

# An Evidence-Based Approach to Amputation Rehabilitation

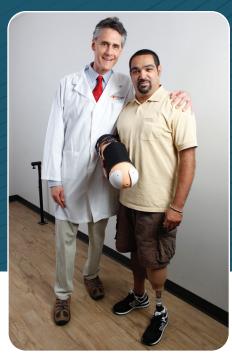
With the focus in healthcare changing from episodic, reactive care to long-term health, there is also a shift in how we care for patients after amputation. When care of the patient is seen not in terms of a timeline of a single device from evaluation to delivery, but in terms of that patient's entire rehabilitation pathway, patient mobility and well-being improve.

The Hanger Institute for Clinical Research & Education® has built a body of evidence supporting this approach and is subsequently transforming the clinical care we provide to patients following amputation.





To learn more about the Hanger Institute for Clinical Research & Education and to view our full body of research, visit HangerClinic.com/institute





# **Clinical Research Summary**

# **IMMEDIATE POST-OPERATIVE CARE**

Removable Rigid Dressings for Postoperative Management of Transtibial Amputations: A Review of Published Evidence

PM&R Journal | May 2018

Removable rigid dressings (RRDs) provide many benefits to transtibial amputees, including reductions in injury due to falls, knee flexion contractures, edema, healing time, time to prosthetic fitting, and pain.







Utility of Removable Rigid Dressings in Decreasing Discharge Narcotic Use and Improving Ambulation Following Below-Knee Amputation

Annals of Vascular Surgery | April 2023

The use of RRDs after transtibial amputation significantly reduced narcotic prescriptions at discharge, improved ambulatory status at follow-up, and resulted in a much lower rate of revision to the above-knee amputation level.



### **EARLY FITTING OF A PROSTHESIS**

#### Impact of Time to Receipt of Prosthesis on Total Healthcare Costs 12 Months Post-Amputation

American Journal of Physical Medicine & Rehabilitation | November 2020

Delivery of a prosthesis in the first 3 months post-amputation resulted in decreased spending in the first 12 months post-amputation compared to patients who received their prosthesis between 4-9 months postamputation or those who received no prosthesis at all.



#### The Role of Earlier Receipt of a Lower Limb Prosthesis on Emergency Department Utilization

PM&R Journal | October 2020

Individuals who received a prosthesis early, within 0 to 3 months, post-amputation were 48% less likely to use the emergency department (ED) compared to those who did not receive a prosthesis.



# IMPROVING MOBILITY, SATISFACTION, AND QUALITY OF LIFE

Mobility Analysis of AmpuTees (MAAT I): Quality of Life and Satisfaction are Strongly Related to Mobility for **Patients with a Lower Limb Prosthesis** 

Prosthetics and Orthotics International | October 2017

Maximizing mobility through prosthetic rehabilitation positively impacts quality of life and satisfaction.



#### MAAT 2: Comorbidities and Mobility in Lower Limb Prosthesis Users

American Journal of Physical Medicine & Rehabilitation | November 2018

Comorbidities including diabetes, osteoporosis, heart failure, COPD, and obesity, do not significantly impact prosthetic mobility.



## Creating Adjusted Scores Targeting mobiLity Empowerment (CASTLE 1): Determination of Normative Mobility Scores After Lower Limb Amputation for Each Year of Adulthood

Disability and Rehabilitation | May 2023

Prosthetic mobility decreases with age, but that mobility decline changes based on amputation and etiology and can be influenced based on the selection of certain types of prosthetic componentry. This gives the prosthetist the ability to set patient-specific goals for rehabilitation that are realistic and supported by the evidence.



# **CLINICAL PRACTICE GUIDELINES**

#### **Perioperative Management Associated with Transtibial Amputation**

These guidelines are intended to improve perioperative prosthetic rehabilitation by providing the clinical prosthetist with recommendations with respect to perioperative education, peer-mentoring, and post-operative limb management based on published evidence.



# Prosthetic Foot Selection for Individuals with Lower-Limb Amputation

This guideline was developed to present current evidence and to provide associated clinical recommendations on prosthetic foot selection for individuals with lower-limb amputation.



# Prosthetic Knee Selection for Individuals with Unilateral Transfemoral Amputation

This guideline was developed to present the evidence and provide clinical recommendations on prosthetic knee selection for unilateral amputation at the knee disarticulation or transfemoral level.











