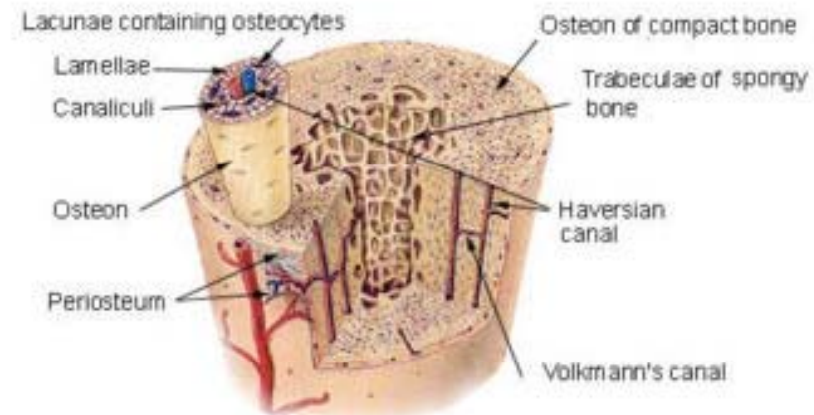


MAE 171B project 5

Fabricating bone minerals from solution

- Bone is a composite of a polymer (collagen) and ceramic (mineral phase)
- Demineralization through dissolving mineral phase in an acid solution
- Put demineralized bone in solution containing calcium phosphate (main composition of mineral), to see if the collagen can be re-mineralized
- Put demineralized bone in a mammalian serum that contains the chemical precursors for bone and see if the collagen can be remineralized.
- Literature search on mineralization of bone
- Determine methods for preparation of samples
- Conduct re-mineralization experiments
- Using interrupted texts, examine rate of mineralization
- Perform bend tests to evaluate mechanical properties (elastic modulus, strength, strain to failure)

Compact Bone & Spongy (Cancellous Bone)



Long Bone

