THE UNIVERSITY OF WESTERN AUSTRALIA

WESTERN AUSTRALIAN CENTRE FOR HEALTH AGEING

CENTRE FOR OPTIMISATION OF MEDICINES

DENOSUMAB/ BISPHOSPHONATES

Deprescribing in older people: A clinical practice guideline

dRx™

DENOSUMAB/ BISPHOSPHONATES

Denosumab* and bisphosphonates (include alendronate, risedronate*, zoledronic acid)

*Common Pharmaceutical Benefits Scheme medicines

Type	Recommendation
	WHEN TO DEPRESCRIBE
CBR	**Bisphosphonates** We suggest deprescribing be offered to older people who: • Develop contraindications during therapy, such as achalasia, Barrett's oesophagus, oesophageal scleroderma, certain gastric bypass procedures (e.g. Roux-en-Y), or chronic kidney disease (estimated glomerular filtration rate, eGFR < 30 mL/min/1.73m^2); • Experience adverse effects, including GORD or an inability to remain upright for 30 minutes after administration, increasing the risk of oesophageal irritation; • Sustain an atypical femur fracture during therapy; or • Have a life expectancy of less than one year, unless bisphosphonates are essential (e.g. cancer management or secondary prevention in people at high risk of future fractures during their lifetime).
CBR	**Bisphosphonates** We suggest offering a "drug holiday" to older people receiving long-term bisphosphonate treatment (5–10 years) who have no history of vertebral fractures, particularly those with a T-score ≥ –2.5, as the risk of rare but serious adverse events (e.g. atypical femoral fracture) may outweigh the benefits of continued treatment.
CBR	**Denosumab** We suggest deprescribing be offered to older people:* • Experience denosumab-related side effects that impact quality of life (e.g. arthralgia, myalgia); • With advanced chronic kidney disease or are receiving dialysis due to the risk of severe hypocalcaemia; or • Sustain an atypical femur fracture during therapy. **Note that discontinuation of denosumab is associated with an increased risk of spontaneous vertebral fractures. Refer to the suggestions below for guidance on safe deprescribing, if deemed appropriate.*
GPS	Deprescribing decisions should be made in consultation with the person and their GP and/or specialist providers to ensure it aligns with their preferences, goals and overall treatment plans (ungraded good practice statement).

CBR, consensus-based recommendation; GPS, good practice statement

ONGOING TREATMENT

CBR **Bisphosphonates**

We suggest continuing bisphosphonate therapy beyond 5–10 years in people with a T-score < –2.5 and/or a history of fragility fracture.

For people who have discontinued bisphosphonates or are on a "drug holiday", we suggest consideration of restarting bisphosphonates if:

- Bone loss of > 5% occurs, particularly at the hip
- The person sustains a fracture following minimal trauma
- The person has completed 3 to 5 years of a drug holiday, showed improvement during their initial treatment, and had no prior fractures.

CBR **Denosumab**

We suggest continuing denosumab in older people likely to derive a net benefit and have no significant adverse effects, even beyond 10 years, due to the increased risk of rebound vertebral fractures after discontinuation.

