



An Advanced Orthotics and Prosthetics Program

Shriners Hospitals for Children has a long history of providing expertly crafted, correctly fitting orthotic and prosthetic (O&P) devices to children who need them, giving kids with missing limbs and other orthopaedic difficulties the opportunity to believe in their dreams and be active participants in the world around them.

Our staff members have created devices that allow children with missing limbs to play musical instruments, participate in sports and to have a better quality of life. Our highly trained O&P professionals can create a full range of devices, from a complete prosthetic limb to the smallest assistive device, for children of all ages, as efficiently, accurately and precisely as possible.

A FASTER, SMARTER WAY TO CREATE O&P DEVICES

Shriners Hospitals for Children has taken its commitment to children in need of O&P devices even further, and established a system-wide approach that is more streamlined, collaborative and technologically advanced.

The U.S. Shriners Hospitals have been divided into six regions, each with a hospital designated as a regional



fabrication center that supports the O&P departments of specific Shriners Hospitals. The O&P departments and regional fabrication centers are separate nonprofit LLC corporations, known as Pediatric Orthotic and Prosthetic Services (POPS).

The fabrication centers have electronic carvers, and each hospital location has computer-assisted design (CAD) capabilities.

In the new process, hospital staff use a light scanner to scan the patient's leg, for example, to obtain measurements and other information. Using CAD, the practitioner creates a rendition of the device needed. The computerized data is then sent to the regional fabrication center for development of a foam model using the electronic carver. Then, the actual device is created and sent to the requesting hospital, where it is fitted to the patient, and the patient is taught to use the new device.

This approach eliminates the need for creating plaster casts as models, and saves the scanned model as a digital file for future reference. Now, creating an O&P device can be accomplished in days, rather than weeks. The computerized data also helps document changes in patients' growth or weight, which may necessitate new devices.

In addition, our Salt Lake City location has a foot carver machine that is specifically used to create orthotics that

are inserted into shoes to correct a range of foot-related problems, such as a lack of or too much of an arch. This machine can create the entire device without a foam model. The Salt Lake City POPS department will provide this type of orthosis for the entire health care system.

MAKING TECHNOLOGY MORE ACCESSIBLE

Future plans for O&P include the development of a pilot program for 3-D printing for sockets, including determining the durability and quality of a printed socket. The socket is the part of a prosthetic device that fits around the residual limb. Its fit and construction are critical to the success of the device for the patient.

"The POPS program strengthens the consistency and efficiency of our processes and products throughout our health care system," said JoAnne Kanas, corporate director of O&P Services. "It is also a differentiator for Shriners Hospitals; very few hospitals still have their own O&P departments or programs."

The policies of Shriners Hospitals for Children are replicated in each POPS location, including the commitment to provide each patient with the best possible individualized care, regardless of the family's ability to pay.

"Shriners Hospitals is unique in its approach to O&P," said Kanas. "What we can do for our patients is special."



Shriners Hospitals
for Children®