Reference

Wismer N, Ledinger, C, Wehrle, M.

Otto Bock Healthcare Products, Vienna, Austria.

Functioning and First Results of Usage and Satisfaction with a New Myoelectric Hook

Orthopädietechnik 2017, vol. 5, pp. 28-31.

Products

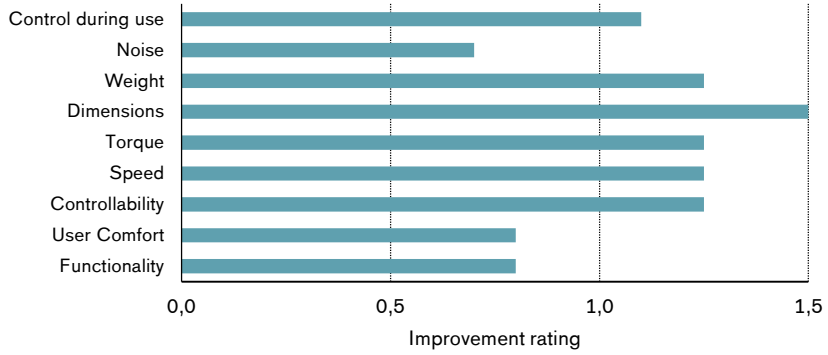
AxonHook

Major Findings

With AxonHook compared to VariPlus Greifer, ETD Hook

- → **Importance of AxonHook as supplement for the Michelangelo Hand was rated high by the users.**
- → **All three functionality factors analysed (torque, controllability and speed) showed high satisfaction rates.**
- → **Dimensions (size and hook shape) and weight were rated as the most positive features of the AxonHook by the users.**
- → **Prosthetic aspects rated by the CPO as being improved when using AxonHook: Overall control during use, weight, dimension, grip strength, speed, controllability, comfort for the user, functionality.**

AxonHook rating of CPOs compared with previous prosthesis (higher score denotes improvement)



Population

Subjects:	4 unilateral transradial amputees, 1 bilateral transradial amputee
Previous prosthesis:	VariPlus Greifer (2), ETD Hook (1), no prev. experience with Greifers (1), 1 N/A
Amputation causes:	not reported
Mean age:	not reported
Mean time since amputation:	not reported

Study Design

Observational, pre- to post-test design:

Data was obtained from users and CPOs during the course of five AxonHook fitting procedures.

The patient rating of satisfaction with the AxonHook regarding characteristics, functionality and gripping activities as well as the CPO rating of AxonHook compared to the previous prostheses were evaluated using a 4-Point Likert-scale as follows: 1=maximum (+1.5 points), 2 (+0.5 points), 3 (-0.5 points), 4=minimum (-1.5 points). Descriptive statistics were used to analyze the results.

Results

Body Function		Activity			Participation	Others	
Mechanics	**Pain**	**Grip patterns / force**	**Manual dexterity**	**Activities of daily living (ADL)**	**Satisfaction and Quality of life (QoL)**	**Training**	**Technical aspect**

Category	Outcomes	Results for AxonHook	Sig.*
Grip patterns / force	Likert Scale	Torque was rated by CPOs as improved by 1.25 points compared to previous prosthesis.	n.a.
Manual Dexterity	Likert Scale	Overall control during use was rated by CPOs as improved by 1.2 points compared to previous prosthesis.	n.a
		Controllability was rated by CPOs as improved by 1.25 points compared to previous prosthesis.	n.a
Activities of daily living (ADL)	Likert Scale	Functionality was rated by CPOs as improved by 0.8 points compared to previous prosthesis.	n.a
Satisfaction and Quality of Life (QoL)	Likert Scale	Improvement in satisfaction regarding characteristics was rated by users as follows: Dimension: by 1.25 points Noise: by 0.7 points Weight: by 1.3 points.	n.a
		Improvement in satisfaction regarding functionality was rated by users as follows: Torque: by 1.3 points Controllability: by 1.5 points Speed: by 1.5 points.	n.a.
		Improvement in satisfaction regarding gripping activities was rated by users as follows: Large objects: by 0.9 points Small objects: by 1.1 points.	n.a.
		User comfort was rated by CPOs as improved by 0.8 points compared to previous prosthesis	n.a.
Technical aspect	Likert Scale	Noise was rated by CPOs as improved by 0.7 points compared to previous prosthesis.	n.a
		Weight was rated by CPOs as improved by 1.3 points compared to previous prosthesis.	n.a
		Speed was rated by CPOs as improved by 1.25 points compared to previous prosthesis.	n.a
		Dimension was rated by CPOs as improved by 1.5 points compared to previous prosthesis.	n.a

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

Author's Conclusion

"The AxonHook was rated as an important additional prosthetic component in combination with the Michelangelo hand, especially for use in work-related manual activities of daily living. These initial field results have shown a high user satisfaction with prosthetic features and grip strength." (Wismer et al., 2017)

© 2017, Otto Bock HealthCare Products GmbH ("Otto Bock"), All Rights Reserved. This article contains copyrighted material. Wherever possible we give full recognition to the authors. We believe this constitutes a 'fair use' of any such copyrighted material according to Title 17 U.S.C. Section 107 of US Copyright Law. If you wish to use copyrighted material from this site for purposes of your own that go beyond 'fair use', you must obtain permission from the copyright owner. All trademarks, copyrights, or other intellectual property used or referenced herein are the property of their respective owners. The information presented here is in summary form only and intended to provide broad knowledge of products offered. You should consult your physician before purchasing any product(s). Otto Bock disclaims any liability related from medical decisions made based on this article summary.