

# Your first prosthesis

## Preparatory Prosthesis

Once your residual limb begins to heal, your physician is likely to prescribe a preparatory (temporary) prosthesis. The early fitting of an below knee prosthesis can offer you a positive alternative to crutch walking or using a walker or wheelchair as your residual limb heals. To allow the limb to heal fully and to reduce most of the swelling, a preparatory prosthesis is usually worn for 3 to 6 months. During this time you will learn how to evaluate and adjust the fit of your prosthesis.

A preparatory prosthesis typically is designed to be strong, lightweight and adjustable. Therefore, the prosthesis might not look like a natural leg. The design allows the prosthetist to easily adjust the alignment (relationship of the prosthetic components) as your walking improves. This construction also lowers your rehabilitation expenses.

The ultimate decision about when you are ready to wear such a device will be left to your physician and your prosthetist. A preparatory prosthesis is prescribed to accomplish three main goals:

- early ambulation (walking)
- shrinking and shaping of your residual limb; and
- achieving alignment of your prosthetic components (parts).

## Early Ambulation

Early ambulation (walking) helps to shrink and reduce the volume of your residual limb. It also enables you to move about and to regain your independence.

Other benefits of early ambulation with a prosthesis are that it helps reestablish balance, requires deep breathing which can prevent lung complications, encourages circulation which can reduce the chances of peripheral clotting known as embolism.

## Shrinking and Shaping

Swelling is reduced by containing the limb within a well fitted socket and through the muscular pumping action created by walking. Because early gait training will result in the shrinking of your residual limb, special suspension systems may be used in your preparatory prosthesis to allow for these changes.

As the shrinking and shaping of your residual limb progresses, you may wear prosthetic socks to fill the empty space left in the socket of the prosthesis (see "Prosthetic Socks"). It often takes months rather than weeks to reduce the swelling following surgery. Therefore, whenever your prosthesis is off, your compression device should be worn. This will reduce the limb size as quickly as possible and help control swelling.

## Achieving Alignment

The preparatory prosthesis is designed so that the prosthetist can easily change the alignment and/or the relationship of the prosthetic parts (socket and foot). As was mentioned earlier, this relationship will greatly affect your comfort and the amount of energy you need to expend to walk.

Often the adjustability of the design will allow the prosthetist to make changes as you become better at walking and become more active.

The socket is the part of the prosthesis into which your residual limb fits. Your prosthetist will rely on your feedback about the comfort of the fit of the socket, so communicate clearly. Once you have been fitted with a socket, the other parts will be added, and early gait training (walking) can begin. You may add prosthetic socks to secure the fit of the socket as your residual limb changes in shape and size (see "Prosthetic Socks").

Early prosthetic training or gait (walking training) is usually provided by a physical therapist (PT) and is important in learning correct techniques and preventing bad habits. In conjunction with your prosthetist, the individual components will be explained to you while you learn your best and most energy saving gait.

Since learning to walk again requires some weeks, amputees may continue to see their PT throughout the first few months. If a question or problem arises, these may be addressed and changes made during regularly scheduled visits with your prosthetist.

Many newer or "high tech" components require regular maintenance. Appointments may be set up in order to provide the services, inspection, or maintenance consistent with

manufacturers' recommendations and warranties.

## Definitive Prosthesis

After most of the shrinking has occurred in your residual limb, your physician will prescribe a definitive or long term prosthesis. A definitive prosthesis is also referred to as a permanent prosthesis; however it is not the only one you will wear during your lifetime. You will typically need a new definitive prosthesis every 3 to 5 years. Your definitive prosthesis will have a more finished look than your preparatory prosthesis.