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## Introduction

The bones contain minerals such as calcium, phosphorus, and vitamin D that help keep bones strong. Osteoporosis is a condition of weakness or lack of bone density, which leads to the bones fragility and ease of breaking. Statistics show that 40-50% of women are vulnerable compared with 13-22% in men, and nearly one in every Three women have more than 50 fractures due to osteoporosis (more than breast cancer) and one out of five men who have exceeded 50 (more than prostate cancer).

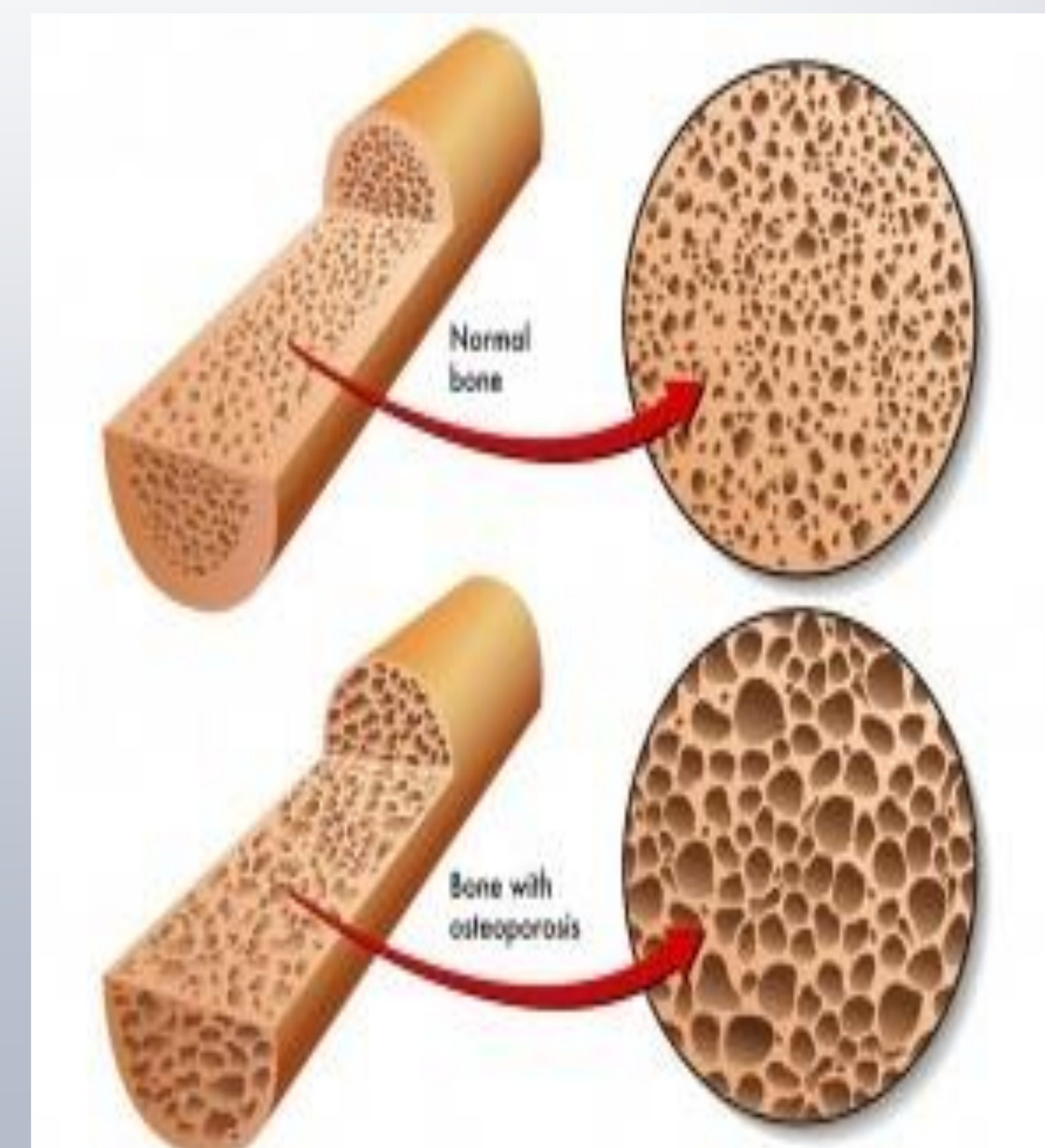
## Symptoms

There are often no signs of osteoporosis, but there may be some pain after a person breaks a bone:

- Fractures in the spine, wrist or pelvis.
- Pain in the lower back.
- Pain in the neck.
- Decrease in patient length over time.

## Causes

1. **Age:** As the age increases, bone density decreases, and the risk of infection increases.
2. **Sex:** Women are more likely to develop osteoporosis than men, especially after menopause.
3. **Genetics:** A parent's injury to frailty or fractures (especially hip fracture) increases the risk of injury to children.
4. **Previous fractures:** People with previous fractures are 86% more likely to develop osteoporosis than others (men and women alike).
5. **Ethnicity:** Osteoporosis is more common in the Caucasian and Asian Peoples.
6. **Menopause after menopause** estrogen production decreases in women.
7. **Rheumatoid Arthritis:** Rheumatoid arthritis and endocrine diseases such as hyperthyroidism, have a direct effect on bone density.
8. **Hypothyroidism:** Such as lack of estrogen in women and lack of testosterone in men increases the risk of fractures.



## Treatment

Treatment usually includes a combination of medications and lifestyle changes. Medicines used to treat osteoporosis include bisphosphonates which can be given as a tablet or injection. Bisphosphonates maintains bone density and reduces the risk of fracture.

There are several different bisphosphonates, including:

1. Alendronate
2. Ibandronate
3. Risedronate
4. Zoledronic acid

They are given as a tablet or injection.

Calcium and vitamin D supplements, and hormone therapy are also used to treat osteoporosis.

## References

1. [Medicinenet.\(2018\).osteoporosis\,online available at:  
<http://www.endocrineweb.com/conditions/osteoporosis>](http://www.medicinenet.com/osteoporosis/online.htm)
2. <https://www.nhs.uk/conditions/osteoporosis/treatment>