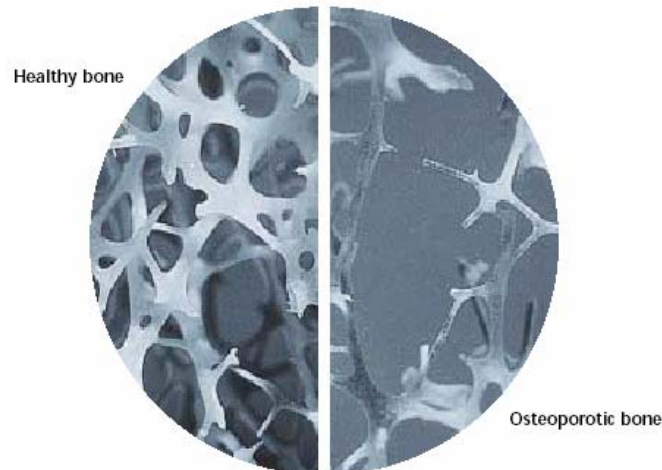


OSTEOPOROSIS FACT SHEET

What is osteoporosis?

- Osteoporosis is a disease in which the density and quality of bone are reduced, leading to weakness of the skeleton and increased risk of fracture, particularly of the spine, wrist and hip. Osteoporosis and associated fractures are an important cause of mortality and morbidity.¹



- Osteoporosis is a global problem which is increasing in significance as the population of the world both grows and ages.
- Worldwide, lifetime risk for osteoporotic fractures in women is 30-50%. In men risk is 15-30%.²
- Three main types of osteoporosis fractures are wrist fracture, vertebral fracture and hip fracture

What are the symptoms of osteoporosis?

- Osteoporosis is often called the "silent disease" because bone loss occurs without symptoms. In many cases, the first "symptom" is a broken bone. Patients with osteoporosis may not know that they have the disease until their bones become so weak that a sudden strain, bump, or fall causes a hip fracture or a vertebra to collapse. Collapsed vertebra may initially be felt or seen in the form of severe back pain, loss of height, or spinal deformities such as kyphosis, or severely stooped posture.³

Incidence and prevalence of osteoporosis

- 1 in 3 women over 50 will suffer a fracture due to osteoporosis; this increases to 1 in 2 over 60.⁴
- 1 in 5 men over 50 will suffer a fracture due to osteoporosis; this increases to 1 in 3 over 60.⁴
- Approximately 1.6 million hip fractures occur each year worldwide, the incidence is set to increase to 6.3 million by 2050.⁵
- The highest risk of hip fractures are seen in Norway, Sweden, Iceland, Denmark and the USA.⁶
- Currently, there is an increasing incidence of hip fractures in the developed cities in Asia. 1 out of 4 hip fractures occur in Asia and Latin America. This number of hip fractures will increase to 1 in 2 by 2050.⁶
- In the Middle East, the burden of osteoporosis in the general population is expected to increase and is becoming a heavy financial burden.⁷
- The annual incidence rate of osteoporotic fractures in women is greater than the combined incidence rates of heart attack, stroke and breast cancer⁸

Burden of osteoporosis

- According to World Health Organization (WHO), osteoporosis is second only to cardiovascular disease as a global healthcare problem and medical studies show a 50-year-old woman has a similar lifetime risk of dying from hip fracture as from breast cancer.⁹
- Since osteoporosis affects the elderly population which is growing, it will put a bigger burden to the healthcare system as treatment is expensive. Unless swift action is taken, it can escalate into an economic threat.⁹
- International Osteoporosis Foundation (IOF) estimates that the annual direct cost of treating osteoporosis fractures of people in the workplace in the USA, Canada and Europe alone is approximately USD48 billion.¹⁰

- The worldwide cost burden of osteoporosis (for all ages) is forecast to increase to USD131.5 billion by 2050.¹¹
- Osteoporosis also results in huge indirect costs that are rarely calculated and which are probably at least 20% of the direct costs.¹¹
- Once a woman suffers a first vertebral fracture, there is a five-fold increase in the risk of developing a new fracture within one year¹¹

Osteoporosis diagnosis

- 93% of women acknowledge seriousness of osteoporosis, but 8 out of 10 do not believe they are personally at risk; 80% of women with osteoporosis were not aware of their risk before diagnosis¹²
- Find out if you have osteoporosis risk factors by taking the One-Minute Risk Test developed by the International Osteoporosis Foundation. If you answered 'yes' to any of the questions, you may be at risk of developing osteoporosis, and it is recommended that you consult your physician who will advise whether further tests or treatment may be necessary.¹³
- Loss of bone mass can be made by a physician through a bone mineral density test (BMD).¹⁴ The test measures bone density in the spine, wrist, and/or hip (the most common sites of fractures due to osteoporosis), while others measure bone in the heel or hand. These tests are painless, noninvasive, and safe. Bone density tests can³:
 - Detect low bone density before a fracture occurs.
 - Confirm a diagnosis of osteoporosis if you have already fractured.
 - Predict your chances of fracturing in the future.
 - Determine your rate of bone loss and/or monitor the effects of treatment if the test is conducted at intervals of a year or more.

