Osteoporosis

Disclaimer:
Read the disclaimer at medimaps.co.uk/disclaimer

References:
1. Dr Stephen Searle, MediConf, Oct 2016.
1. Rheumatology consultant, Walsall Alliance Federation, Nov 2016
2. Dr Kevin Fernando, Webinars for GPs, Dec 2017.
3. Bisphosphanates in primary care, Webinars for GPs, Feb 2018.
4. How to use bisphosphonates safely and optimally, Rheumatology, Nov 2017.
5. Bone conference, Birmingham, 2018
6. SIGN guidance Feb 2021.
7. Osteoporosis nurse specialist email clarification, May 2021.

When to test?

- All women ≥ 65 yr.
- All men ≥ 75 yr.

- Women 50-64 yr with any risk factors
- Men 50-74 yr with any risk factors.

- Previous fragility #.
- Current use or frequent recent use of oral or systemic steroids, i.e. prednisolone ≥7.5 mg OD for ≥3/12.
- Hx of falls.
- FHx of hip #.
- Conditions putting at risk of secondary osteoporosis.
- BMI <18.5.
- Smoking.
- Alcohol > 14 unit / week for women and > 21 units/ week for men.

- A # caused by a fall from standing height or less. although vertebral # may occur spontaneously.
- Or a # from mechanical forces that would not ordinarily result in # i.e. from low-level trauma.

- There is a tendency for radiology report to avoid using the word 'fracture'.
- Instead they may state, wedging, loss of height or collapse.

Very strong clinical risk factors < 50 yr — e.g. →

- Current or frequent recent use of oral or systemic glucocorticoids, i.e. prednisolone ≥7.5 mg OD for ≥3/12.
- Untreated premature menopause.
- Previous fragility #.

Investigations

- FRAX calculator
THEN
- NOGG website advice

to rule out 2o causes →

- FBC.
- UEs.
- LFTs.
- CRP, ESR.
- Calcium.
- TSH.
- PTH.
- Immunoglobulins.
- Coeliac screen.

Non osteoporotic cause for fragility #

- Metastatic bone cancer
  - Bone pain in known cancer
  - Lethargy
  - Weight loss
- Multiple myeloma
  - Bone pain
  - Anaemia
  - Recurrent infections
  - Bleeding
  - Hypercalcaemia
  - Renal impairment
- Osteomalacia
  - Bone pain
  - Muscle pain
  - Proximal weakness
- Bone pain
  - Deformity
  - Bone pain
  - Deformity

Look for undiagnosed 2o cause for the osteoporosis

- RA
- Menopause <45yr
- Hypogonadism in men
- DM I
- Hyperthryroidism
- IBD
- Coeliac disease
- Chronic liver disease
- COPD

Osteoporosis	Osteopenia	Normal

-2.5 - 1.0 0.0

T - SCORE

T score is the standard deviation away from the mean, when compared to a young adult.
Z score is the standard deviation away from the mean, when compared to age matched peers.

Management

- Manage as per NOGG recommendation.

low risk

- Do not treat.
- Lifestyle advice.
- Reassess in 5 yrs.

intermediate risk

- Perform DEXA.
- Then re-score FRAX using lowest T-score at femur, and manage as per NOGG recommendation.

- Major # risk graph in red zone
AND / OR
- Hip # risk graph in red zone

low risk →

- Do not treat.
- Lifestyle advice.
- Reassess in 5 yrs.

high risk →

- Treat.

- Calcium and vitamin D.

- Poor evidence base for calcium and vitamin D supplements.
- Most patients do not need calcium supplements, unless very poor diet.
- You can ask about milk, yoghurt and cheese to get a ball park idea if they consume enough calcium (1000mg/day).
- The CV risks of calcium supplements seem unfounded.
- But calcium can ↑ risk of renal stones and GI s/e.
- Vitamin D supplements alone are more likely to be beneficial.
- So prescribe vitamin D alone. It also helps muscle strength.
- OTC vitamin D not recommended as cannot guarantee the actual vitamin D content in them i.e. prescribe instead.
- Use daily vitamin D preparations.

- Calcium intake adequate (700-1000 mg/day):
- Rx Vit D 10 mcg (400 units) OD without calcium.

- Calcium intake inadequate (700-1000 mg/day):
- Rx Vit D 10 mcg (400 units) OD AND calcium 1000 mg OD, but if care home resident Rx Vit D 20 mcg (800 units) instead.

- Risedronate 35mg weekly — contraindicated →

- Hypocalcaemia.
- Oesophageal strictures.
- Barretts oesophagus.
- Achalasia.
- Oesophageal pouch.
- If eGFR < 40 ish cannot use bishophanate (can use denosumab instead as cleared via liver).

counselling →

- Administration.
- Report any sudden enexplained thigh/hip/groin pain.
- Dental checks.
- Report any unexplained ear pain or discharge.

- Empty stomach.
- Full glass of water.
- Remain upright for 30 min.

- Atypical femoral #.
- 1/1000 risk.

- Osteonecrosis of jaw.
- 1/10,000 to 1/100,000 risk.
- Major risk factors include, dental disease, poor dental hygiene and invasive dental procedures.
- Hence, importance of regular dental checks, and address major dental issues prior to initiation. Ideally should have seen dentist in previous 6/12.
- Stop temporarily 6/52 before any invasive dental procedure.

- Osteonecrosis of auditory canal.

if contraindicated / if cannot tolerate →

- Refer to osteoporosis clinic

- Zolendronate IV.
- Denosumab IV.
- Teriparatide.

- Wait 8-10 weeks post dental extraction before Denosumab injections.

???only need to check calcium at 1 month.
- No need to check vit D levels again.
- You are measuring calcium to look for toxicity.
- If CKD also measure phosphate and PTH.
- Phosphate can go realy high and be dangerous.
- If PTH not under control, refer to renal team.???

- Review after 5 yrs. — be aware →

- NICE Multimorbidity guidelines state:
- If taken bisphosphonate for ≥ 3yr, then there is no consistent evidence of:
- Further benefit from continuing bisphosphonate for another 3yr.
- Harms from stopping bisphosphonate after 3 yr of treatment.
- i.e. After 3 yr, stop and then reassess in 3 yrs.

assess if at high risk

- >75y.
- Hx hip # OR vertebral #.
- Sustained # while on treatment.
- Prednisolone ≥ 7.5mg OD.

no →

- Repeat DEXA and re-score FRAX.
- Then treat as per NOGG recommendations.

low risk →

- Stop treatment.
- Reassess after 1.5-3 yr.

high risk →

- Continue treatment.

yes →

- Continue treatment.

- Note: No evidence of benefit of continuing treatment > 10 yr.