

Reference

Delussu AS, Paradisi F, Brunelli S, Pellegrini R, Zenardi D, Trallesi M.

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Comparison between SACH foot and new multi axial foot during walking in hypomobile transtibial amputees: physiological responses and functional assessment

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Products

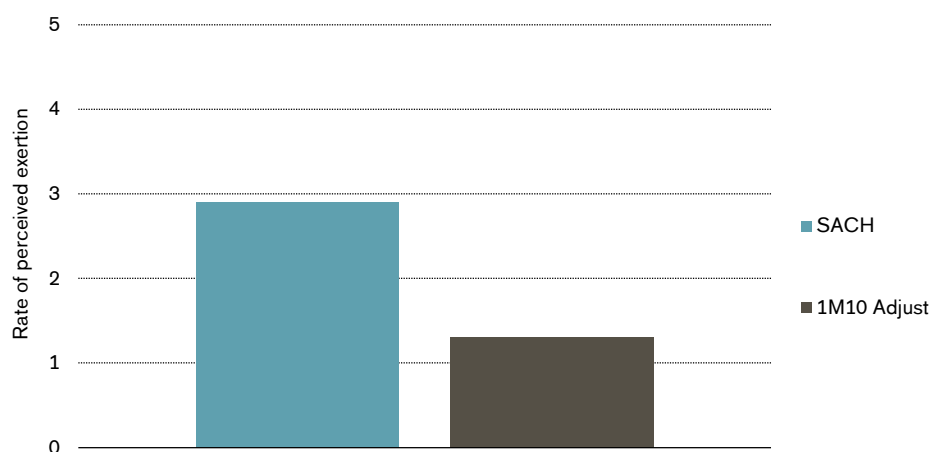
1M10 Adjust

Major Findings

With 1M10 Adjust compared to SACH:

- **The energy cost of walking and perceived exertion is significantly lower with the 1M10 Adjust**
- **The satisfaction with the 1M10 Adjust was significantly higher**

Significantly lower perceived exertion of walking



Population

Subjects:	20 transtibial amputees
Previous prosthesis:	SACH
Amputation causes:	vascular disease (65%), trauma (30%), neoplastic cause (5%)
Mean age:	66.6 ± 6.7 years
Mean time since amputation:	at least 6 months
MFCL:	K2 (95%), K1 (5%)

Study Design

Interventional, pre- to post-test design:



Results

Functions and Activities								Participation	Environment
Level walking	Stairs	Ramps, Hills	Uneven ground, Obstacles	Cognitive demand	Metabolic Energy Consumption	Safety	Activity, Mobility, ADLs	Preference, Satisfaction, QoL	Health Economics

Category	Outcomes	Results for 1M10 Adjust	Sig.*
Level walking	Self-selected walking speed (SSWS)	The self-selected walking speed increased significantly by 8%.	++
Metabolic Energy Consumption	Physiological parameters	Pulmonary ventilation at steady state (l/min), oxygen consumption at steady state (ml/kg/min), respiratory exchange ratio at steady state, heart rate at steady state (beats per minute) and the relative exercise intensity did not differ significantly between the SACH and the 1M10 Adjust foot.	0
	Energy cost of walking ECW (ml/kg/m)	The energy cost of walking decreased significantly by 18%.	++
	Rate of perceived exertion	The rate of perceived exertion decreased significantly by 55%.	++
Preference, Satisfaction, Quality of Life (QoL)	Satisfaction with prosthesis questionnaire (SatPro)	The satisfaction with the prosthesis was by 16% higher with 1M10 Adjust foot.	++

* no difference (0), positive trend (+), negative trend (-), significant (++/--), not applicable (n.a.)

Author's Conclusion

"The main outcome measure, ECW, showed a statistically significant improvement with 1M10 Adjust compared to SACH. This was paralleled by a significantly lesser perceived exertion. In addition, the improvement in SATPRO further indicate the efficiency of 1M10 Adjust respect to SACH foot. This shows that 1M10 Adjust could be a good choice for hypomobile TTAs, providing a better quality of life." (Delussu et al., 2016)

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