

# OSTEOPOROSIS

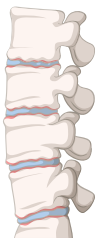
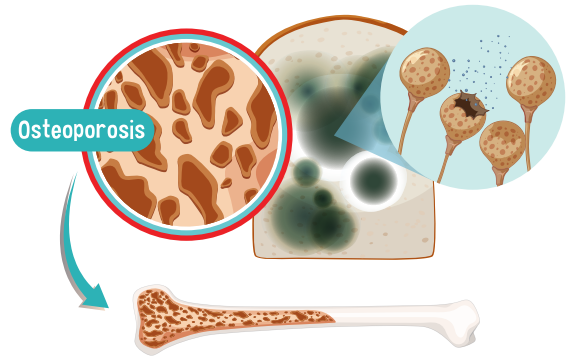


## Break Free: Empowering Lives with Osteoporosis Management and Prevention

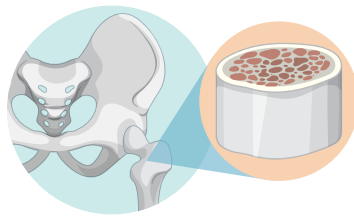
**OSTEOPOROSIS IS A DISEASE IN WHICH BONE DENSITY AND QUALITY DECREASE.**

**Bones** are characterized by being more porous, brittle, and fragile due to loss of calcium.

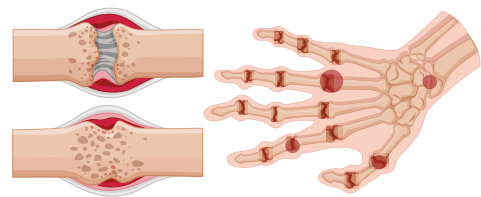
FRACTURES OCCUR MOST COMMONLY IN:



SPINE



HIP



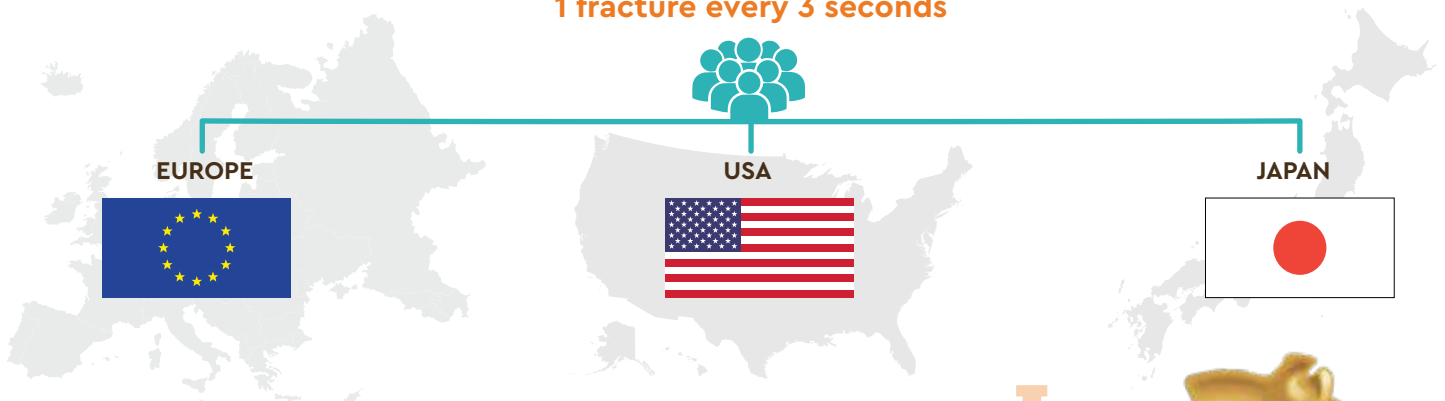
WRIST

According to the **International Osteoporosis Foundation**, osteoporosis impacts an estimated

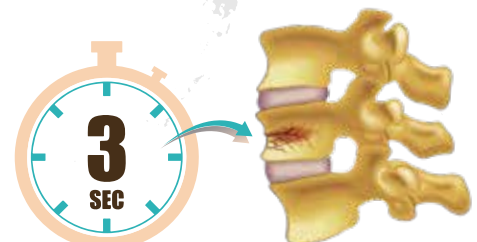
**75 million people**

**8.9 million fractures**

**1 fracture every 3 seconds**



Given its widespread occurrence globally, osteoporosis is regarded as a significant public health issue.



