Immediately after surgery

During the days following your amputation it is normal to feel a range of emotions because of the loss of your leg and to wonder how you will be able to get on with your life. You can be sure that all new amputees share these feelings of loss and sadness. However, these feelings of sadness or depression are usually followed by the need to resume your normal activity and developing the will to do so.

During your recovery and rehabilitation it is important to set realistic goals for yourself. Immediately following your surgery these goals may include:

1. preventing muscle and joint tightness or contractures

2. learning to control swelling and shrinking

3. learning to walk using crutches or a walker

4. beginning a hip and knee exercise programs emphasizing knee flexion and extension.

Preventing Muscle Contractures

Of immediate concern following your surgery is the prevention of muscle contractures. Muscle contractures result from muscle imbalance problems associated with trans-tibial (below-the-knee) amputations. To prevent the muscles from tightening, resulting in a muscle contracture, you need to stretch these muscles. You will also want to strengthen your muscles (see 'Exercises").

You should be aware of the dangers of knee flexion contractures (bent-knee contractures). These can occur because you are sitting with a bent knee a lot. When lying in bed, keep your knee flat on the bed without any pillows underneath it. This will prevent the tendency toward knee flexion and tightening of the muscle in the back of your leg (knee flexors).

To encourage knee flexor stretching and to prevent flexion contractures you should sit in bed and bend forward at the hips while keeping your knees straight (like reaching for your toes). You should do this two to three times daily.

Reducing Swelling

There are certain techniques that will help to begin the process of shaping your limb to fit into a prosthesis. Your surgeon may prescribe a compression wrap or shrinker sock. These techniques

will assist you in controlling the edema (swelling) from the amputation and will assist with the atrophy (shrinking of the muscles) of your residual limb.

During the first few days and weeks following your amputation, your residual limb will start to heal and some very important things will be done to prepare your residual limb to wear a prosthesis. One of the most important physical goals during this time is to minimize/reduce edema (swelling).

Your residual limb consists of muscle and other soft tissues which need to be shaped and reduced in overall volume as soon as possible after surgery. In order to fit the prosthetic socket, the residual limb needs to be well healed to facilitate ease of donning (putting on) the prosthesis.

Swelling tends to occur toward the site of the amputation (cut end of the limb). During this time immediately following your surgery, you might wear a shrinker sock or compression wrap to reduce the swelling at the end of your limb.

Whether using a knitted shrinker sock or a compression wrap, the goal is to apply the greatest amount of pressure on the lower end and to gradually reduce pressure as you wrap further up the residual limb. Age and overall medical health may affect the length of time it takes to reduce the swelling in your residual limb.

Shrinker Sock

A shrinker sock is an elastic sock with an attached waistband sized to fit your residual limb. It is important when using a shrinker sock to check 3 or 4 times per day to ensure that it is pulled up completely. This is because if there is any room at the bottom of the sock, your limb will tend to swell into that space. In general, they require much less skill to apply and suspend than wraps, yet they apply the necessary compression to your residual limb.

Compression Wraps

Your physical therapist (PT) should instruct you in the proper techniques for wrapping your limb if a compression wrap program is pursued. Wrapping your residual limb in this figure of eight

manner allows for the greatest pressure at the lower end of the residual limb and a gradual reduction of pressure as the wrap moves up the leg.

It is important to always wrap on the diagonal. The wrap that you apply may be 4 to 6" wide and as long as two wraps sewn together. Much practice is required to become skilled in this technique. Your family or spouse may assist in the early days following surgery, but later it is recommended that you learn to wrap to provide consistent pressure during the shrinking process.

It is generally recommended that new amputees wrap and re wrap at least four times per day. During the times between wrapping, you should inspect the skin and wound and look for any problems such as excess drainage or any early signs of infection.

A common problem with compression wraps is known as "choking." Choking occurs when the wrap is too tight in the back of the knee causing the limb to swell at the end. This makes the wrap constrict the blood flow and causes a mushrooming of the end tissues. Should your limb begin to throb, you should unwrap it immediately and then rewrap it using the proper technique. Always wrap above the knee to prevent choking at the top of your residual limb and to prevent the wrap from migrating (moving down your residual limb).

Exercise

As your residual limb heals, exercise becomes a more important part of your rehabilitation and will assist you in learning to use your prosthesis. You can begin to exercise as soon as you can tolerate movement of your residual limb. This may be as soon as two or three days after your surgery. Your prosthetist and PT will show you specific exercises and suggest a daily routine. Initially exercise will help reduce the edema in your residual limb and will prevent muscle contractures. Over the long term, muscle strengthening through exercise, will help you walk without a limp.

Your PT will introduce the concept of resistive exercise to strengthen your muscles as well as to stretch them. Your PT may answer questions about frequency and repetitions of specific exercises.