



Prosthetic Xpert Consultation

Getting Back to Work After Amputation: One Step at A Time

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Workplace accidents involving amputations are profound, life-changing events. According to Occupational Safety and Health Administration's (OSHA) severe injury report, there is an average of seven amputations each day in the U.S. Those who experience a catastrophic workplace accident experience physical, psychological, emotional and financial effects. An individual who sustains an injury resulting in amputation faces all those challenges with the added complications of re-learning basic life functions and expense of a prosthesis.

Lower-limb amputees must cope with the daunting tasks of learning to stand and walk again; functions that come so naturally we often take them for granted. Upper-limb amputees must rely on a prosthesis for all activities that previously involved their hands and arms, extremities that once reacted within milliseconds to their simple thoughts. With the myriad of obstacles amputees face, it is critical they receive prompt treatment to mitigate complications and improve outcomes.

Timely Care Equates to Improved Outcomes

The first step to a successful rehabilitation is a timely transition to prosthetic intervention. Within 24-72 hours after surgery, the injured worker should be treated by a Certified Prosthetist. The primary goal at this stage is to protect the surgical site and control post-surgical edema. Depending upon the injured worker's condition and availability of services, the options range from a simple ACE bandage or a rigid removable dressing to a full Immediate-Post-Operative-Prosthesis (IPOP). The IPOP process includes fitting the injured worker with a basic prosthesis with limited function to initiate prosthetic training and rehabilitation within days of the amputation.

For an upper-extremity amputee, the immediate post-operative window is critical to long-term prosthetic wear and acceptance. If an injured worker is fit with a prosthesis within 30-90 days of amputation, he or she is 16 times more likely to be a functional prosthetic wearer. However, injured workers who are not functionally proficient with a prosthesis within six months of amputation have a rejection rate of 30% – 80%, depending upon the level of amputation.

Another significant benefit to fitting the upper extremity amputee with a simple, inexpensive, body-powered prosthesis is to establish prosthetic acceptance and function to validate whether the injured worker is viable for a more complex myo-electric prosthesis. In essence, if the injured worker is unable to operate and function with a simple, body-powered device, there is little likelihood the injured worker will have the ability to function with a sophisticated, myo-electric prosthesis. If the injured worker progresses to a myo-electric prosthesis, the body-powered prosthesis can be utilized as a back-up device for special activities.



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18-36 Months of Transitions

There are specific physiological rehabilitation issues that must be clinically addressed when providing a prosthesis. These post-surgical, physical conditions relate to the residual limb, which undergoes changes during the healing process that take place during the first 18-36 months after amputation. Specifically, these changes are caused by post-surgical edema and eventual muscle atrophy. During this transitional period, the residual limb undergoes significant changes in shape, tone and volume that negatively impact the fit, comfort and function of the prosthesis.

It is common for the injured worker amputee to undergo numerous socket replacements as the clinical team addresses the injured worker's changing physiology during the first few years after amputation. During this transitional care period, the injured worker and clinical team assess and determine the optimum components and prosthetic options to accommodate the injured worker's needs and capabilities. Prosthetic limbs are custom-designed and crafted for the needs of the individual. For the lower-extremity prosthesis, the specific style of foot, ankle and knee is prescribed based on the injured worker's functional level, environment and day-to-day activities.

For an upper-extremity amputee, it is important to consider that according to evidence-based guidelines, there is no single prosthetic device that can replace all complex functions lost secondary to an upper-extremity amputation. Once the injured worker has demonstrated the ability to wear and operate a basic, body-powered prosthesis, it is reasonable to consider a myo-electric prosthetic device to expand the injured worker's dexterity and functional capabilities.

When the injured worker's residual limb has stabilized and he or she has adapted to wearing a prosthesis, as well as established functional capabilities, it is time to provide a "definitive" prosthesis. Contrary to this term, this prosthesis is not to be considered the final prosthesis, as the industry standard "Reasonable Useful Lifetime" (RUL) for a prosthesis is five years. However, it is important to note, that although the functional components of the prosthesis are expected to last five years, it is common for the injured worker to require a replacement socket to address fitting or comfort issues due to changes in weight and/or any physiological changes in the injured worker's condition.

One Step at A Time

The adage "you have to learn to walk before you can run" directly applies to prosthetic rehabilitation. Treating individuals who have experienced a workplace accident resulting in an amputation requires a high degree of clinical care and case management. Ensuring timely and medically necessary care specific to the injured worker's needs at each phase of the rehabilitation process is key to an effective recovery and getting the injured worker back to life and back to work.

About Dale Berry, CP, FAAOP, LP

Dale Allen Berry is an internationally recognized, board certified prosthetist with over 35 years of clinical care experience. Berry is the clinical advisor for Orchid Medical's comprehensive prosthetics program, Prosthetic ASSESS™. For 20 years, Berry served as vice president of clinical operations for the nation's largest provider of prosthesis with 800 clinics and 2,000 clinicians treating one million patients per year. Berry invented the advanced prosthetic assessment validation evaluation test and protocol, currently identified as the industry standard. Furthermore, he developed a clinical operational procedure resulting in the approval of advanced computerized prosthesis for over 25,000 individuals with above knee amputation. He has authored over 5,000 prosthetic life cost plans and over 25 peer-reviewed studies and editorials. Berry is certified by the American Board for Certification (ABC) in Orthotics & Prosthetics and he is a licensed prosthetist (LP) in Texas, Illinois and Minnesota. In addition, he is a member of the Fellow of the American Academy of Orthotists & Prosthetists (FAAOP).