## Prevalence in Saudi Arabia

The prevalence of osteoporosis in Saudi Arabia (KSA) in men and women above the age of 50 years.



37.8% Women



28.2% Men

## Signs and Symptoms



As the disease progresses, symptoms begin to appear causing:



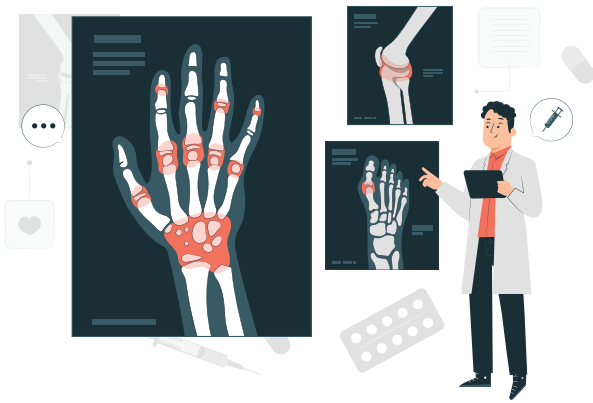
- Back pain, due to fractured or slipped vertebra.
- Loss of height.
- Stooped posture.
- Easily broken bones.



# Risk Factors for Osteoporosis

## Uncontrollable Risk Factors:

- Gender, women are more susceptible to osteoporosis than men.
- Age, the risk of osteoporosis increases with age.
- Family history.
- Small body frames.
- Menopause or hysterectomy.



- Hormone deficiencies, such as a lack of estrogen in women and androgen deficiency in men.
- Certain medical conditions such as autoimmune diseases (e.g. rheumatoid arthritis, lupus), and gastrointestinal disorders (e.g. Inflammatory bowel disease, Crohn's disease, and celiac disease).
- Some medications, such as glucocorticoids and some anticonvulsants, can lead to loss of bone density and fractures.

## Controllable risk factors:



Low body mass index (BMI)



Malnutrition



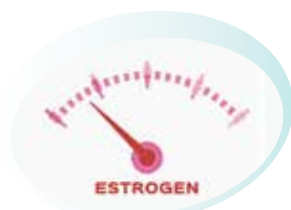
Alcohol consumption  
Smoking



Eating Disorders



Vitamin D deficiency



Estrogen deficiency



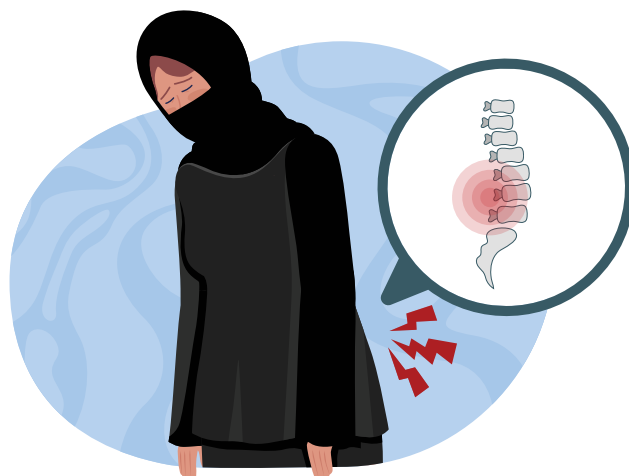
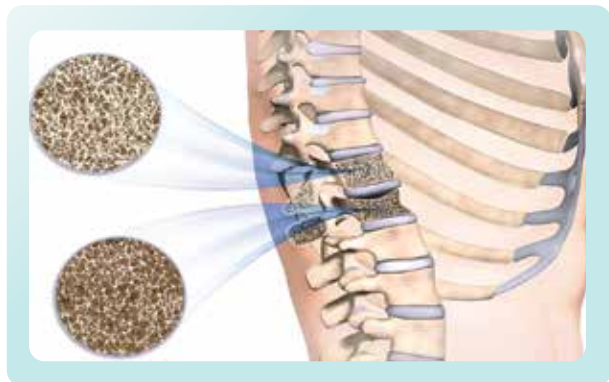
Physical inactivity



Frequent falls

## Osteoporosis Diagnosis

No clear symptoms of osteoporosis until a fracture occurs.



