

U.S. Osteopenia market Analysis: Trends & Industry perspective

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Affecting around 50 million Americans, Osteopenia marks the silent stage of bone loss before Osteoporosis

Definition

Osteopenia is a condition characterized by lower-than-normal bone mineral density (BMD), serving as a precursor to osteoporosis.

Diagnostic Criteria:

Measured by T-score from a DEXA¹ scan:

- Normal: T-score > -1.0
- Osteopenia: T-score between -1.0 and -2.5
- Osteoporosis: T-score < -2.5

Causes & Risk Factors



Age: Natural bone loss begins after age 30



Hormonal Changes: In PM women due to reduced estrogen



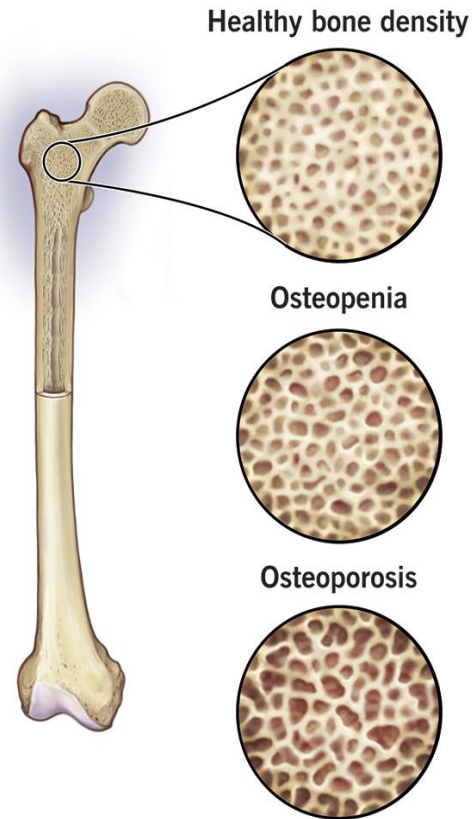
Nutritional Deficiencies: Lack of calcium & vitamin D



