

# The i-LIMB hand and DMC plus hand compared

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## Introduction

The i-LIMB is a novel, promising myoelectric prosthetic hand with several joints in fingers and thumb. However, it is unclear whether the i-LIMB has more functionality than the DMC plus hand, a myoelectric prosthetic hand with only a single joint between the thumb and two fingers.

## Aim

To determine additional functionality of the i-LIMB compared to the DMC-plus hand.

## Patient

A 45-year old man with a wrist disarticulation, previously provided with a DMC-plus hand, received an i-LIMB hand in December 2008. He performed a series of tests in all ICF levels with the DMC-plus hand and, four weeks later, with his i-LIMB hand.



## Methods

### Body functions and structure

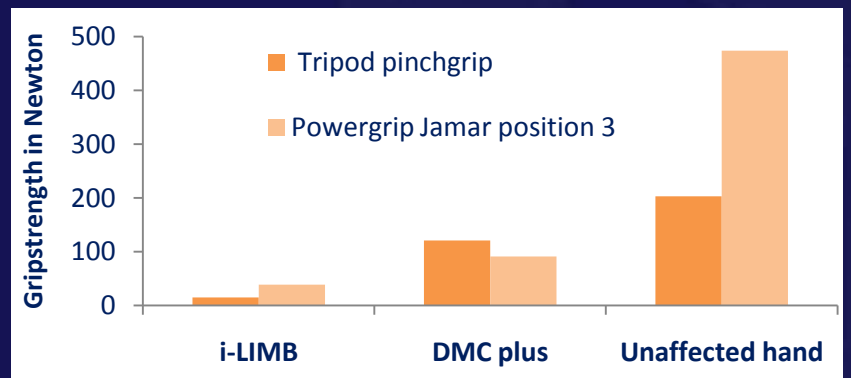
- JAMAR hand dynamometer
- PINCH meter
- SHAP: Southampton Hand Assessment Procedure
- VAS: Visual Analogue Scales, the patients' subject opinion on characteristics of the prostheses

### Activities and Participation

- ACMC: Assessment of Capacity for Myoelectric Control
- OPUS: Orthotic and Prosthetics Users' Survey
- TAPES: Trinity Amputation and Prosthesis Experience Scales

## Results

Higher score, better result	i-LIMB	DMC-plus
<b>ACMC logits</b>	2.6	2.47
<b>OPUS functional status</b>	29	30
<b>SHAP functional outcome</b>	52	74
<b>TAPES prosthesis satisfaction</b>	40	34



VAS 1-10 (neg-pos)	i-LIMB	DMC-plus	Importance to patient
<b>Power</b>	6	10	10
<b>Grip reliability</b>	10	7	10
<b>Robustness</b>	6	9	10
<b>Tripod grip</b>	8	5	8
<b>Look</b>	9	5	5
<b>Sound</b>	6	5	5

## Conclusions

The functionality of the i-LIMB hand compared to the DMC-plus hand:

- Higher grip reliability
- Less power and robustness
- Limited additional functionality