

Damper Knee

News

The approach to replace the joint with solid synthetic material without the conception of shock absorption will be always a commitment of maintenance. The knee particularly a damper dependent mechanical system because its normal functions depends on very complex balance between, stability, and mobility. It's easy to create such system if it's destined for short use with minute to minute maintenance and adjustment. Fortunately, the native knee assures these functions complexly interrelated with strength, durability and without the need to maintenance. Optimization of the superposition of the native knee function on solid concept synthetic material is wasting of time because native knee dynamically responds to the necessary modification to accomplish its function, it's the soft tissue which yield effective margin of mobile security for each movement in each gets. The solution passes by the Introduction and adoption of damper or chock absorption concepts in the next generation of knee replacement either by investment of the physiological phenomena like a-Soft tissue manipulation, intervention at the level of ligament and menisci. B- Physiological liquid manipulation to undertake damper function, Using the Synovial fluid interposition, or introduction of the synthetic material damper conception, the component or an interposition between the components, but for this the maintenance of the synthetic material will be the issue of deal too. For the being while hybrids solution could be tested, i.e. the use of the physiological soft tissue or physiological fluid to add a damper effect to the synthetic knee.

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The menisci can be conserved in a way that allows the implantation of the Tibial part deep to them on the Tibial plateau. It's a technical matter to distribute the loads between the synthetic Tibial plateau component (PE in the center) and the native menisci in the periphery. The synovial fluid can be also invested to create a damper effect, if the synthetic knee designed to compress the fluid in a system that allows the absorption of chock. It's a technical matter to create a system utilize the interposition liquid damper, during movement synovial fluid can be managed to squeeze through a narrow pore in a box created between the components of implant . These ideas would be of interest for the range of painless motion, sport activities and durability, also a larger margin of surgical manipulation will be available to restore the normal function.