NHS
Vale of York
Clinical Commissioning Group

Referral Support Service

Rheumatology

RH01
Osteoporosis

Definition

Osteoporosis is a condition that weakens bones, making them fragile and more likely to break. It develops slowly over several years and is often only diagnosed when a minor fall or sudden impact causes a bone fracture.

Management

Treatment of osteoporosis should be determined by fracture risk.

Consider assessment of fracture risk in the following at risk groups:

- **In all women aged 65 years and over and all men aged 75 years and over**
- **in women aged under 65 years and men aged under 75 years in the presence of risk factors**, for example:
  - previous fragility fracture
  - current use or frequent recent use of oral or systemic glucocorticoids
  - history of falls
  - family history of hip fracture
  - other causes of secondary osteoporosis e.g., hypothyroidism, coeliac disease, Crohn's disease, rheumatoid arthritis, ankylosing spondylitis, myeloma etc.
  - low body mass index (BMI) (less than 18.5 kg/m2)
  - smoking
  - alcohol intake > 14 units per week for women and men
  - untreated premature menopause
  - patients with eating disorders
- **Do not routinely assess fracture risk in people aged under 50 years unless they have major risk factors (for example, current or frequent recent use of oral or systemic glucocorticoids, untreated premature menopause or previous fragility fracture), because they are unlikely to be at high risk.**

Use either FRAX (without a bone mineral density [BMD] value if a dual-energy X-ray absorptiometry [DXA] scan has not previously been undertaken) or QFracture (age 30-99) to estimate 10-year predicted absolute fracture risk when assessing risk of fracture. Above the upper age limits defined by the tools, consider people to be at high risk.

Do not routinely measure BMD to assess fracture risk without prior assessment using FRAX (without a BMD value) or QFracture.

Following risk assessment with FRAX (without a BMD value) or QFracture , consider measuring BMD with DXA in people whose fracture risk is in the region of an intervention threshold for a proposed treatment, and recalculate absolute risk using FRAX with the BMD value.

Measure BMD to assess fracture risk in people aged under 40 years who have a major risk factor, such as history of multiple fragility fracture, major osteoporotic fracture, or current or recent use of high-dose oral or high-dose systemic glucocorticoids (more than 7.5 mg prednisolone or equivalent per day for 3 months or longer). Do not use FRAX in people under the age of 40 or QFracture under the age of 30.

Baseline tests if considering secondary causes of osteoporosis should include: FBC, U+E, LFT, Bone profile, immunoglobulins & electrophoresis, ESR, TFT, vitamin D and PTH. If male consider 9am testosterone levels. Consider tests for other rarer causes such as coeliac and myeloma etc.

If patients reach treatment thresholds:

- All patients require adequate **calcium** and **vitamin D**. CKS states:
  - If a patient has adequate amounts of calcium in diet (700mg per day) only **vitamin D replacement** is required for people not exposed to much sunlight. Dietary calcium intake can be considered using the Calcium Calculator.
  - If calcium intake is inadequate:
    - Prescribe 10 micrograms (400 international units) of vitamin D with at least 1000 mg of calcium daily.
    - Prescribe 20 micrograms (800 international units) of vitamin D with at least 1000 mg of calcium daily for elderly people who are housebound or living in a nursing home.

- Prescribing should be in line with NHS Vale of York CCG Medal Ranking for Calcium and Vitamin D Supplements

- Consider oral weekly **bisphosphonate** e.g. **alendronate** or alternative if intolerant e.g. **risedronate**
- Prescribing should be in line with NHS Vale of York CCG Medal Ranking for Osteoporosis
- Regarding bisphosphonates - NICE Multi-morbidity guidance NG56 September 2016 states:
  - Tell a person who has been taking bisphosphonate for osteoporosis for at least 3 years that there is no consistent evidence of:
    - further benefit from continuing bisphosphonate for another 3 years
    - harms from stopping bisphosphonate after 3 years of treatment.
    - Discuss stopping bisphosphonate after 3 years and include patient choice, fracture risk and life expectancy in the discussion.

In general, treatment should be reviewed at 5 years and re-evaluated. If risk remains high a further 5years of treatment should be considered or consider discussion with the rheumatology team.

Do not use raloxifene for primary prevention.

Outcome

It is hoped that good treatment of osteoporosis will reduce the incidence of fragility fractures and particularly second fragility fractures.

Referral Information

Indications for specialist advice

- Intolerance of above treatments (at least two oral bisphosphonates should to tried if no contraindications) for consideration of parenteral options e.g. **iv zolendronic acid, iv ibandronic acid, sc teriparatide** or **sc denosumab**
- Further fracture/s after adequate treatment with bisphosphonate
- Strontium has now been discontinued
- Those with contraindications to above treatments
- Those with eGFR <30 please contact via advice and guidance initially as the advice in the renal handbook is that alendronic acid and risedronate orally can be given in those with low eGFR with monitoring.

Investigations prior to referral

Baseline tests if considering secondary causes of osteoporosis should include:

- FBC
- U+E
- LFT
- Bone profile
- Immunoglobulins & electrophoresis
- ESR
- TFT
- Vitamin D and PTH.
- If male consider 9 am testosterone levels.
- DXA scan

Information to include in referral letter

- Risk factors (see above)
- Fracture History
- Osteoporosis treatment history
- FRAX score
- DXA results
- Current medication(s)

Patient information leaflets/ PDAs

- Calcium diet
- NOS Calcium assessment
- National Osteoporosis Society

References

- NICE Guidance CG146
- NICE Multi-morbidity guidance NG56
- Clinical Knowledge Summaries

- National Osteoporosis Guidelines Group (NOGG)
- FRAX tool
- QFracture

***Osteoporosis risk assessment with DXA**

1) **Do not routinely measure BMD to assess fracture risk without prior assessment using FRAX (without a BMD value) or QFracture.**

2) Following risk assessment with FRAX (without a BMD value) or QFracture, consider measuring BMD with DXA in people whose **fracture risk is in the region of an intervention threshold** for a proposed treatment, and recalculate absolute risk using FRAX with the BMD value.

3) Measure BMD to assess fracture risk in people aged **under 40 years** who have a major risk factor, such as history of multiple fragility fracture, major osteoporotic fracture, or current or recent use of high-dose oral or high-dose systemic glucocorticoids (more than 7.5 mg prednisolone or equivalent per day for 3 months or longer).

4) Measure BMD to assess fracture risk in people aged over 50 years of age with a history of fragility fracture

5) Consider BMD measurement at the **end of a course of treatment** e.g., 3-5yrs of oral bisphosphonate in high-risk patients e.g. significant on-going risk factors that are likely to need further treatment after a treatment break.

6) Do not measure BMD within a two-year time interval as unlikely to provide meaningful clinical information.

7) If uncertain re: interpretation of results or whether a DXA scan is required, please ask using Advice and Guidance

Responsible GP: Dr Omnia Hefni & Shaun O'Connell
Responsible Consultant: Drs M Quinn, B Saleem, E Ferguson & A Moverley
Responsible Pharmacist: Laura Angus / Jamal Hussain
Date published: March 2021
Next Review: March 2026