C-Leg in limited mobility ambulators

Preference, Satisfaction, Quality of Life

**Major Findings**

With C-Leg and C-Leg Compact compared to NMPKs:

- **Improvements in quality of life regarding following criteria:**
  - Ambulation improved by 11% with C-Leg
  - Residual limb health improved by 16% with C-Leg and by 22% with C-Leg Compact
  - Utility (such as comfort, fit, feel) improved by 12% with C-Leg and by 12% with C-Leg Compact
  - Satisfaction with walking improved by 24% with C-Leg

- **Majority of K2 subjects prefer C-Leg (72%) and C-Leg Compact (24%) over NMPKs**

**Improved satisfaction and quality of life with C-Leg and C-Leg Compact in K2 subjects**

Prosthesis Evaluation Questionnaire (PEQ) consists of the subscales ambulation (AM), appearance (AP), residual limb health (RL), sound (SO), utility (UT), general well-being (WB), satisfaction with prosthesis (SA proth) and satisfaction with walking (SA walk). (Theeven et al. 2012)

**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. The items are analysed and summarized in 9 subscales and a total score.

**Summary**

Both studies investigating preference regarding prosthesis in K2 subjects found positive results for C-Leg and C-Leg Compact. 90% of K2 subjects preferred C-Leg over a NMPK (Kahle et al. 2008). The study testing C-Leg and C-Leg Compact found that 72% of subjects preferred C-Leg, 24% preferred C-Leg Compact and only 3% preferred NMPKs (Theeven et al. 2011).

Prosthesis Evaluation Questionnaire (PEQ) total score was increased by 20% with C-Leg compared to NMPKs, also assessed in K2 and K3 subjects together (Kahle...
A later study assessing K2 and K3 subjects separately, found, that in K2 subjects satisfaction tended to be increased by 21% with C-Leg compared to NMPKs (Hafner et al. 2009). Burnfield et al. (2012) found that the PEQ mobility score was increased by 25% due to transition from NMPKs to C-Leg Compact. When comparing C-Leg with NMPKs, major improvements were found in the PEQ subscales satisfaction with walking (24% increase), residual limb health (16% increase), utility (12% increase) and ambulation (11% increase). With C-Leg Compact major benefits were found in the PEQ subscales residual limb health (22% increase) and utility (12% increase). Furthermore, Theeven et al. (2012) showed that amount of benefit as expressed by change in PEQ when transitioning to C-Leg and C-Leg Compact is activity-dependent. With C-Leg benefits were mainly found in intermediate and high K2 subjects, whereas with C-Leg Compact, major benefits were only found in high K2 subjects (Theeven et al. 2012).

References


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