

Partial Finger Amputation – A Review of Outcome Measure Data to Support Intervention with Naked Prosthetics’ Functional Finger Prostheses

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Functional Parameters

The output of the PIPDriver, MCPDriver, and ThumbDriver is dependent on the input capability of the user. Typically, a user can expect to get 2/3 of their input force out at the tip. The devices have a structural strength that exceeds anatomic capability. Thus, any user-generated force input can be easily handled by the strength of the device.

Outcomes

Adoption Rate

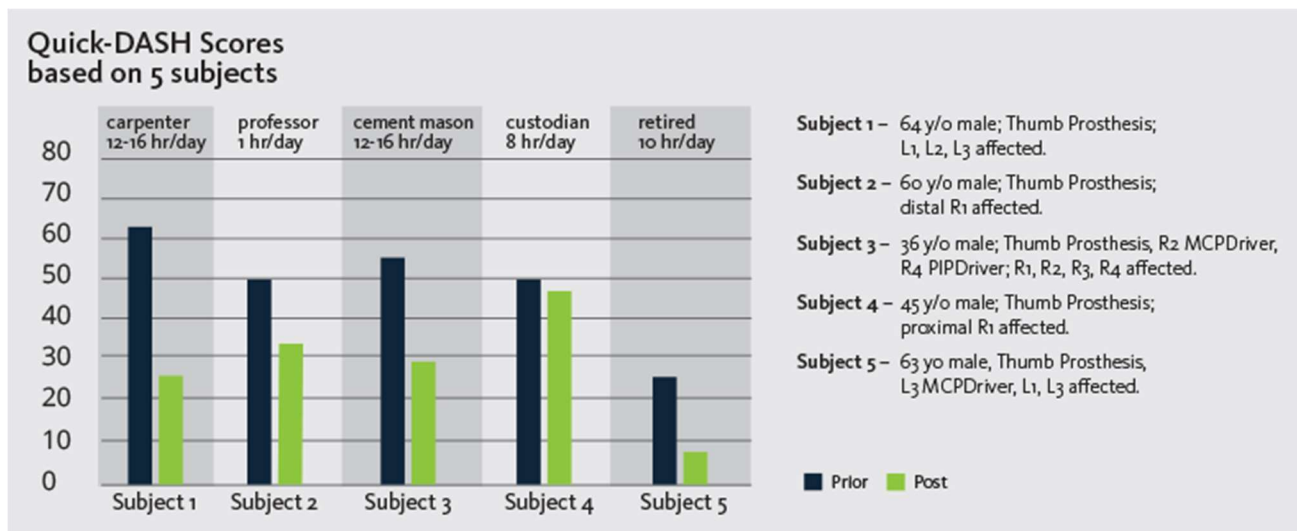
Our adoption rate is based on following up with clinicians and patients after at least one year to determine who is still wearing their devices, how often, and why. We have (so far) contacted 102 patients, 95 of whom wear their devices daily after one year’s time. The stated reason is the functionality.

As part of our Thumb Beta development in 2017, we had rare access to patients due to the nature of the development process, and we collected outcomes using validated outcome measures appropriate for the population. Below we present this information.

Quick-DASH

The Quick-DASH is a validated, shortened version of the standard DASH questionnaire. It assesses self-report function, activity, and participation. This measure is widely used in upper-extremity impairment assessment to evaluate function. A lower score means improved ability, with 0 = no impairment.

The chart below displays the age, occupation, presentation (& intervention), wear-time, and Quick-DASH score change. The Quick-DASH was administered before intervention, and 8 weeks after intervention.



TAPES-R

The TAPES-R is a validated measure that assesses quality of life, psychosocial adjustment, and participation in social activities, specifically concerning prosthesis wear. TAPES-R is collected because, especially in upper-extremity disfigurement, psychosocial aspects of recovery are as important as functional ones. A patient's assessment of the aesthetic qualities, weight, public perception, and ease of use of the device can determine their adoption. Returning an amputee to feeling whole is necessary in upper-extremity interventions.

Our patients routinely express shame at disfigurement and helplessness before intervention, and a restored confidence and self-esteem post-intervention. Satisfaction and social adjustment are reflected below in the TAPES-R measure.

