

## Upper Extremity Prosthetics Program

POSI's upper extremity program serves a very unique and specialized area within the prosthetic field. Upper extremity prosthetic limbs require innovative and case-specific solutions. At POSI, we will provide you with an education and overview of all options available.

Our state-of-the-art in-house fabrication lab provides expedited fittings and repair for every type of electric controlled prosthesis. Due to our high volume of upper extremity case management, the POSI process includes a unique "loaner" program that reduces the down time associated with repairs on more sophisticated components.

At POSI, we explore your options with you, they include:

### No Prosthesis

- Some individuals choose not to wear a prosthetic limb. They find that they can perform all needed tasks without the assistance of a prosthesis.

### Passive Design Prosthetic Limbs

- Some amputees do not need a dynamic or active prosthesis. For those in this group, we have a variety of passive prosthetic limb options. A passive prosthesis provides a restoration of body symmetry. The prosthesis adds weight to the human torso, which balances out the spine for better alignment. It also offers protection to the residual limb. These types of prostheses can be designed very simply or can be life-like restorations.

### Myo-electric/External Powered Prosthesis

- This prosthetic limb design eliminates the need for a harness system to capture motion in order to control the terminal devices and elbow. There are numerous methods and control mechanisms which relay information to the terminal device hand and elbow often by a micro-processor. The prosthetist can customize and refine the signals for operation of the prosthesis for specific needs.

### Activity Specific Prosthetic Limbs

- These encompass specific activities or needs such as fishing, swimming, golf, billiards or photography.

POSI also offers custom restoration prostheses that are life like replicas of fingers, partial or total hands which are created from specialized silicone material.



# POSI Prosthetic PROGRAMS

## Lower Extremity Prosthetic Program

### Socket and Suspension Systems

### Upper Extremity Prosthetic Programs



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## Lower Extremity Prosthetic Program

**POSI's** extensive lower extremity prosthetic design options offer unique solutions for all levels of amputation. What differentiates one facility from another is the *prosthetists* fitting technique. We believe socket fit and design is number one to your success with your prosthesis.

We are recognized by peers, referral sources and patients for providing solutions for those who have not had success or progressed therapeutically with other practices due to incorrect fitting of the socket.

Our American Board of Certification (ABC) lower extremity practitioners each offer unique expertise and extensive experience at each level of amputation. We offer a team approach to your care, with your primary practitioner at lead.

We work directly with physical therapists in person during your rehab to share expertise and assure your progression through both short and long-term goals. Goals are set collaboratively between you, your therapist and prosthetist.

**POSI's** in-house fabrication sets standards of excellence unmatched by practices that utilize external fabrication services. Our technicians are ABC certified and participate frequently in continuing education as both instructors and students. Fabrication techniques are progressive; as creativity is combined with the application of modern materials our technicians continue to evolve their craft. Practitioners and technicians collaborate in the design and fabrication process. At POSI, we embrace challenges and offer unique solutions to enable each device to meet the individual goals and expectations of each client.

**POSI** is privileged to have an excellent working relationship with many of the manufacturers. As new lower extremity and prosthetic leg technology becomes available, we are often chosen as a Beta test site. Testing new components gives us and our clients the opportunity to provide feedback to the manufacturers before the final product goes to market. Based on our many successes and highly functional clientele, we have been chosen to sit on multiple advisory boards, such as Ossur and Otto Bock.

Our lower extremity program brings you experience and dedication, doing away with inadequate designs and taking you to the next level in function and comfort. At POSI, we take your goals from possibility to reality; we are an outcome-based practice.

## Socket and Suspension Systems

### Socket System

- Style and fit will be unique to the person's needs and activity level. There are many systems available; each option will be discussed at length during your visit. At POSI, we encourage and welcome your participation in the design process. Our practitioners have experience working with a variety of socket designs for each level of amputation. Designs are chosen on an individual basis from information gathered during your initial evaluation.

### Socket Fit

- This has the biggest impact on success in rehabilitation. Additionally, there is a correlation between proper fit and perceived weight. Well-fitting sockets should have increased proprioceptive feedback, anatomical control, decreased energy expenditure, total contact and most of all, it should be comfortable.

### Suspension

- Closely related to the design of the socket is the suspension, or how the socket remains in place on the limb. Suspension mechanisms are incorporated as part of socket design and will be chosen prior to casting. Suspension can be achieved through these options:
  - + **Mechanical lock** is achieved by the incorporation of a pin attached at the end of a liner which engages into a lock in the socket.
  - + **Suction suspensions** are achieved through a number of methods including seal-in liners and direct skin contact.
  - + **Anatomical suspension** is achieved when the contours of the socket capture and hold onto the contours of the patient's body.

### Symptoms of Poor Fitting Socket

- Unable to progress to expected goals
- Pain
- Feels like a lot of effort and concentration to walk, increased energy expenditure
- Poor confidence/balance
- Skin breakdown, callus or unusual discoloration
- Significant space between residual limb and socket in standing position
- Inability to balance or transfer weight to prosthesis without fear or pain.

**Socket fit determines the potential outcome, regardless of the components and efforts of the medical team!**

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