Early screening is essential.

- **Fracture Risk Assessment:** Gives 10-yr probability of fracture
- **Fragility Fractures** mainly at hip or spine.



- **Bone Mineral Density (BMD):** (DXA) at a minimum of two sites: (femoral neck, lumbar spine, or distal radius).



Osteoporosis can be prevented by:



1

Consuming adequate intake of calcium (1,000–1,200mg daily depending on age and gender) and vitamin D (at least 800IU/day) from food and/or supplement.



2

Spending a short time in the sun daily is recommended to trigger vitamin D production.



3

Adequate protein intake ( $\geq 0.8\text{g}/\text{kg}$  body weight/day).



4

A combination of regular weight bearing and muscle strengthening exercise.



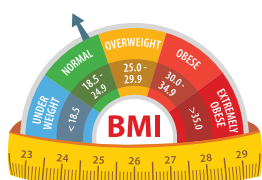
5

Improving lifestyle: avoiding smoking and alcohol, assessing the risk of osteoporosis and taking drugs and supplements to help maintain bone mass and reduce the risk of fractures.



6

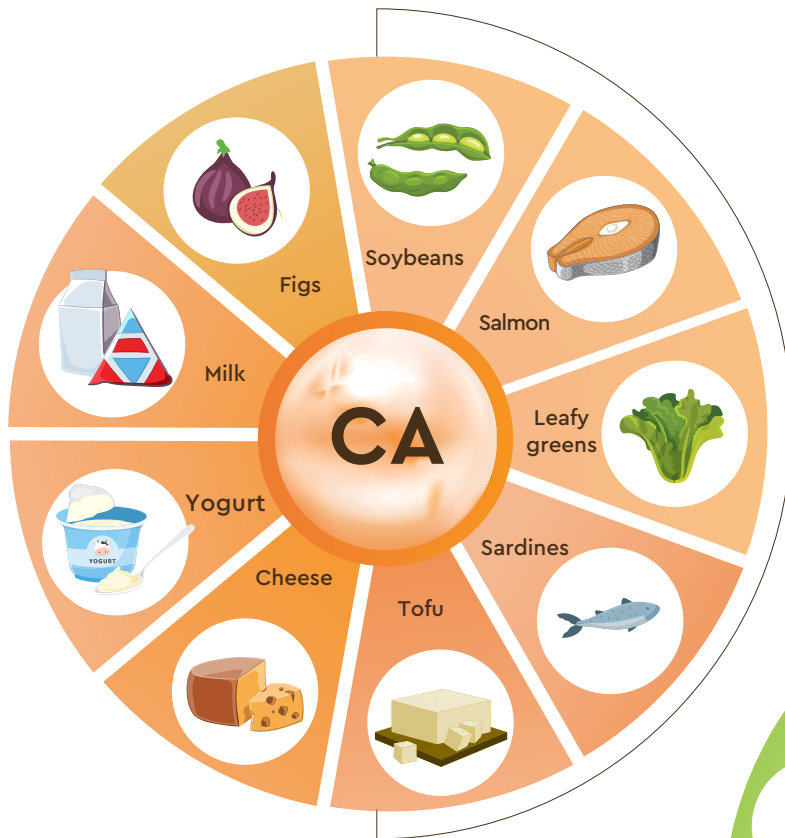
Maintaining a good diet: A healthy, nutrient-rich balanced diet (high in fruit and vegetables, fish, poultry, milk/dairy, and whole grains).



