

I Hormones & Disorder's

- I **Parathyroid hormone** associated with Ca^{++} mobilization which stimulates osteoclast it breaks down the cells and osteoclasts take Ca out of bones
- **Vitamin D_3** is also a hormone associated with Ca^{++} mobilization it allows uptake of Ca^{++} in intestine children Rickett's
- **estrogen** is another hormone associated with Ca^{++} mobilization ~~break~~ inside the bone having growth plates.

II 3 disorders of the skeletal system are

1. **Osteoporosis** (which was discovered in the 1830s by the french pathologist Jean Lobstein. He noticed some patients bones wasn't as normal as others so he coined the term Osteo-porosis to describe such deteriorated human bone.) Causes of Osteoporosis is lack of calcium to develop strong bones. The mechanism of osteoporosis are broken into 3 main parts which is an inadequate peak bone mass (the skeleton develops insufficient mass and strength during growth), excessive bone resorption, & inadequate formation of new bone during remodeling likely due to mesenchymal stem cells basing away from the osteoblast
2. **Leukemia** develops when the DNA of developing blood cells, mainly white cells. The cause of leukemia is not known but is thought to involve a combination of genetic and environmental factors. Leukemia cells are known to have an overactive level of a protein called β catenin, which can

divine cancer development.

3. Osteopenia, osteitis deformans & osteomalacia is similar to osteoporosis, these are other types of bone loss. ~~was~~ discovered in 1960 from osteo. some causes of osteopenia is genetics, hormonal causes, including decreasing estrogen (such as women after menopause) or testosterone, smoking, excess alcohol & more