

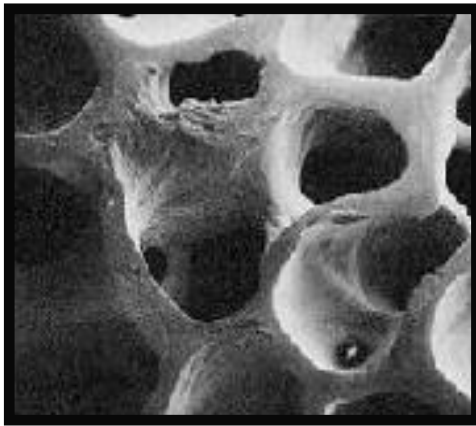
# OSTEOPOROSIS FACT SHEET

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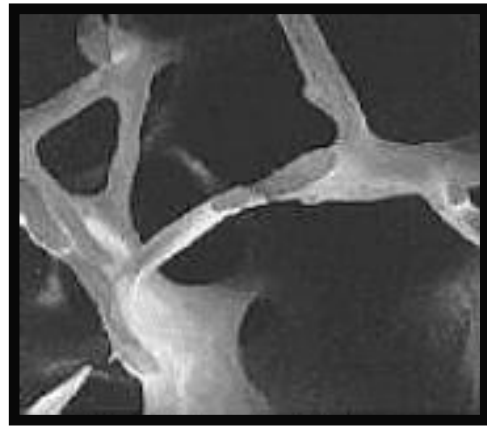
## What is Osteoporosis?

Osteoporosis is a chronic, debilitating disease in which bones become porous and break easily.<sup>1</sup> The density and quality of bone are reduced, leading to weakness of the skeleton and increased risk for fracture.<sup>2</sup> If not prevented or if left untreated, osteoporosis can progress painlessly until a bone breaks.<sup>3</sup>

Bones are living tissue with a hard outer surface of dense bone (cortical) covering a “sponge”-like inner bone (trabecular).



**Normal Bone**



**Osteoporotic Bone**

Bone continues to be built by the body until about age 30 when bone begins to breakdown as well as build. Over time, bone breakdown outpaces bone building leading to loss of bone density, and eventually, osteoporosis.<sup>4</sup> Post-menopausal women are at increased risk for osteoporosis because estrogen, which decreases at menopause, plays an important bone-protective role in the body. Osteoporosis and associated fractures are a leading cause of mortality and morbidity.<sup>5</sup>

## Osteoporosis: Impact and Prevalence

Often referred to as the “silent epidemic,” osteoporosis is a global problem that is increasing in significance as the population of the world both increases and ages. The World Health Organization (WHO) has recently identified osteoporosis as a priority health issue along with other major non-communicable diseases.

Despite availability of osteoporosis treatments for more than 10 years, there are still a substantial number of fractures.<sup>6</sup> Out of an estimated 9 million new osteoporotic fractures globally in 2000, 1.7 million were at the forearm, 1.6 million were at the hip, and 1.4 million were clinical (symptomatic) fractures of the vertebrae in the backbone.<sup>7</sup>

**MILLIONS WORLDWIDE HAVE OSTEOPOROSIS**

**Global**

- More than 75 million people in Europe, Japan and the U.S. have osteoporosis<sup>8</sup>
- Most have an estimated lifetime risk for wrist, hip and vertebral fractures of around 15 percent, very similar to that of coronary heart disease<sup>9</sup>

**United States**

- In the U.S. today, 10 million people are estimated to already have osteoporosis<sup>10</sup> and almost 34 million Americans are estimated to have low bone mass, placing them at increased risk for osteoporosis<sup>11</sup>
- One woman in two over 50 will have an osteoporosis-related fracture in her lifetime<sup>12</sup>

**Europe**

- About 30% of all post-menopausal women in Europe have osteoporosis, and more than 40% of them will suffer osteoporotic fractures in their lifetime.<sup>13</sup>
- Recent estimates have stated that approximately 3.8 million people in Europe have experienced fractures related to osteoporosis<sup>14</sup>

**Cost of Osteoporosis: A Growing Burden**

The economic burden of osteoporosis is comparable to that of other major chronic diseases; for example, in the U.S. the costs associated with osteoporosis-related fractures are equivalent to those of cardiovascular disease and asthma.<sup>15 16 17</sup> It has been reported that osteoporosis results in more hospital bed-days than stroke, heart attack or breast cancer.<sup>18</sup>

**ACROSS THE GLOBE, THE COSTS TO HEALTHCARE SYSTEMS FROM OSTEOPOROSIS-RELATED HOSPITALIZATION ARE SIGNIFICANT<sup>19</sup>**

- The annual direct costs of treating osteoporosis fractures of people in the workplace in the EU, Canada, and U.S. is approximately \$48 billion per year
- In the U.S: more than \$30 billion
- In EU: more than \$17 billion
- In Canada: more than \$1.9 billion

Despite the growing awareness of osteoporosis, the number of osteoporotic fractures is expected to increase by nearly 50 percent by the year 2025 in the U.S.<sup>20</sup> The need for new osteoporosis therapies, including ones that can demonstrate efficacy at multiple sites throughout the skeleton is great.

Hip fracture, although not the most common osteoporotic fracture, remains devastating and can lead to death.<sup>21</sup> Estimated cost of hip fractures in the U.S. for 2005 is \$12 billion.<sup>22</sup> Vertebral fractures make up about 25 percent of all osteoporotic fractures, however two-thirds of vertebral fractures are undiagnosed.<sup>23</sup> Ninety-seven (97) percent of lumbar vertebral fractures and 74 percent of thoracic vertebral fractures result in limited activity days.<sup>24</sup> The economic burden of

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vertebral fractures is due to costs associated with outpatient care, nursing care and lost working days.<sup>25</sup>

**Are You At Risk for Osteoporosis?**

There are certain risk factors that increase the likelihood of developing osteoporosis and fractures.<sup>26</sup> These include:

- Being female
- Current low bone mass
- Family history of osteoporosis, especially a first degree relative
- Thin and/or have a small frame
- Advanced age
- Estrogen deficiency as a result of menopause, especially early or surgically induced
- Low lifetime calcium intake
- High caffeine intake
- Vitamin D deficiency
- Use of certain medications (corticosteroids, chemotherapy, anticonvulsants and others)
- Inactive lifestyle
- Smoking (active or passive)
- Excessive use of alcohol (three or more drinks per day)

**Diagnosis**

Many people only receive an osteoporosis diagnosis following a bone fracture, although there are now specific tests that measure bone density (BMD) in various sites of the body.<sup>27</sup> Many insurers and government healthcare coverage will reimburse for BMD testing.<sup>28</sup>

**Treatments**

Along with proper diet and weight-bearing exercise, medications can help slow bone loss and reduce the risk of fracture. While there are several treatments available, the most commonly used therapies are from the same class of medicine called bisphosphonates. New therapies currently in late-stage development are exploring different approaches to osteoporosis treatment.

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