

The Decrease of Collagen or Mineral Affect the Fracture in the Turkey Long Bones

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Abstract : Changes of mechanical properties and response behavior of bones is an important external sign of medical problems like osteoporosis, bone remodeling after fracture or surgery, osteointegration, or bone tissue loss of astronauts in space. Measuring of mechanical behavior of bones in physiological and osteoporotic states, quantified by different degrees of protein (collagen) and mineral loss, is thus an important topic in biomechanical research. This contribution deals with the relation between mechanical properties of the turkey long bone-tibia in physiological, demineralized, and deproteinized state. Three methods for comparison were used: densitometry, three point bending and harmonic response analysis. The results help to find correlations between the methods and estimate their possible application in medical practice.

Keywords : bone properties, long bone, osteoporosis, response behavior

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