

# Harmony vs other socket systems

## Preference, Satisfaction, Quality of Life

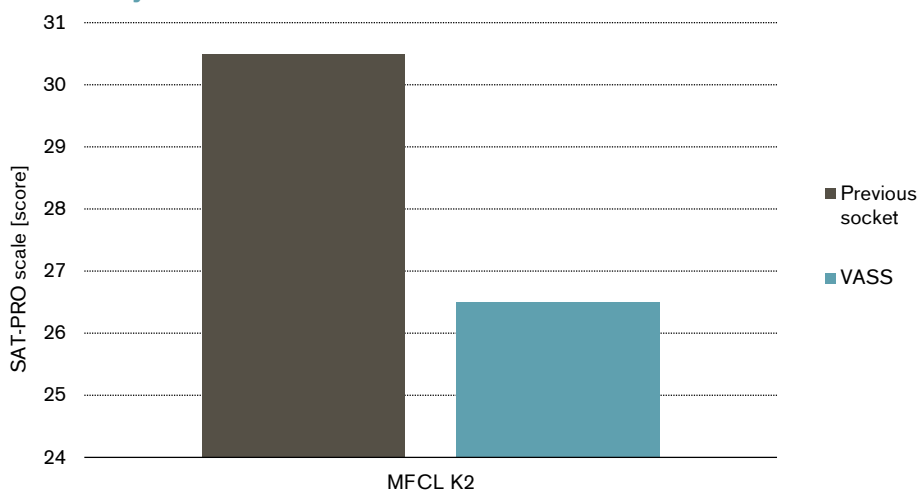
### Major Findings

With vacuum-assisted socket system (VASS) compared to other socket systems:

→ **Trend towards improved satisfaction in limited community ambulators after only 4 weeks of use**

SAT-PRO showed tendency to be improved by 13%

### Trend towards improved satisfaction with VASS in limited community ambulators



Satisfaction was measured by SAT-PRO Questionnaire. It consists of 15 categories and lower scores represent higher satisfaction. (Samitier et al 2014)

### Clinical Relevance

Satisfaction of a person with a device is important as it contributes to its acceptance and usage. It is influenced by other categories and can therefore be seen as a summary of possible activities, independence and perceived safety. SAT-PRO scale is a self-administered questionnaire to determine the subject's satisfaction with the use of the prosthesis.

### Summary

MFCL K2 subjects showed a trend towards increased and K3 subjects showed a trend towards decreased satisfaction with VASS compared to subject's previous socket system. As observed in other socket studies, even when a functional improve was measured, subjective evaluation of the new socket only showed small differences compared to the socket system the subjects were familiar with. It is likely that some patients need more time to adapt to the use of a new device than is provided in studies. Furthermore, subjects, especially K3 subjects, had already a high satisfaction score with the previous socket system and therefore it is difficult to reach an improvement (Samitier et al 2014). In the study of Klute et al (2011) besides short acclimatisation period and high initial score, a probability for not sufficient socket checks are responsible for the increased frustration with VASS.

In a study investigating the effect of different socket types in combination with VASS on transfemoral amputees, all subjects preferred the brimless socket design instead of the ischial ramus containment (IRC) socket design (Kahle et al 2014).

References	<b>Year</b>	<b>Author</b>	<b>Title</b>
	2014	Samitier	The benefits of using a vacuum-assisted socket system to improve balance and gait in elderly transtibial amputees
	2014	Kahle	Transfemoral sockets with vacuum-assisted suspension comparison of hip kinematics, socket position, contact pressure, and preference: Ischial containment versus brimless
	2011	Klute	Vacuum-Assisted Socket Suspension Compared With Pin Suspension for Lower Extremity Amputees: Effect on Fit, Activity, and Limb Volume

Kahle, J. T., Orriola J.J., Johnston W., & Highsmith, M. J. (2014). The effects of vacuum-assisted suspension on residual limb physiology, wound healing, and function: A systematic review. *Technology & Innovation*, 15(4), 333–341.

Klute, G. K., Berge, J. S., Biggs, W., Pongnumkul, S., Popovic, Z., & Curless, B. (2011). Vacuum-Assisted Socket Suspension Compared With Pin Suspension for Lower Extremity Amputees: Effect on Fit, Activity, and Limb Volume. *Archives of physical medicine and rehabilitation*, 92(10), 1570–1575. doi:10.1016/j.apmr.2011.05.019

Samitier, C., Guirao, L., Costea, M., Camos, J., & Pleguezuelos, E. (2014). The benefits of using a vacuum-assisted socket system to improve balance and gait in elderly transtibial amputees. *Prosthetics and Orthotics International*, published online on September 26. doi: 10.1177/0309364614546927

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