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### **EXERCISES FOLLOWING KNEE INJURY**

The large muscles in your thigh, especially the quadriceps muscle in the front of your thigh, will atrophy (lose strength) quite rapidly following a knee injury. These muscles are quite important to the function and stability of your knee. It is therefore important that exercise of these muscles begin as soon as possible following an injury.

You should start immediately with **isometric exercises** performed as follows:

1. Straighten your leg as much as possible and contract/squeeze the quadriceps muscle in the front of your thigh as tightly as you can.
2. Hold this muscle tightly for 10-20 seconds then relax.
3. Repeat this exercise 10-20 times every hour.

As soon as you are able to do isometrics well, you should begin straight leg raising exercises performed as follows:

1. Lying on your back with your knee as straight as possible, lift your leg 12-18" off the surface.
2. Hold this position for a count of 3.
3. You should do 30 repetitions at a time with 1 minute rest between each 10 leg lifts.
4. Repeat this exercise 4-5 times a day.
5. When you can do 30 repetitions comfortably, you should begin adding weight to your foot or ankle, starting with 2-3 lbs. And increasing to 15-25 lbs. on a gradual basis.

It is important that these exercises be performed with the knee in as straight a position as possible. You will have difficulty getting your knee into full extension initially. You may work on obtaining full extension by placing your heel on an object and pushing down on your knee with your hands or your other leg. Initially it is more important to work on getting your knee all the way straight than it is to accomplish full flexion.

You may also work on bending your knee until full motion is accomplished. You may do this by sitting on something high and pushing your leg into flexion with your other leg. This exercise may also be done lying on your abdomen. You may also do this by putting the foot of your leg up on an object such as a step or a chair and lean your body into the leg to accomplish flexion. You should never do deep knee bends. If you have access to a weight machine, you may use it; but lifting should be limited to the last 30 degrees of extension.

If you are doing the straight leg raising exercise well and the swelling has subsided, you may begin increasing activities on an as tolerated basis. This would include first a straight and level jogging or running with a gradual increase in the speed. When you can run approximately 75% of normal speed, you should begin running in circles to both directions or figure of eight. You should not resume any sport type activities requiring a change in direction or starting and stopping, such as tennis or racquet ball, until cleared by your physician.