CHAPTER : VII

SUMMARY

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Biomechanics uses the laws of physics and engneering concepts to describe motion undergone by the various body segments; and the forces acting on these body parts during normal daily activities .

The interrelationship of force and motion is important and must be understood if rational treatment programs are to be applied to skeletal disorders.

Deleterious effect may be produced if during exercise or activity , the forces on disorderd parts rise to high levels.

In his daily practice the orthopaeclic surgeon deals with the effects of forces.

He may alter force systems by transferrig a tendon, by an arthrodesis of a spine, by designing an arch support, or performing an osteotomy .

He deals with the consequences of internal effects of externally opplied forces and moments when a fracture is plated or a dislocation is reduced .

To understand bone fracture, one must have a basic understanding of the relationship between the forces applied to a bone and the stress and strain distributions that result. When forces are applied to any object, the object will be deformed from its original dimensions, and internal forces will be

produced within the object. The deformations created at any point in the object are referred to as the strains at that point. The internal force intensities are referred to as the stresses at that point. These stresses and strains vary thoughout the bone in a highly complex manner.

The analysis and correction of disorders of the musculoskeletal system are based on an understanding of the workings and properties of the member involved. This includes a knowledge of statics, dynamics, and the strength and behavior of materials.

So, all biomechanical bases have their application in all orthopaedic fields e.g. in wire and tension banding, in application of plates, nails, Rodes, bone grafting and cement and prothesis application .