

# **FACTORS THAT INFLUENCE ACCEPTANCE AND REJECTION OF AN UPPER LIMB PROSTHESIS: A REVIEW OF THE LITERATURE.**

Andreas Kannenberg

*Otto Bock Healthcare LP*

## **INTRODUCTION**

Clinicians and health insurances are well aware of the fact that many patients with upper limb (UL) amputations reject their prosthesis in the mid- to long run. Factors that influence acceptance and rejection of an UL prosthesis are much less understood. If such factors and their impact were known, they could be leveraged to improve the acceptance of UL prostheses and the function and quality of life of persons with UL amputations.

## **METHOD**

A search of the scientific literature was performed in the Medline, Embase, CINAHL, OTseeker, and PEDro databases as well as in the online library of the Journal of Prosthetics & Orthotics. Search terms were related to UL amputations and prosthetics, acceptance, use, rejection and abandonment of UL prosthesis. Identified references were evaluated for pertinence to the subject and analyzed.

## **RESULTS**

Malone et al. suggested a “golden window” of 30 days after the amputation for the fitting of an (interim) UL prosthesis for occupational therapy. They found that all patients who received a prosthesis within this “golden window” were able to return to work, whereas only 15% of patients fitted after more than 30 days did so. In addition, patients fitted within the “golden window” did not present any striking preference for body-powered or myoelectric prostheses, whereas patients who were fitted later almost exclusively preferred myoelectric prostheses. Another study found that definitive prosthesis fitting within 6 months of the amputation or 2 years after birth in congenital deformities increased the likelihood of prosthesis acceptance (odds ratio) by factor 16. The second biggest variable was the involvement of the patient in the selection of the type of prosthesis. Intense patient involvement increased the likelihood of acceptance by factor 8. Also, patients with transradial amputations were more likely to accept a prosthesis than patients with more distal or proximal levels of limb absence.

## **DISCUSSION**

Patients should be fitted a prosthesis for occupational therapy as soon as medically possible, ideally within 30 days after the amputation to prevent them from learning to manage their everyday lives with their sound hand alone. Definitive prosthesis fitting should occur within 6 months of the amputation or 2 years of birth in case of congenital deformities for the same reason. Also, patients should be intensely involved in the selection of prosthesis type as they are then 8-times more likely to accept their UL prosthesis than those not involved in decision making.