HOW TO DEPRESCRIBE

CBR **Bisphosphonates**

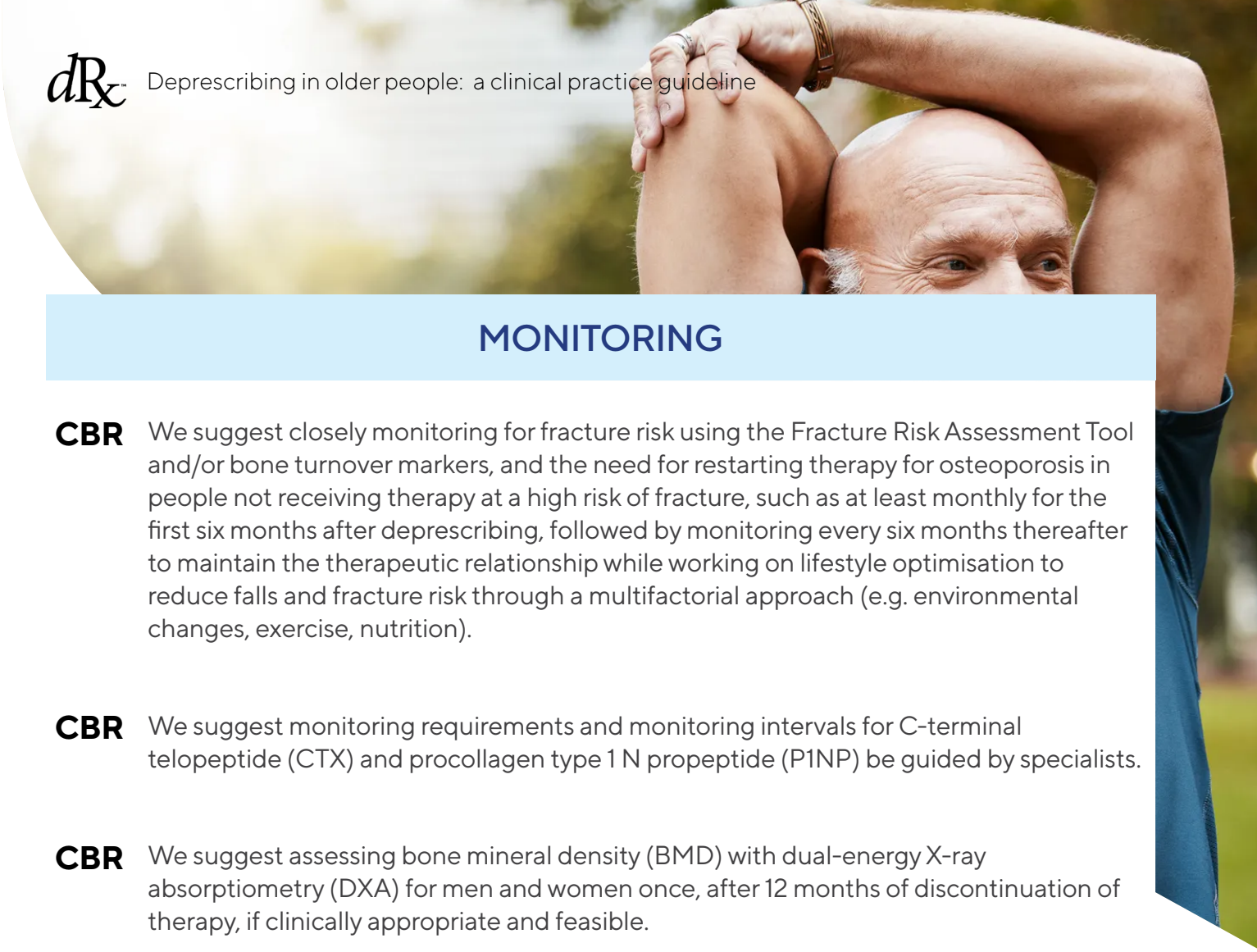
We suggest ceasing bisphosphonates without the need for tapering.

Seek expert advice for antiresorptive therapy in the context of chronic kidney and end-stage kidney disease.

CBR **Denosumab**

We suggest transitioning to bisphosphonate therapy either 2 months before the next scheduled denosumab dose or at the time of the due dose and continuing for at least 12 months, due to the increased risk of rebound vertebral fractures following denosumab discontinuation or delayed administration.

CBR, consensus-based recommendation; GPS, good practice statement



MONITORING

CBR We suggest closely monitoring for fracture risk using the Fracture Risk Assessment Tool and/or bone turnover markers, and the need for restarting therapy for osteoporosis in people not receiving therapy at a high risk of fracture, such as at least monthly for the first six months after deprescribing, followed by monitoring every six months thereafter to maintain the therapeutic relationship while working on lifestyle optimisation to reduce falls and fracture risk through a multifactorial approach (e.g. environmental changes, exercise, nutrition).

CBR We suggest monitoring requirements and monitoring intervals for C-terminal telopeptide (CTX) and procollagen type 1 N propeptide (P1NP) be guided by specialists.

CBR We suggest assessing bone mineral density (BMD) with dual-energy X-ray absorptiometry (DXA) for men and women once, after 12 months of discontinuation of therapy, if clinically appropriate and feasible.

For people receiving antiresorptive treatment, we suggest monitoring BMD with DXA every two to five years when clinically appropriate, to evaluate treatment efficacy and the need for continued therapy, using the same instrument when possible.

We suggest further assessment if BMD decreases by ≥ 5% at any major site or if a fracture occurs.

CBR For people receiving denosumab for osteoporosis, the optimal timing for elective invasive dental procedures remains uncertain and thus a referral to an endocrinologist may be considered. Although scheduling procedures immediately prior to the next dose has generally been recommended, it may be reasonable to schedule elective invasive dental procedures 6-8 weeks prior to the next scheduled dose to allow sufficient time for wound healing.

We suggest **against** withholding the next scheduled dose of denosumab due to the risk of rebound fractures.

We suggest a comprehensive dental review before initiating or reinitiating antiresorptive therapy due to the potential risk of medication-related osteonecrosis of the jaw.

CBR, consensus-based recommendation; GPS, good practice statement

Note:

Evidence is drawn from studies involving participants aged ≥ 65 years and over.

Chronological age may not reflect health status. Among Aboriginal and Torres Strait Islander peoples, individuals aged 50 years and over are considered older.

Statements in this guideline are not prescriptive and should be applied using a shared decision-making approach.

Access to healthcare services may vary and can influence healthcare decisions.

Medicine needs may change over time; medicines may be restarted if clinically necessary, based on shared decision-making and informed consent.

For supporting evidence and further information, please visit **deprescribing.com** or scan the QR code:

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Suggested citation: Quek HW, Reus X, Lee K, Etherton-Beer C, Page A on behalf of the Guideline Development Group. Deprescribing in older people: A clinical practice guideline. Perth: The University of Western Australia; 2025.