Lifestyle Habits: Smoking, alcohol, sedentary lifestyle



Medical Conditions: Thyroid disorders, chronic inflammation, steroids



~50_{Mn}

Patients with
Osteopenia

13_{Mn}

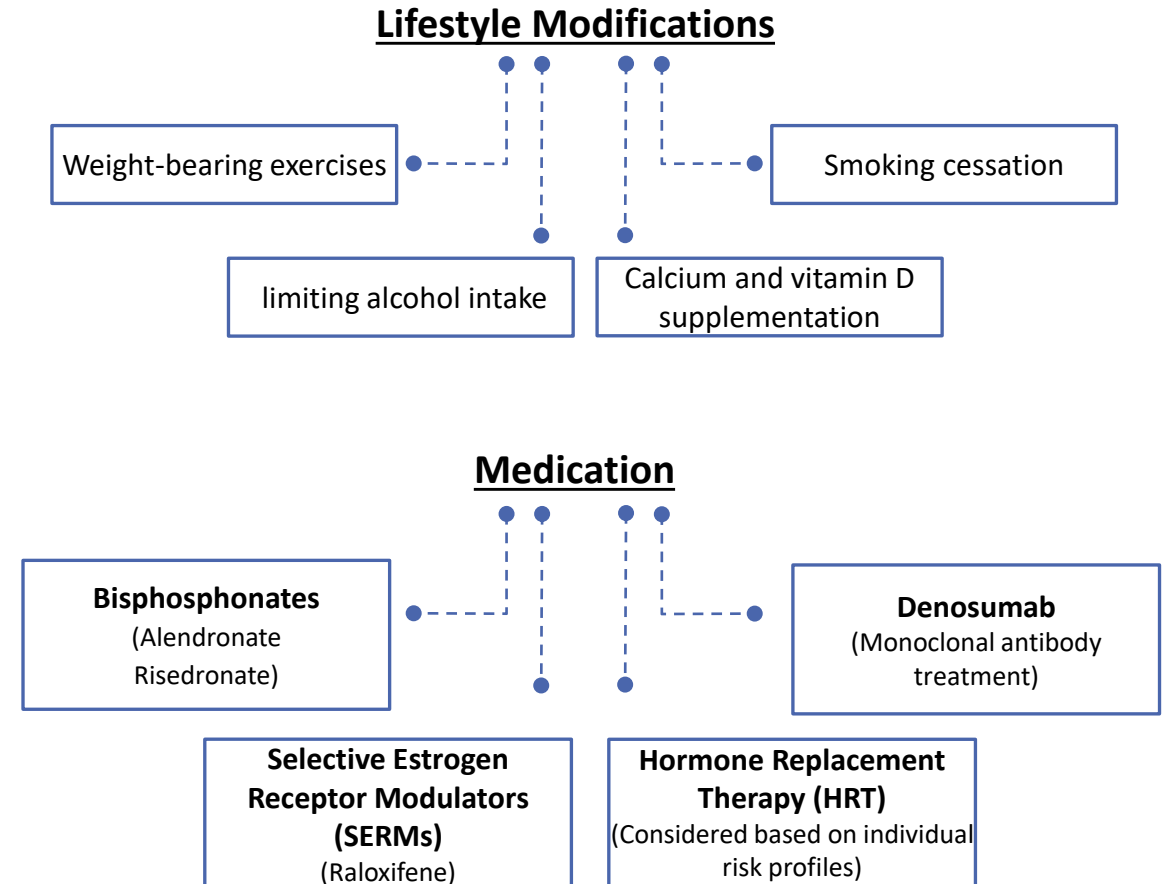
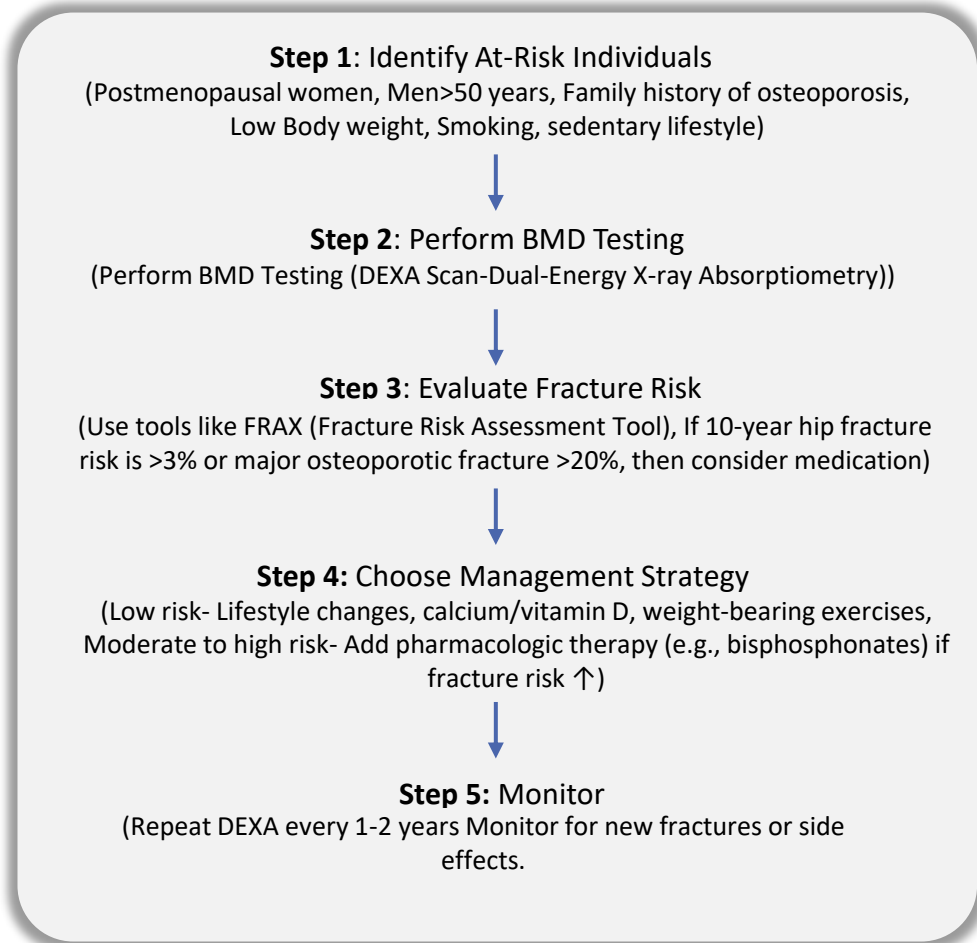
Patients with
Osteoporosis

Osteopenia in the elderly is responsible for 1.3 million fractures per year in the United States. The acute care costs associated with this disorder are between \$6 and \$10 billion dollars annually.

