

Tissue biomechanics

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This topic involves following sub-topics:

- Harmonic oscillator (simple)
- Driven harmonic oscillator
- Elasticity
- Hook's law
- Elastic properties of tissues
- Young's modulus
- Elasticity and stiffness on subcellular level: role of collagen, elastin and intercellular matrix
- Mechanical characteristic of muscle, connective tissue, bone and bone connection
- Tissue replacement from mechanical point of view