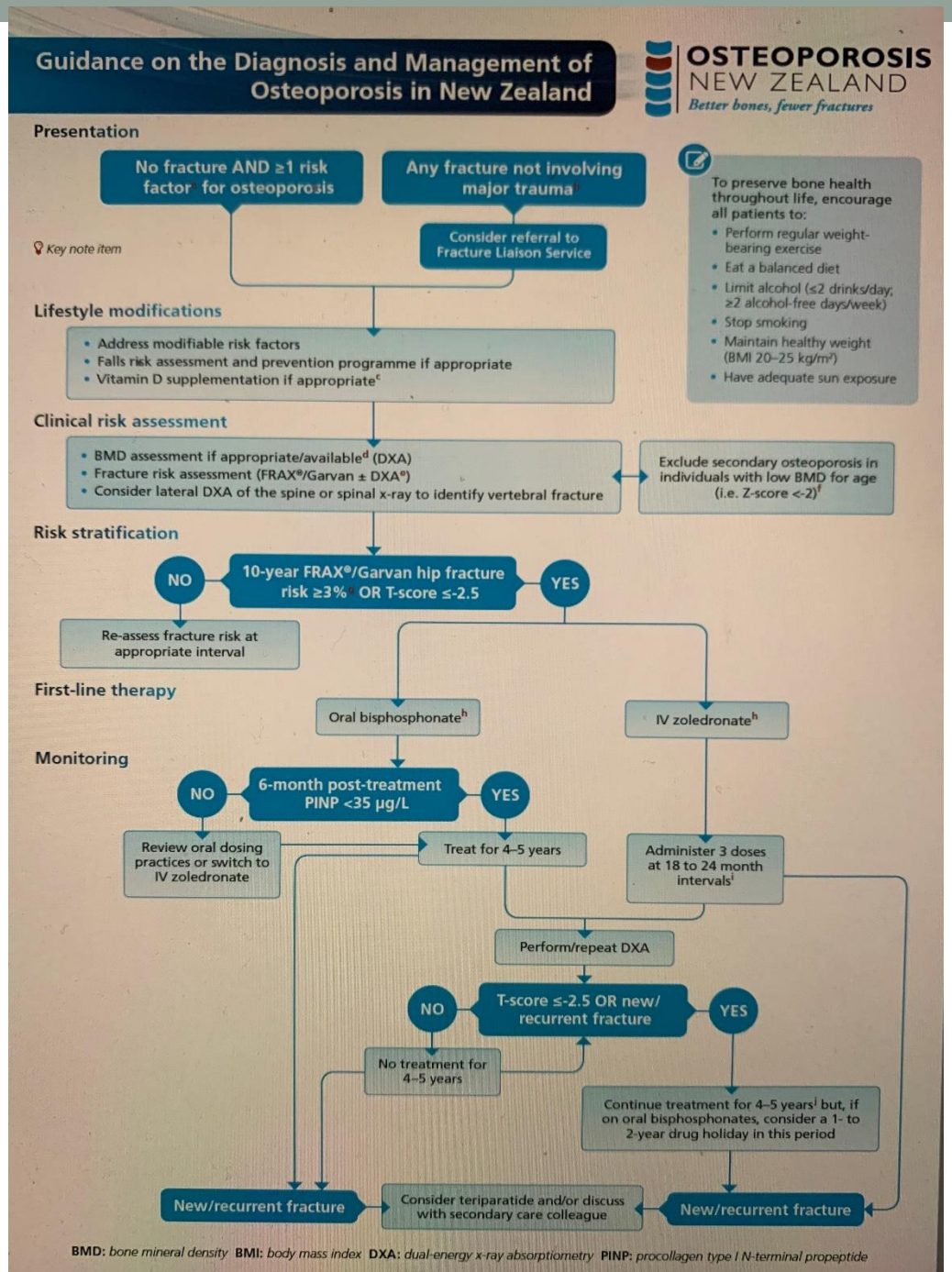
Bisphosphonates

- Alendronate – no special authority needed
- Use Fosamax Plus so they are getting some Vit D