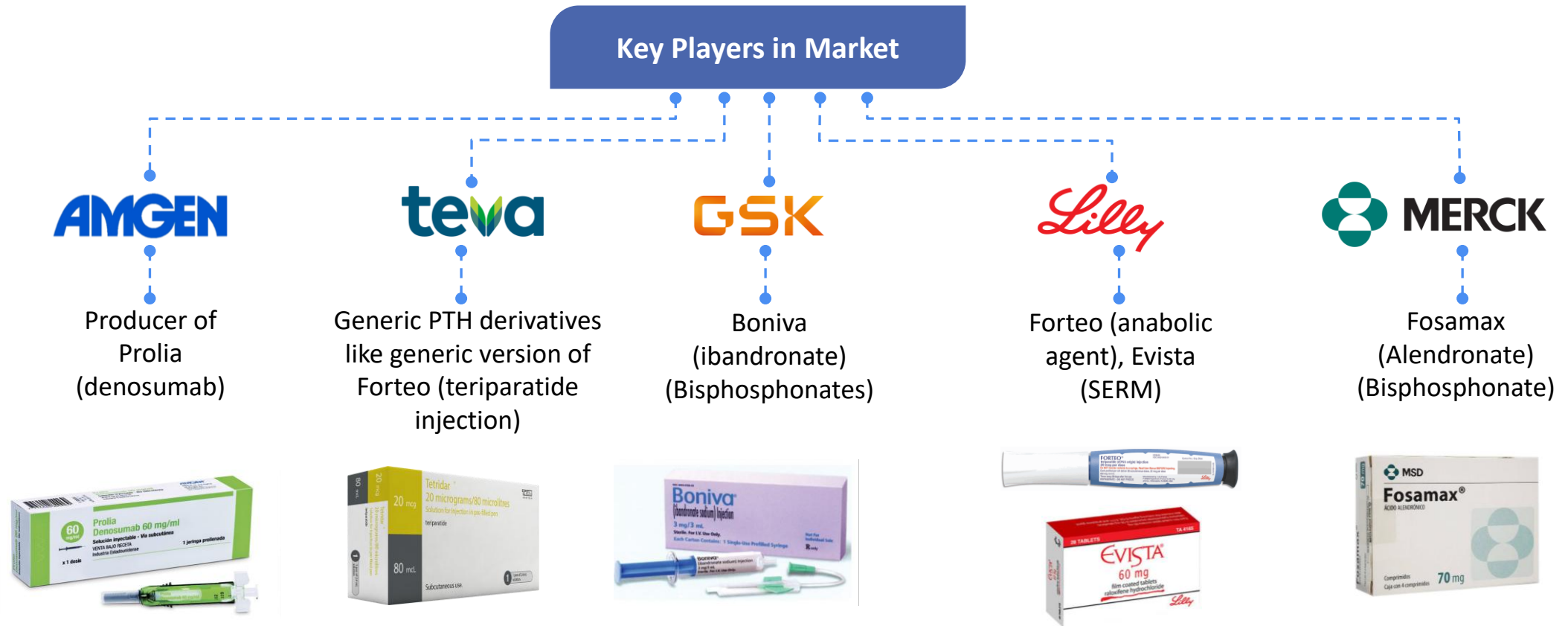
Approximately 1 in 2 women and 1 in 4 men over the age of 50 will experience an osteoporosis-related fracture, making these conditions a significant public health concern



Lifestyle modification along with medication for better bone health



Bisphosphonates currently leading the Osteopenia/Osteoporosis market in USA3



Key pipeline and in-line assets in the market for Osteopenia & Osteoporosis

[illegible]

Drug Name (in-line)

Prolia (Denosumab)		SC	Amgen
Boniva (ibandronate)		Oral/IV	GSK
Forteo (Anabolic agent)		SC	Eli Lilly
Evista (SERM)		Oral	Eli Lilly
Fosamax (Bisphosphonate)		Oral	Merck

The Emergence of biosimilars along with various ongoing researches are going to affect the current market of Osteopenia in future

WCO²-IOF³-ESCEO⁴ Congress 2025: A major global event showcasing the latest research and advancements in bone health, including potential new treatments for Osteopenia.

