Harmony vs other socket systems

Level Walking

Major Findings

With VASS compared to other socket systems:

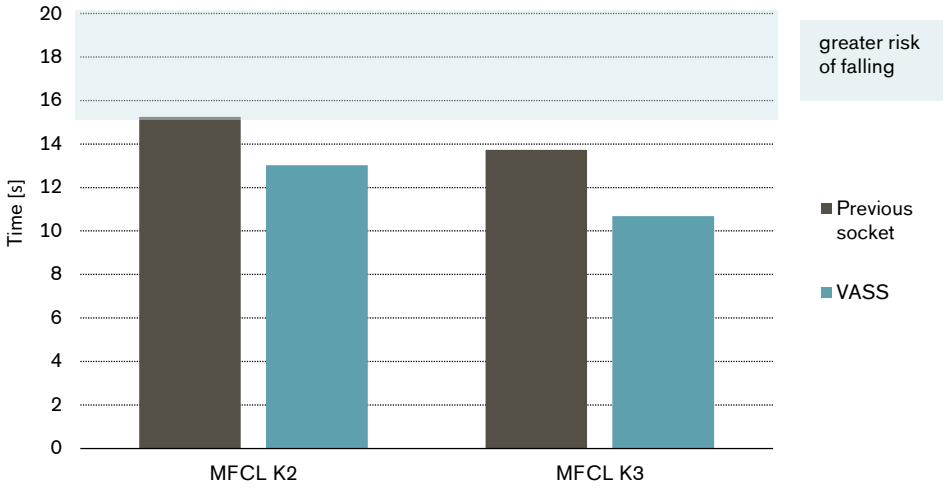
→ Improvements in walking velocity

Walking velocity improved by 11% measured by a 6 min walking test
Time required to complete timed up and go (TUG) test decreased by 19%

→ More symmetrical gait pattern compared to suction socket system

Step length symmetry improved by 62%
Trend towards more symmetrical stance duration

Decreased time to complete TUG with VASS



The timed up and go test (TUG) includes standing up from a chair, walking 3 meters, turning around, walking 3 meters, sitting down. The marked part indicated a greater risk of falling assessed from a healthy geriatric population. (Samitier et al., 2014)

Clinical Relevance

A poor fit of the prosthesis is associated with spending less time on the amputated limb because the amputee is less confident of control over and position of the prosthesis. Thus, maintaining a good fit is important to symmetrical gait.

Summary

Walking velocity improved with VASS by 11% relative to previous socket designs measured by a 6 minute walking test. Furthermore, time to complete the time up and go test (TUG) decreased by 19% (Samitier et al., 2014).

The VASS improved symmetry in stance duration and, consequently, step lengths were also more symmetrical (Board et al., 2001). The improved gait parameters of the VASS suggest the existence of a better fit compared to the suction system. Further, a proper fit affords the amputee better control by providing sufficient perception.

References of summarized studies

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