Genium vs C-Leg

Preference / Satisfaction / Quality of Life (QoL)

Major Findings

With Genium compared to C-Leg:

→ Improved prosthesis-related quality of life
→ 45% of prosthetic-related scales are improved
→ 70% of activities, relevant to the physical performance aspects of Genium, are improved

Percent of scales showing improvement in prosthetic function and quality of life with Genium

In total 41 items divided in 9 scales were assessed (Highsmith et al. 2014).

Definition/Clinical Relevance

Satisfaction and quality of life can be measured to determine the general well-being of a person. They are all very meaningful parameters to investigate, since they have the most direct impact on the amputee's well-being. They are influenced by other categories and can therefore be seen as a summary of possible activities, independence and perceived safety. A common outcome measure in prosthetic research is the Prosthesis Evaluation Questionnaire (PEQ), a questionnaire with a total of 84 items. Several selected items are further used in 9 subscales.

Summary/Discussion

Comparing all items of the Prosthesis Evaluation Questionnaire (PEQ) in aggregate, the Genium was rated to be improved compared to C-Leg. 4 out of 9 scales were rated as improved, namely perceived response, social burden, utility, and well-being. In addition, the scales appearance and sounds, showed a trend to be improved with Genium. Furthermore, 10 items of special interested were looked at separately. 7 out of these 10 were improved with Genium compared to C-Leg; comfort standing, ability to walk in close spaces, go down stairs, walking up and down steep hills, walk on slippery surfaces and satisfaction with walking (Highsmith et al. 2014).

In a case study, a bilateral transfemoral amputee was fitted with Genium with osseo-integrated prosthesis fixation (OPF). Life habits were recorded with LIFE-H questionnaire for daily activities and social roles and showed increases in five and eight respectively out of 12 categories in comparison to the situation before OPF (Schalk et al. 2015).
References of summarized studies
