



### Bone Composition & Ageing

- The 1:2 ration of organic material : inorganic salts provides our skeleton with certain mechanical characteristics.
- At birth the ration is 1:1, providing elasticity in youth
- In the elderly the ration becomes 1:7, causing frailty and brittleness

### Evolution

- Evolution has called for long bones to be able to
- Support weight
- Perform speedy movements
- These are often conflicting roles for bone structure

### Bone Structure

The two conflicting roles of weight support, yet lightness in construction are met by: tubular constructions of compact bone in the shaft; light, cancellous bone at the ends; efficient arrangement of struts and ties in cancellous bone to minimise weight.