Osteoporosis in Postmenopausal Women

Pharmacological management, sequencing, and monitoring of osteoporosis therapy in postmenopausal women.

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Pharmacological Management of Osteoporosis — Guideline Update
Shoback et al. · JCEM 2020;105:587–594

GRADE · 1 · Strong For · 2 · Suggest For · 2- · Suggest Against · Ungraded / Best Practice

1 Who to Treat

1 — Treat postmenopausal women at **high fracture risk** — especially those with a **recent fracture** — with pharmacologic therapy; benefits outweigh the risks.

2 First-Line: Bisphosphonates & Denosumab

1 — **Bisphosphonates** (alendronate, risedronate, zoledronic acid, ibandronate) as initial therapy for high fracture risk — ibandronate not adequate for hip/nonvertebral risk reduction. Reassess fracture risk at **3–5 years**; continue if still high risk, consider a **bisphosphonate holiday** (up to 5y) if low-to-moderate risk.

1 — **Denosumab** 60 mg SC every 6 months as an alternative initial therapy for high fracture risk — **no drug holiday** (effects reverse by 6 months if delayed). Reassess at **5–10 years**; continue or switch therapy if still high risk.

GPS — **Never stop or delay denosumab** without transitioning to a follow-on antiresorptive (bisphosphonate, hormone therapy, or SERM) — prevents rebound bone turnover, rapid BMD loss, and fracture risk.

3 Anabolic Therapy — Very High Risk

1 — **Teriparatide or abaloparatide** for up to **2 years** in very high risk (severe or multiple vertebral fractures); follow with an antiresorptive to maintain BMD gains.

1 — **Romosozumab** 210 mg SC monthly for up to **1 year** in very high risk (T-score < −2.5 + fracture, or multiple vertebral fractures); **avoid** if high CV/stroke risk (prior MI or stroke). Follow with an antiresorptive.

4 Other Therapies

THERAPY	USE CASE
SERMs (raloxifene, bazedoxifene)	Vertebral fracture reduction if low VTE risk and bisphosphonates/denosumab aren't appropriate, or high breast cancer risk
Hormone therapy / tibolone	<60y or <10y postmenopausal, low VTE risk, bothersome vasomotor symptoms, no MI/stroke/breast cancer history, willing to take — tibolone unavailable in US/Canada
Calcitonin (nasal spray)	Last-line only — when other therapies are not tolerated or appropriate

5 Adjuncts & Monitoring

2 — **Calcium + vitamin D** as an adjunct to osteoporosis therapy; if bisphosphonates, estrogen, SERMs, denosumab, tibolone, teriparatide, and abaloparatide are all not tolerated, daily calcium + vitamin D alone **reduces hip fracture risk**.

2 — **Monitor DXA** (spine + hip) every **1–3 years** to assess treatment response. Bone turnover markers (CTX for antiresorptive therapy, P1NP for anabolic therapy) are an alternative to flag poor response or nonadherence.

Shoback D, Rosen CJ, Black DM, Cheung AM, Murad MH, Eastell R. Pharmacological Management of Osteoporosis in Postmenopausal Women: An Endocrine Society Guideline Update. *J Clin Endocrinol Metab.* 2020;105(3):587–594.