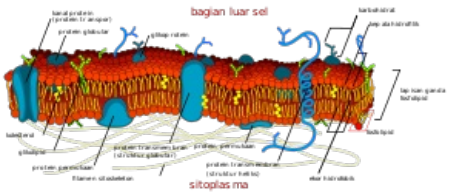
Biomechanics

Biomechanics is a branch of biophysics that study mechanical aspects of biological objects at any level, using the methods of mechanics. Biomechanics can study, for instance, the mechanical aspects of cell membrane or cytoskeleton or the mechanical apects of bones and muscles. In clinical practice, it is used mainly in connection with joint replacements and prosthetic techniques. Imaging of mechanical property of tissues (elastography) may also have clinical significance. Biomechanics includes:



Cell membrane detailed diagram id

- **Biorheology**

studies the mechanical properties of biological fluids. In the case of the study of the mechanical properties of blood, it is referred to as **hemodynamics**, in the case of the study of the mechanical properties of urine, especially for the purposes of evaluating the physiology of urination, **urodynamics**.

Total endoprosthesis of knee joint

- **Forensic Biomechanics** – application of biomechanics for the needs of law enforcement authorities. Known are, for instance, the analysis of the shape of blood traces (*bloodstain pattern analysis*) or biomechanics of falls.

References

Related articles

- Elastography

Sources

- HRAZDIRA, Ivo, et al. *Biofyzika, učebnice pro lékařské fakulty.* 1. edition. Praha : Avicenum, 1983.