

## Linear Hydraulic Artificial Knee Joint

### Introduction

Linear Hydraulic Artificial Knee Joint relates to a body powered prosthesis which provides automatic flexion and extension of the artificial leg. This provides an improved means of hydraulic mechanism which has three chambers: One is below the piston, second is above the piston and the third is the surge tank. The surge tank also carries a mechanism which controls the action of the knee joint. Design of artificial knee joint is made in such a way that it provides swing phase and stance phase stability to the user.

### Technical Features

The variants of Electronic knee are developed with gait speed variability. The prototypes were developed and tested on above knee patients. The variants are:

- Mechanical with valve control.
- Electronic knee joint with remote control.
- Electronic knee joint with three sensors (Electrogoniometer, force sensitive resistor and accelerometer).

### Applications

- Device assists persons involved in activities requiring a high level of stance stability.
- Linear Hydraulic Artificial Knee Joint relates to a body powered prosthesis which provides automatic flexion and extension of the artificial leg.

### Status

Clinical trials done; Patent filed and technology transferred to M/s Punjab Motors, Yamunanagar.

### Field Prototype of Linear Hydraulic Artificial Knee Joint



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