

## **Biomechanics and Evaluation of the Microprocessor-Controlled C-Leg Exoprosthesis Knee Joint**

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### **QUESTION**

Also in the field of technical orthopedics, electronics and computer technology are being used more and more often. This paper describes a microprocessor-controlled prosthetic knee joint with swing phase control and stance phase stability, the so-called C-Leg. The function of this electronic knee joint is explained. Prosthetic treatment using the C-Leg is compared with traditional prosthetic knee joints.

### **METHOD**

15 patients using the C-Leg have been observed over periods of 6 to 14 months. The treating prosthetists have given an assessment regarding the function and the improvements in comparison with the previously fitted knee joints. The patients, too, were asked to compare function and comfort of the new prosthetic fitting with the previous one.

### **RESULTS**

Both, prosthetists and patients marked this new type of microprocessor-controlled knee joint in nearly all points with "very good" and described a clear improvement to the previous, purely mechanical prosthetic fitting. **CONCLUSIONS**

Obviously, this new technology seems to be a milestone in prosthetic knee joint fitting, in order to clearly improve the prosthetic fitting of transfemoral amputees and thus their quality of life, especially of people who have several disabilities.

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