

Endo 2026: Risk-Based Osteoporosis Management Refines Clinical Practice

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Osteoporosis management presents a persistent challenge in clinical practice, requiring precise identification of individuals at high fracture risk to optimise therapeutic intervention.¹ Universal treatment thresholds often overlook the heterogeneity of patient profiles, potentially leading to undertreatment in some and overtreatment in others. The discussions at Endo 2026 underscored the imperative for evolving strategies that integrate individualised risk assessment into routine care, moving beyond a one-size-fits-all approach to improve patient outcomes.

KEY TAKEAWAYS

- **The Pivot:** Osteoporosis management is shifting towards individualised, risk-based strategies, moving beyond age or BMD alone.
- **The Data:** Fracture risk assessment tools (e.g., FRAX, Garvan) are central to stratifying patients, informing targeted pharmacological interventions.
- **The Action:** Clinicians should integrate comprehensive risk factor assessment and validated tools to guide treatment initiation and selection for osteoporosis.

Osteoporosis, characterised by compromised bone strength predisposing to an increased risk of fracture, affects millions globally.¹ Fragility fractures, particularly hip and vertebral fractures, are associated with significant morbidity, mortality, and healthcare costs.² Current guidelines from bodies such as the National Osteoporosis Foundation (NOF) and the American Association of Clinical Endocrinologists (AACE) recommend pharmacological intervention for postmenopausal women and men aged 50 and older with a history of hip or vertebral fracture, T-scores of -2.5 or less at the femoral neck or spine, or osteopenia with a 10-year probability of major osteoporotic fracture of 20% or more, or hip fracture of 3% or more, as calculated by FRAX.^{3,4} However, these thresholds may not fully capture the nuanced risk profiles of all patients. The discussions at Endo 2026 focused on refining these approaches by incorporating a broader spectrum of risk factors and dynamic assessment methods.

Evolving Risk Assessment and Management

The core of the evolving strategies presented at Endo 2026 revolved around a more granular application of risk-based management. This involves not only the use of established fracture risk assessment tools but also a deeper consideration of secondary causes of osteoporosis, patient comorbidities, and individual treatment response.⁵

Presentations highlighted the utility of tools like FRAX (Fracture Risk Assessment Tool) and the Garvan Fracture Risk Calculator, which integrate clinical risk factors independent of bone mineral density (BMD), such as age, sex,

prior fracture history, parental history of hip fracture, glucocorticoid use, rheumatoid arthritis, secondary osteoporosis, current smoking, and alcohol intake.⁶ While these tools provide a probabilistic estimate of fracture risk, their application requires careful clinical interpretation. For instance, the FRAX tool may underestimate risk in patients with multiple prior fractures or those on high-dose glucocorticoids for prolonged periods.⁷

A key theme was the stratification of patients into low, moderate, and high/very high fracture risk categories to guide therapeutic intensity. For patients at low risk, lifestyle modifications, including adequate calcium and vitamin D intake, regular weight-bearing exercise, and fall prevention strategies, remain foundational.⁸ For moderate-risk patients, often those with osteopenia and elevated FRAX scores, the decision to initiate pharmacological therapy requires a shared decision-making approach, weighing potential benefits against risks of treatment.⁹

Patients identified as high or very high risk, typically those with recent fractures, very low T-scores (e.g., -3.0 or less), or multiple risk factors, are candidates for more potent anabolic or antiresorptive agents.¹⁰ Anabolic agents, such as teriparatide, abaloparatide, and romosozumab, which stimulate bone formation, are often reserved for patients with severe osteoporosis or very high fracture risk, particularly those who have failed or are intolerant to antiresorptive therapies.¹¹ Subsequent treatment with an antiresorptive agent is generally recommended after anabolic therapy to maintain gains in BMD.¹² Antiresorptive agents, including bisphosphonates (e.g., alendronate, risedronate, zoledronic acid) and denosumab, reduce bone resorption and are widely used for both treatment and prevention.¹³

The discussions also addressed the importance of monitoring treatment efficacy and adherence. Regular assessment of BMD, typically every 1-2 years, and biochemical markers of bone turnover can help assess treatment response.¹⁴ Furthermore, the duration of therapy, particularly for bisphosphonates, was a point of emphasis, with recommendations for drug holidays in some patients after 3-5 years of treatment, depending on their fracture risk profile.¹⁵ Denosumab, however, does not have a drug holiday option and requires continuous administration to prevent rapid bone loss upon discontinuation.¹⁶

Limitations in current practice include underutilisation of fracture risk assessment tools and suboptimal adherence to prescribed therapies.¹⁷ Future directions highlighted the potential of artificial intelligence and machine learning in refining risk prediction models by integrating a wider array of clinical, genetic, and imaging data.¹⁸ Additionally, the development of novel therapeutic agents with different mechanisms of action continues to be an area of active research, aiming to provide more targeted and effective treatments for diverse patient populations.¹⁹

Readers seeking a more extensive reference on endocrine disorders, risk-based management, and therapeutic advancements might appreciate the Oxford Handbook of Endocrinology and Diabetes.

CLINICAL IMPLICATIONS

The emphasis at Endo 2026 on risk-based osteoporosis management is a welcome refinement, moving beyond the often-simplistic reliance on BMD T-scores alone. Clinicians must now routinely integrate comprehensive fracture risk assessment tools like FRAX or Garvan into their diagnostic workflow, not merely as an academic exercise but as a direct determinant of therapeutic intensity. This necessitates a more nuanced understanding of individual patient profiles, demanding a shift from protocol-driven prescribing to a truly personalised approach. The days of initiating a bisphosphonate based solely on a T-score of -2.5 are, or should be, behind us.

For the pharmaceutical industry, this evolving landscape suggests a continued demand for agents that can address the spectrum of fracture risk. While potent anabolics like romosozumab are clearly positioned for very high-risk patients, there is an ongoing need for therapies that offer favourable risk-benefit profiles for moderate-risk individuals, potentially reducing the burden of long-term antiresorptive use. The challenge lies in demonstrating clear superiority in fracture reduction across these stratified groups, moving beyond BMD improvements as the sole endpoint. Companies developing novel agents will need to show how their therapies fit into these refined risk categories, rather than simply offering another option in a crowded market. Ultimately, the patient benefits from this more precise approach. By better identifying those at highest risk, we can target our most effective therapies to those who need them most, potentially preventing debilitating fractures. Conversely, for those at lower risk, avoiding unnecessary long-term pharmacological exposure and its associated costs and potential adverse effects is equally important. This requires robust patient education and shared decision-making, ensuring patients understand their individual risk profile and the rationale behind their prescribed management plan, whether it involves medication or primarily lifestyle interventions.

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