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## Instructional Manual and Guide for the IPOP (Immediate Post Operative Prosthesis)

It is our contention that the best way to address psychological and neurological problems is by creating an environment that is both conducive to reasoning and the physical well being. The IPOP provides the patient with a physical safe environment in which to ambulate because all forces other than those simulating healing of the wound are eliminated. Therefore, with proper implementation and explanation of IPOP the patient can experience physical safety. Of equal importance, the patient, by learning to use their IPOP can in essence provide their own safe environment, which is paramount for emotional and physical well-being.

### **The clinically significant findings that support the use of the IPOP are as follows**

- \*Early ambulation of the amputee patient is generally accepted as the best way of promoting wound maturation, general health and psychological well-being.
- \*Post-operative swelling reduction is achieved during the IPOP program and will greatly enhance the effectiveness of applied surgical and operating room techniques and subsequent prosthetic preparatory programs.
- \*Patient progress is accelerated in subsequent prosthetic programs because of previous training and experience during the IPOP program.

With the use of the IPOP system, the patient initially is limited to 10-20 pounds of weight bearing at the heel and toe respectively. The patient then can progress to increasing weight bearing at the rate of 10 pounds every other day or as otherwise prescribed by the physician, until maximum weight bearing is achieved. Once full weight is achieved, the option is to remove the IPOP and replace it with a short cast and normal foot.

### **Instructions for use of the IPOP (Physical Therapist and Prosthetist)**

A new neurological link between the ground and the central nervous system can be reestablished by teaching the patient how to activate the IPOP at heel contact and toe off while standing between the parallel bars. This is best accomplished as follows:

- (1) First positioning the heel of the prosthetic foot in front of the toes of the sound foot. The patient applies a predetermined and calibrated amount of force until the IPOP “beeps.”
- (2) Then the patient places the toes of the prosthetic foot behind the heel of the sound foot and again “beeps” the IPOP.

(3) This is repeated until the patient learns to associate and anticipate the “beep” from the IPOP with the new sensory input from the residual limb.

\*The patient then learns to move his sound foot forward instead of the prosthetic foot backwards, associated with the “beep” of the IPOP. The IPOP is gradually adjusted to accommodate maximum loading of the residual limb.

### **Instructions to the patient**

It is normal to experience some moderate discomfort immediately following an application of the IPOP. Very often this discomfort is eliminated by elevation the IPOP on a pillow directly underneath the foot for a short period of time, which helps to control the post-operative edema. Due to the fact that the Audio Indication Foot is electronic and runs off a nine-volt battery system, it is important that when the patient is in bed or sleeping that the switch on the nit be turned to the off position. It is more important that the patient return the switch to the on position when getting out of bed or ambulating even if for a short period of time and even if the patient is on crutches. The suspension belt and elastic strap to the belt is intended to reduce piston action and remove the sensation of weight of the prosthesis and transmit that to the belt. Should the patient experience piston motion of the cast dressing, more than on half inch, the Prosthetist should be notified and will determine what should be done.

The initial cast will stay on between ten and fourteen days unless otherwise directed by the physician. At that time the cast change will be scheduled at the convenience of the physician to allow inspection of the residual limb as well as removal of any sutures or staples. An initial cast change will be done at that time to a second weight-bearing cast which will stay on for five to seven days.

After the second cast is applied five to seven days later the long leg cast is removed. A mold of the residual limb is taken to create a definitive prosthesis, which should be delivered approximately one week from that time. The patient will have the short leg cast removed and go directly into their definitive prosthesis.

Precautions: Should the IPOP develop a foul odor, excessive bleeding through the cast, or the patient develops a high temperature notify the physician and the Prosthetist immediately.

### **Adjusting the IPOP (Prosthetist)**

There are four types of adjustments built into the IPOP

\*Overall Length

\*Degree of motion between the ankle adaptor and IPOP foot

\*Torque in the parasagittal plane

\*Audio Indicating Ankle

### **OVERALL LENGTH**

The overall length of the system corresponds to the distance from the distal end of the rigid dressing to the floor. To determine the proper length of the IPOP system, back out socket adaptor set screw (fig.B) and remove the socket adaptor. Cut the pylon (fig.C) to

the appropriate length. Reinsert pylon one inch into the socket adaptor and tighten set screw.

#### DEGREE OF MOTION IN ANKLE ADAPTOR AND IPOP FOOT

The degree of motion between the ankle adaptor (fig.D) and the IPOP foot (fig.M) can only be done by a Prosthetist. This motion can be absorbed by the absorption sleeve in the parasagittal, frontal and transverse planes. The amount of motion is determined by the patient's weight and physiological resistance to applied force.

#### TORQUE IN THE PARASAGITTAL PLANE

The adjustment for torque in the parasagittal plane is necessary to activate the audio indicator. To increase the plantar and/or dorsiflexion moment through the ankle to activate the audio indicator, screw the plantarflexion and dorsiflexion adjustment screws (fig. E&F) counterclockwise (or up). To decrease the amount of torque, screw the adjustment clockwise (or down). As a general rule, the amount of torque necessary to activate the dorsiflexion switches  $\frac{1}{2}$  again as much as the amount of force necessary to activate the plantarflexion switch.

#### AUDIO INDICATING ANKLE

To set the Audio Indicating Ankle, place the prosthesis on a scale, adjust the setscrew in or out until the audible sound is heard through the control box and that corresponds to the weight desired indicated by the scale.

The Audio Indicating Ankle system has been used successfully since July of 1980 on below knee prosthetic patients. It was immediately noted that the patients were able to safely ambulate without any associated trauma to the wound. The average amount of limb reduction during the IPOP program is equal to approximately fifteen or twenty ply of prosthetic socks. The reduction is usually accomplished in two to three weeks.

Since utilizing this system we have found that we have had an almost 100% success rate. Should you have any question or any problems, please do NOT hesitate to call our office at 407-999-8977. In case of an emergency during the evening or weekends, we are on call 24 hours a day.