

11. CONCLUSION

After this study of biomechanics of the Ilizarov ring fixator system we have found the correlation between the clinical study, finite element study and the ossification mathematical model. The construct gives stability and rigidity thus enhancing the biological environment of bone healing and regeneration. This system can manipulate the materials available inside the same body and can generate the material required in the clinical practice. We find this system is very useful to salvage a limb with open injuries, infection, infective non unions, and intra articular fractures and in osteoporotic bone fractures.

Our basic model finite element analysis in a simple transverse fracture model in tibia shows in various constructs all the stresses are taken by the wires. The 'K' wire shows to have variable deformation on axial loading under various tensions. The tensioned 'K' wires take the credit of executing the major job and hence this new concept "WIRE LIMB" is introduced.

THE FUTURE:

This Ilizarov Ring fixator system basically works on stressed wires principle. A stressed wire when attached and loaded, it vibrates and is resonant. At what frequency does it vibrate and resonant and what is the biological response of the bone.