The emergence of biosimilars (Jubbonti, Steoboclo, Ospomyv) due to LOE of Prolia targeting existing therapies could drive down treatment costs for osteopenia, making it more accessible for patients.

Researchers at the **Hospital for Special Surgery (HSS)** have identified cOCs as potential biomarkers for early diagnosis of low bone density, enabling the use of simple blood tests for Osteoporosis.



EB613 (Oral Teriparatide) by Entera Bio, currently in Phase 3 trials, could impact Osteopenia treatment with a potential oral alternative, with results expected by the end of 2025.

Stem Cell-Based Therapies for Osteopenia – University of California: Exploring mesenchymal stem cells to regenerate bone and enhance density, potentially offering a better treatment option for osteopenia.

Advancement in the technology and increasing awareness of the condition are the current trends in the market

Advancements in Diagnostic Technologies

- New tools like **DEXA** (Dual-Energy X-ray Absorptiometry) and QUS (Quantitative Ultrasound) are revolutionizing diagnosis.
- **Early and accurate** detection of osteopenia is now possible.
- Helps in **timely intervention** and effective monitoring over time.
- These tools are **driving demand** for diagnosis and subsequent treatment solutions.

Awareness Campaigns by Leading Companies

- Amgen ran the global "**Break Records, Not Bones**" campaign, setting a Guinness World Record for Osteoporosis screenings in 2019 across 10 countries.
- UCB & Amgen also collaborated on campaigns encouraging **early detection and DEXA scanning** for bone health.
- Companies like Radius Health support **awareness during World Osteoporosis Day**, promoting bone health education and screening.

Non-Pharmacological Therapies

- **Osteoboost Belt:** Low-intensity vibration therapy stimulates bone formation, mimicking the effects of weight-bearing exercise.
- **Non-invasive and wearable**, making it suitable for daily, home-based use by patients with osteopenia.
- Shown to help **reduce bone loss and improve bone density**, especially in early-stage patients.

Impact of the Aging Population⁴

- Aging leads to natural bone loss, increasing osteopenia cases.
- The U.S. population age >65 grew from 2010 to 2020 at **38.6%**⁵ in just 10 years.
- In **Feb 2023**, WHO and ESCEO collaborated to create a **strategic public health plan** to prevent fractures in the elderly.
- Rising elderly population = **growing demand** for osteopenia treatments and management strategies.

Underdiagnosis, limited R&D, and lack of Osteopenia specific treatment highlight major unmet needs in Osteopenia care

1

Lack of FDA-Approved
Treatments Specific to
Osteopenia



2

Limited Research and
Innovation



3

Limitations of the
FRAX Tool in Risk Assessment



4

Under-diagnosis and Low
Screening Rates



5

Lack of motivation for lifestyle
changes



Conclusion

- Osteopenia is far more prevalent than commonly perceived, yet it remains largely overlooked due to its asymptomatic nature.
- Screening is often delayed — usually only after Osteopenia has already progressed to Osteoporosis. This highlights the critical need for earlier detection and proactive management
- Healthcare systems tend to focus major expenditures on treatment rather than prevention, which is a reactive approach. A shift toward early screening and preventive care could significantly reduce the long-term burden.
- Many patients discontinue treatment due to its complexity, often because of the multiple steps involved, frequent administration schedules, or side effects. This highlights the need for simpler, more convenient treatment options.
- Osteopenia shouldn't just be seen as the early stage of Osteoporosis, but a condition worth managing on its own.
- Recognizing and addressing Osteopenia early can help prevent progression and significantly reduce the risk of fractures, ultimately improving patient quality of life.