



QUALITY FOR LIFE

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**Michelangelo 03 -
A versatile hand prosthesis, featuring superb controllability and
sophisticated bio mimicry
(Abstract)**

Rapid progress has been made recently in all components of upper limb myoelectric prosthetics, and revolutionary new concepts in controlling these devices are part of ongoing R&D activities. Nevertheless there is a need for new prosthetic hands capable of providing a whole new set of functions.

These new capabilities, combined with well proven features like robustness and reliability, together create new standards in upper limb prosthetics.

The Michelangelo Hand Prosthesis raises the controllability in the areas of both speed and precision. Having motion speed and grip force which are virtually the same as the natural human equivalent will allow much easier control for the user. An emphasis on smoothness in controlling the motion of the fingers and the thumb will guarantee sensitivity and precision.

The biggest modifications are related to a higher number of DOF within the Michelangelo hand prosthesis. Multi-axial articulation of different hand and finger segments allows a higher number of gripping patterns, and the resulting high adaptability improves the overall performance of ADL's. In order for the prosthesis to emulate the natural human hand special effort and focus was placed on bio mimetic design and shape profiling.