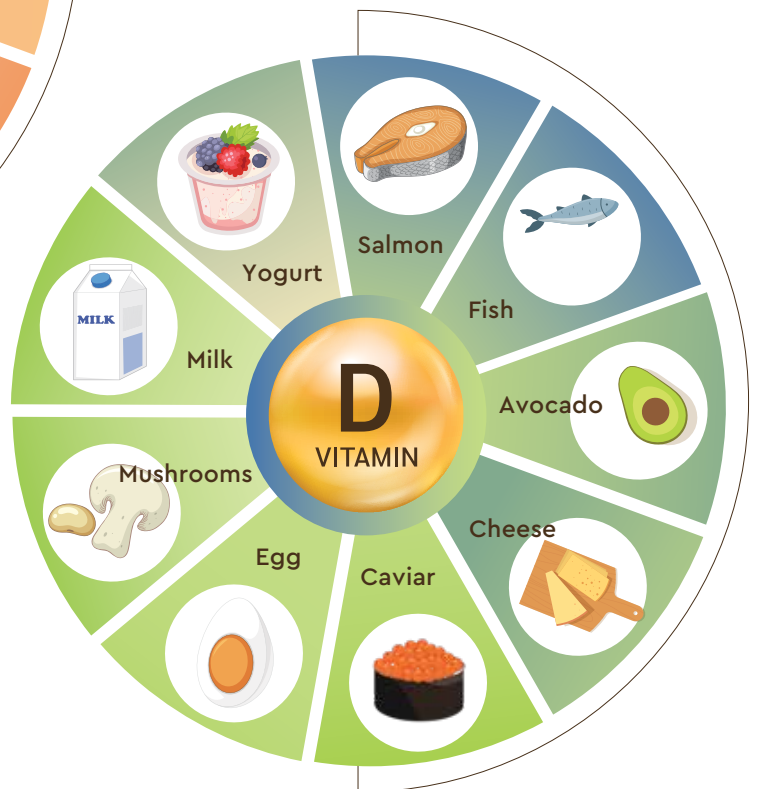
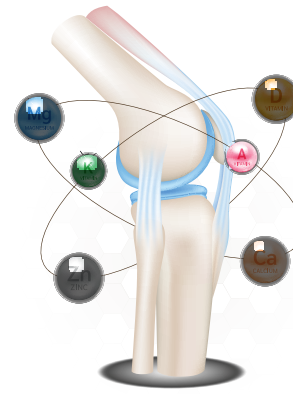
7

Optimizing body mass index if under or overweight.

# Sources of Calcium & Vitamin D



Foods Rich in Calcium



Foods Rich in Vitamin D

## Tips for getting calcium and vitamin D:

Get regular sunlight exposure: Sunlight helps your body produce vitamin D. Aim for at least 15 minutes of unprotected sun exposure on your skin 2-3 times per week.

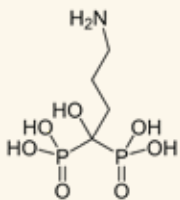
Eat a healthy diet: Include a variety of calcium rich and vitamin D-rich foods in your diet.



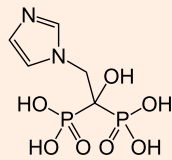
## Pharmacological Treatment

Highly treatable medical condition as many fractures can be avoided with optimal management.

The management of individuals diagnosed with osteoporosis relies on a DXA scan and assessing the risk of fractures. For the majority of patients, **oral bisphosphonates** inhibit bone resorption and constitute the primary treatment, they include:

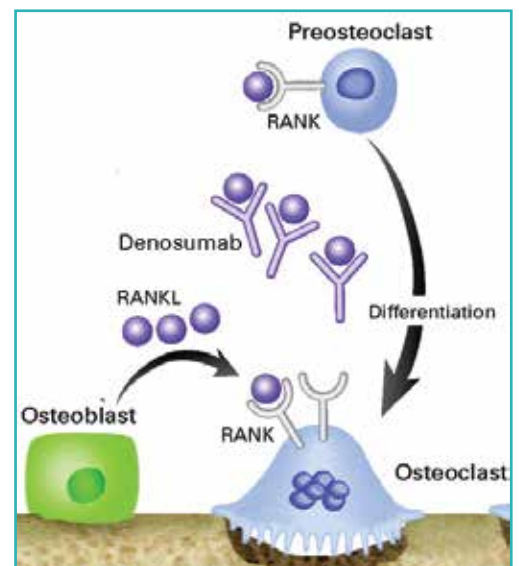


Alendronate



Zoledronic acid

Other medications include:



- **Denosumab, Teriparatide, and Romosozumab:** are prescribed for patients at very high fracture risk or intolerance to Bisphosphonates.