- Zoledronic Acid needs SA still
- eGFR must be >35ml/min, give Cholecalciferol first, make sure Ca/Po4 normal and recheck bloods 24-48 hours after infusion
- Medication is free, infusion is not – GPs charge for this service
- Some give discount for CSC or POAC pathway
- Repeat dose after 18 months

Guidance on the Diagnosis and Management of Osteoporosis in New Zealand

OSTEOPOROSIS NEW ZEALAND
Better bones, fewer fractures



BMD: *bone mineral density* **BMI:** *body mass index* **DXA:** *dual-energy x-ray absorptiometry* **PINP:** *procollagen type I N-terminal propeptide*

Zoledronic Acid SA criteria

- History of one significant osteoporotic fracture demonstrated radiologically and documented bone mineral density (BMD) greater than or equal to 2.5 standard deviations below the mean normal value in young adults (i.e. T-Score less than or equal to -2.5)
- **or**
- *History of one significant osteoporotic fracture demonstrated radiologically, and either the patient is elderly, or densitometry scanning cannot be performed because of major logistical, technical or pathophysiological reasons. It is unlikely that this provision would apply to*
- *many patients under 75 years of age*
- **or**
- History of two significant osteoporotic fractures demonstrated radiologically
- **or**
- Documented T-Score less than or equal to -3.0
- **or**
- A 10-year risk of hip fracture greater than or equal to 3%, calculated using a published risk assessment algorithm (e.g. FRAX or **Garvan**) which incorporates BMD measurements
- **or**
- Patient has had a Special Authority approval for alendronate (Underlying cause - Osteoporosis) prior to 1 February 2019 or has had a Special Authority approval for raloxifene

GARVAN

- Use a risk calculator if having falls
- https://www.garvan.org.au/promotions/bone-fracture-risk/calculator/
- Print it out and put in patient's notes to record % risk of falls to aid in SA application

Teriparatide

- Teriparatide (PTH 1-34) is a recombinant form of parathyroid hormone, consisting of amino acids 1-34. It retains all of the biologic activity of the intact peptide (1-84)
- stimulate bone formation more than bone resorption and reduce fractures
- In NZ requires SA
- Subcutaneous injection every day for 18 months

Teriparatide SA

- **INITIAL APPLICATION**
- Applications from any relevant practitioner. Approvals valid for 18 months.
- **Prerequisites** The patient has severe, established osteoporosis
- **and**
- The patient has a documented T-score less than or equal to -3.0
- **and**
- The patient has had two or more fractures due to minimal trauma
- **and**
- The patient has experienced at least one symptomatic new fracture after at least 12 months' continuous therapy with a funded antiresorptive agent at adequate doses

Denosumab

- Denosumab is a fully human monoclonal antibody to the receptor activator of nuclear factor kappa-B ligand (RANKL), an osteoclast differentiating factor
- It inhibits osteoclast formation, decreases bone resorption, increases bone mineral density (BMD), and reduces the risk of fracture.
- https://www.pharmac.govt.nz/2020/03/01/SA1777.pdf
- For use in severe osteoporosis when eFGS < 35ml/min ie can't use Zol
- "The patient has experienced at least one symptomatic new fracture after at least 12 months' continuous therapy with a funded antiresorptive agent at adequate doses"
- Denosumab, unlike bisphosphonates, is not cleared by the kidney, and as a consequence, there is no restriction of its use in patients with creatinine clearances below 35 mL/min, for whom bisphosphonates are considered contraindicated
- 6 monthly injection s/c

After Denosumab

- Discontinuation of denosumab results in bone loss and increased vertebral fracture risk within a relatively short time (unlike discontinuation of bisphosphonates, which does not lead to immediate bone loss)
- If denosumab is discontinued, administering an alternative therapy (typically a bisphosphonate) to prevent rapid bone loss and vertebral fracture is advised.
- Although currently in NZ we can only use it if eGFR precludes use of Zol… so our patients will have this follow up therapy precluded
- Continue for 5 years then review need for it