



A Focus on the Patient Experience:

Advanced Upper Limb Prosthetic Rehabilitation vs. Hand Transplantation

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INTRODUCTION

Dramatic advances have been made in electric multi-articulating hands and hand transplantation surgery during the last several years. There has been little “cross-transfer” of information however, between the worlds of upper limb prosthetics and hand surgery. The need to bridge these gaps becomes more evident when individuals, who have sustained unilateral and bilateral limb loss, seek to find the most appropriate direction to pursue in trying to achieve functional independence. It is critically important to enable these individuals to understand the important aspects of; time from procedure to “function,” costs, amount of therapy required, medications, potential complications, sensation, pinch and grasp, functional outcomes, as well as the appearance the hand. To date there has never been a national or international effort to compare these domains as they relate to the patient experience following prosthetic rehabilitation and hand transplantation, and how these individuals would define “success.”

METHOD

Five unilateral and bilateral transradial amputees, and five unilateral and bilateral hand transplant subjects, from the United States and Austria will be presented as it relates to their unique rehabilitation experience specific to receiving a state-of-the-art multi-articulating hand prosthesis, or receiving a composite tissue allotransplantation, also known as a hand transplant. The specifics of the evaluation and preparation for prosthesis or transplant, duration of therapy required, time frames of function, potential complications, costs, and both subjective and objective outcomes of these ten individuals, are presented in a manner that captures the salient features of amputee rehabilitation and the hand transplantation experience.

RESULTS

To date there is not a uniform assessment or metric that captures the outcomes of these distinctly different patient populations. The learning objective of this presentation is to present the overall patient experience following transradial prosthetic rehabilitation, and hand transplantation, and relate that “success” as these individuals define it.

DISCUSSION

As significant advances are being made in the field of electric multi-articulating hand technology, hand transplantation surgery has produced dramatic functional results as well.

CONCLUSION

It is incumbent upon all of us to be as educated as possible about each aspect of these patient experiences, and the outcomes possible, so we can assist the individual with upper limb loss, to make the most informed decision, as it relates to each of these unique opportunities and options.

CLINICAL APPLICATIONS

The information gathered can be used to improve the patient experience by helping them understand the important aspects of time from procedure to “function,” costs, amount of therapy required, medications, potential complications, sensation, pinch and grasp, functional outcomes, as well as the appearance the hand.