

## Clinical features, pathological findings and management of osteoporosis

- Osteoporosis is a condition characterised by **loss of bone mass (organic matrix and minerals)**. There are three types of osteoporosis:
  1. Type 1 (postmenopausal) results from increased activity of osteoclasts (normally suppressed by estrogens). Osteoblastic activity is normal
  2. Type 2 (senile): Due to decreased activity of osteoblasts.
  3. Corticosteroid induced osteoporosis (reversible with stopping the steroids).
  4. Other less common forms (juvenile osteoporosis-self limited, malignant young adult osteoporosis-collapse of axial skeleton and death from respiratory failure, osteoporosis associated with Turner,s and Klinefelter,s syndromes)
- Clinical features :
  1. Pathological fractures most commonly involving the spine and hips.20% of women suffer osteoporotic fracture by the age of 65
  2. Healing of the fractures –Kyphosis and loss of height
- Management:
  1. Medical management :
    - A. Oral calcium 1-2 grams a day + estrogen 0.65 microgram/3-4 weeks with progesterone given in the last 10 days of the estrogen cycle. (In men combined estrogen and androgen therapy is given. and adequate intake of vitamin D (Calcitriol).
    - B. Stopping smoking , decreasing alcohol intake and exercise are helpful
    - C. Bisphosphonates (Alendronate, risedronate, and Etidronate) have been shown to significantly reduce the incidence of new vertebral fractures by almost 50 percent. They bind to and stabilize calcium hydroxyapatite
  2. Management of the fractures;
    - A. In the absence of instability or neurologic compromise, medical treatment (pain relief with limited bedrest, appropriate analgesics, and orthotic support).

- B. Vertebroplasty (injecting methyl acrylic into compression fracture, frequently relieves pain.
- C. Sodium fluoride (50 Mg day) may help in healing of osteoporotic fractures