Prevention

- Maintaining a healthy lifestyle means greater protection against fractures in later life.⁴
- Maintain a balanced diet to achieve adequate calcium and vitamin D intake.
- Avoid smoking and high intakes of alcohol.
- Take regular, weight-bearing exercise. Good bone building exercises include running, skipping, aerobics, tennis, and brisk walking.¹⁵

Treatment of Osteoporosis

- About half of hip and vertebral fractures can be prevented if osteoporosis is treated promptly and adequately.⁷
- Only one in five women with fractures receive treatment¹³
- The most common treatments include¹⁶:
 - Calcium and vitamin D supplements can be of benefit for older people to reduce the risk of hip fracture.
 - Bisphosphonates are non-hormonal drugs, which help maintain bone density and reduce fracture rates.
 - Selective Estrogen Receptor Modulators (SERMs) are drugs which act in a similar way to estrogen on the bone, helping to maintain bone density and reduce fracture rates specifically at the spine.
 - Parathyroid hormone stimulates new bone formation and significantly increases bone mineral density and reduce fracture rates
 - Hormone replacement therapy (HRT) is estrogen replacement for women at the menopause, which help maintain bone density and reduce fracture rates for the duration of therapy.

Asia Pacific Update

With socio-economic development in many Asian countries and rapid ageing of the Asian population, osteoporosis has become one of the most prevalent and costly health problems in the region.¹⁷ Unsurprisingly, Asia is the region expecting the most dramatic increase in hip fractures during coming decades; by 2050 one out of every two hip fractures worldwide will occur in Asia.⁸

China

- Osteoporosis has reached epidemic proportion, 300% increase in the last 30 years.¹⁸
- Total prevalence rate of osteoporosis in the middle- aged and elderly in China was 16. 1% in 2002. The prevalence rate among males was 11. 5% and among females was 19. 9%.¹⁹
- With the advances in quality of life and health conditions in China, the population has been experiencing aging, and osteoporosis has therefore become an important public health problem.¹⁶

Hong Kong

- The incidence of hip fracture has increased by 200% in Hong Kong over the past 20 years: about 10 elders fracture their hip everyday. The mortality rate for hip fracture patients is 20% while 70% remain permanently disabled.²⁰

- 50% of men and women aged 60 years and over could be diagnosed as "osteoporotic"¹⁸
- Osteoporosis is currently among the top five conditions causing disability and prolonged hospital stay for elders in Hong Kong.¹⁷
- The cost of treating hip fractures in Hong Kong exceeds 1% of the total hospital budget.¹²
- The total healthcare cost for treating the disease is projected to reach USD128 million by the year 2010.¹⁸
- For women aged 65 and over: 45% is osteoporosis, 42% is osteopenia (low bone mass). For men aged 65 and over: 13% is osteoporosis, 47% is osteopenia.²¹

Singapore

- It is estimated that 800 to 900 hip fractures occur in Singapore every year due to osteoporosis.²²
- Over the past 3 decades, hip fractures in women aged 50 and above have increased 5 folds from 75 cases to 402 cases per 100,000 populations. Among men aged 50 and above, the increase was 1.5 times over the same period; from 103 cases to 152 cases per 100,000 populations.²³
- About 1 in 5 persons died within a year of sustaining an osteoporotic hip fracture and 1 in 3 became wheelchair bound or bedridden.¹³
- Treatment cost for fracture is USD4706 on average and is expected to increase.²⁰
- More than 100,000 women suffer from osteoporosis, with fracture treatment adding up to USD3.4 million a year.²⁰

Malaysia

- The number of hip fracture cases for men and women in Malaysia is 88 and 218 per 100,000 populations²⁴
- 51.8% urban Malaysian women in her menopause age group had mild osteoporosis²⁵

Japan

- In Japan, the number of total prevalent cases of osteoporosis is estimated to increase from 9.716 million to 12 271 100 from 2001 to 2010.²⁶
- At present, the total number of osteoporotic patients in Japan is estimated to be ten million.²⁷
- The incidence of hip fracture was approximately 50,000 in 1987 and 80,000 in 1992.²³

India

- 1 out of 8 males and 1 out of 3 females in India suffers from osteoporosis, making India one of the largest affected countries in the world.²⁸
- Expert groups peg the number of osteoporosis patients at approximately 26 million (2003 figures) with the numbers projected to increase to 36 million by 2013.²⁹
- Two points worth noting about osteoporosis in India - the high incidence among men and the lower age of peak incidence compared to Western countries.
- The incidence of hip fracture is 1 woman to 1 man in India²⁵
- In most Western countries, while the peak incidence of osteoporosis occurs at about 70-80 years of age, in India it may afflict those 10-20 years younger, at age 50-60.²⁵

Australia

- 2 million Australians are affected by osteoporosis.³⁰
- Every 8.1 minutes in Australia someone is admitted to hospital with a fracture.⁴
- The numbers of fractures are increasing at a rate of 4% per annum.³¹
- Prevalence increase to 2.2 million in 2006 and 3 million in 2021.⁴
- Total costs relating to osteoporosis in Australia are USD7.4billion per year of which USD1.9 billion are direct costs.³¹
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New Zealand

- In New Zealand, osteoporosis causes 15,000 fractures each year, of which around 3,000 are hip fractures.³¹
- Affects more than half of women, and nearly a third of men over age 60.²⁵
- Osteoporosis is estimated to cost New Zealand over \$135 million per annum.²⁵
- Up to 20% of aged osteoporosis patients die after a hip fracture, and 40% can no longer live independently within a year of their injury.³²

Korea

- It is estimated that as many as 2 million people are suffering from osteoporosis in Korea.³³
- The prevalence of hip fractures has increased about 4 folds during past 10 years.³⁴

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