Osteoporosis is a disease which causes the skeleton to become weak and fragile – resulting in broken bones (known as fragility fractures). Vertebral (spine) fractures due to osteoporosis are a major cause of pain and disability, as well being powerful predictors of future fractures. Nevertheless, they often remain unidentified and the underlying cause remains untreated – leaving patients unprotected against a cascade of more broken bones.

Vertebral Fractures Due to Osteoporosis

In Latin America, 46% in North America, 45% in Europe, South Africa and Australia.

Most Common Type of Fracture Due to Osteoporosis

- In Caucasians: ca. 50% of women & 20% of men aged 50+ years will have a fragility fracture in their remaining lifetime.
- Vertebral fractures are the most common osteoporosis-related fracture.
- One new vertebral fracture is estimated to occur every 22 seconds worldwide.
- The incidence of vertebral fractures in both men & women aged 50+ rises with age; more women affected than men.

Under-Diagnosed and Under-Treated

- Up to 70% of vertebral fractures remain undiagnosed.
- Under-diagnosis of vertebral fractures occurs for various reasons – including the fact that back pain is often attributed to other causes by both patients and doctors, or the need for spine imaging in a patient with osteoporosis risk factors and back pain is not recognized by the doctor.

- Even if the fracture is visible on an X-ray, radiologists may fail to spot or clearly report a vertebral fracture: the proportion of vertebral fractures that go unrecognized on an X-ray is reported to be as high as:
  - 46% in Latin America
  - 45% in North America
  - 29% in Europe, South Africa and Australia
SERIOUS, LIFE-ALTERING IMPACT ON SUFFERERS

Vertebral fractures are associated with an 8-fold increase in mortality rates.\(^{11, 12, 13}\) They can have a serious impact on health and quality of life, affecting the ability to carry out routine daily activities and to live independently.\(^{14}\)

Consequences include: spinal deformity & height loss; severe and disabling back pain; immobility; loss of independence; depression; increased number of bed days; breathing difficulties; reflux and other gastrointestinal symptoms, and incontinence.\(^{15, 16}\)

The psychological and social impact is profound, frequently leading to depression, loss of self-esteem, fear of falling, and social isolation.\(^{17, 18, 19}\)

ENORMOUS AND GROWING ECONOMIC COSTS

The direct costs of vertebral fractures were estimated at:

<table>
<thead>
<tr>
<th>EUROPE</th>
<th>USA</th>
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<tr>
<td>\eva 2005</td>
<td>$ 2005</td>
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<tr>
<td>719 MILLION €</td>
<td>1 BILLION $</td>
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The cost of all osteoporotic fractures is expected to rise markedly in the next few decades:\(^{24}\):

<table>
<thead>
<tr>
<th>USA</th>
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<tbody>
<tr>
<td>$ 2005</td>
<td>$ 2020</td>
<td>$ 2025</td>
</tr>
<tr>
<td>1 BILLION $</td>
<td>22 BILLION $</td>
<td>25 BILLION $</td>
</tr>
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</table>

- One-third of vertebral fractures come to clinical attention and account for as many hospital bed days as other common medical conditions.\(^{22}\)
- A UK study found that every vertebral fracture accounts for 14 additional visits to a general practitioner in the year after fracture.\(^{23}\)

POWERFUL PREDICTORS OF FUTURE FRACTURES

EARLY IDENTIFICATION AND TIMELY TREATMENT FOR OSTEOPOROSIS IS ESSENTIAL!

- The presence of a vertebral fracture not only increases the risk of new vertebral fractures, but also increases the risk of ANY fracture – including hip fractures.\(^{3, 8, 13, 25}\)

| 20% OF WOMEN | WITH A RECENT VERTEBRAL FRACTURE WILL SUFFER A NEW FRACTURE WITHIN A YEAR |

- The risk increases with the number and severity of vertebral fractures.\(^{25, 26}\)

- Pharmacological treatment for osteoporosis reduces the risk of fracture within 6-12 months by 50-80%.\(^{27}\)

- It is important to identify those individuals with vertebral fractures who are osteopenic rather than osteoporotic, and who may otherwise not be considered for pharmacological treatment.\(^{28}\)
REFERENCES