



National Osteoporosis Guideline Group • UK

# Summary of main recommendations

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## Summary of main recommendations

This guideline summary addresses the assessment, diagnosis and current treatments for osteoporosis, including recommendations to prevent fragility fractures. It applies to postmenopausal women, and to men age 50 years or older.

### Concerning assessment of fracture risk in postmenopausal women, and men age $\geq 50$ :

Conduct a FRAX assessment in people with a clinical risk factor for fragility fracture.

1. Measure BMD in people with intermediate fracture risk by FRAX (amber) to refine the estimate of 10-year risk.
2. Measure BMD in people with high and very high fracture risk by FRAX (red) to guide drug choice and provide a baseline for BMD monitoring.
3. Consider imaging to look for a vertebral fracture in people with acute onset back pain who have risk factors for osteoporosis, and/or in people with a history of  $\geq 4$ cm height loss, kyphosis, recent or current long-term oral glucocorticoid therapy, or a BMD T-score  $\leq -2.5$ .
4. Assess falls risk in patients with osteoporosis and/or fragility fractures and offer those at risk an exercise programme to improve balance and muscle strength.

### Regarding drug treatment to prevent fractures in postmenopausal women, and men age $\geq 50$ :

5. Offer drug treatment to people at high and very high risk of fracture.
6. If BMD measurement is not practical (e.g. due to frailty), use the online NOGG intervention thresholds based on FRAX, to guide treatment decisions.
7. Consider, particularly in older people, drug treatment in those with a prior and/or recent fragility fracture.

### When selecting drug treatments to prevent fractures in postmenopausal women, and men age $\geq 50$ :

8. Consider the level of fracture risk, any additional clinical risk factors, patient choice, and the cost-effectiveness of treatment, when deciding on a particular drug treatment.
9. Start treatment promptly following a fragility fracture, because risk of re-fracture is highest immediately after a fracture and risk remains elevated.
10. Consider referral of very high risk patients to an osteoporosis specialist in secondary care, for assessment and consideration of parenteral treatment (some may need first-line anabolic drug treatment, especially if multiple vertebral fractures). Indications for specialist referral include the presence of important risk factors, including a recent vertebral fracture [within the last 2 years],  $\geq 2$  vertebral fractures [whenever they have occurred], BMD T-Score  $\leq -3.5$ , treatment with high dose glucocorticoids [ $\geq 7.5$  mg/day of prednisolone or equivalent over 3 months]; the presence of multiple clinical risk factors, particularly with a recent fragility fracture indicating high imminent risk of re-fracture; or other indicators of very high fracture risk.
11. In other patients for whom treatment is indicated, offer antiresorptive therapy with oral bisphosphonates (alendronate or risedronate) or intravenous zoledronate.
12. Consider alternative treatment options if these first-line bisphosphonates are unsuitable or not tolerated; denosumab, ibandronate, hormone replacement therapy, raloxifene or strontium ranelate.
13. Following treatment with teriparatide or romosozumab, start alendronate, zoledronate or denosumab without delay.

**When postmenopausal women, and men age  $\geq 50$ , have started drug treatment:**

14. Regularly review patients' tolerance of, and adherence to, oral drug treatments.
15. Remember long-term treatment is often required, because osteoporosis is a long-term condition for which there is currently no cure.
16. Plan to prescribe oral bisphosphonates for at least 5 years, or intravenous bisphosphonates for at least 3 years and then re-assess fracture risk. Longer durations of treatment will be needed in those who are older (age  $\geq 70$  years), have had a hip or vertebral fracture, are on high-dose oral glucocorticoids [ $\geq 7.5$  mg/day of prednisolone or equivalent over 3 months], or have a further fragility fracture during osteoporosis treatment. In lower risk patients, a temporary treatment pause of 18 to 36 months can be considered after 5 years' oral bisphosphonate or 3 years' intravenous bisphosphonate (see clinical flow-charts on p.39 and p.40).
17. Before starting denosumab, ensure a long-term personalised osteoporosis management plan is in place.
18. Do not stop denosumab treatment without a plan for subsequent anti-resorptive therapy, where renal function permits.
19. Repeat fracture risk assessment after any new fracture, regardless of when this occurs.
20. Reassess fracture risk 18 months to 3 years after pausing drug treatment.

**When postmenopausal women, and men age  $\geq 50$ , are treated with oral glucocorticoids:**

21. If starting  $\geq 7.5$  mg/day prednisolone or equivalent for the next 3 months, start bone protective treatment at the same time (without waiting for a DXA scan, which can follow later).
22. Offer antiresorptive therapy with oral bisphosphonates (alendronate or risedronate) or intravenous zoledronate, and in those at very high risk of vertebral fracture refer for consideration of anabolic treatment.
23. Consider denosumab as an alternative treatment option.

**When advising on lifestyle and dietary measures:**

24. Recommend a healthy, balanced diet, moderation of alcohol consumption and avoidance of smoking.
25. Ensure a sufficient dietary calcium and vitamin D intake and supplement these as necessary.
26. Encourage a combination of regular weight-bearing and muscle strengthening exercise.

**Regarding fracture prevention services:**

27. Patients who sustain a fragility fracture should have access to a multidisciplinary, coordinator-based Fracture Liaison Service (FLS) which enables timely fracture and falls risk assessment, investigation, treatment, and monitoring.
28. Ensure that diagnostic imaging services routinely evaluate the spine in all imaging of postmenopausal women, and men age  $\geq 50$  years, in which the spine is visualised, and report vertebral fractures using standardised methods.

**When a postmenopausal woman, or a man age  $\geq 50$  has a symptomatic osteoporotic vertebral fracture:**

29. Consider referral to an exercise programme which provides progressive muscle strengthening activity, including back extensor muscle strengthening and/or endurance exercise.
30. Investigate for underlying causes of fragility fracture.
31. Start treatment promptly to reduce the risk of further fractures.

The evidence presented in this guideline underpins a further series of recommendations made for leaders and commissioners of healthcare services, as well as criteria for audit and quality improvement in primary and secondary care settings.