

**Dr. Edward Kelly**  
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## **Comprehensive Non-Operative Knee Program**

1. Ice 15-20 minutes one to two times daily: This can be done with a bag of ice, refreezable gel pack, or ice massage (freeze water in a paper Dixie cup, peel off the top to expose the ice, and massage onto the knee holding the base of the cup). Ice works by both relieving pain and decreasing swelling or inflammation. Ice can be helpful due to its many benefits and no side effects.
2. Activity modification: Limit stair climbing and long walks. Each step on level ground puts up to 3 times your body weight through the knee; each step up stairs puts *7-8 times body weight* through the knee. Those activities will only exacerbate your knee pain.
3. Extra-Strength Tylenol (acetaminophen): 1 to 2 tablets up to 3 times per day is a safe dosage. Use on an as-needed basis on those days when discomfort is particularly problematic. An anti-inflammatory medication such as Aleve (naproxen) or Motrin/Advil (ibuprofen) can be used along with the Tylenol for more severe pain. It is fine to take the two types of medicine (Tylenol and Advil/Aleve) together at the same time.
4. Non weight-bearing exercise (Conditioning) Program: Either stationary biking or swimming are good exercises as they eliminate the effects of weight, and build strength and stamina.
  - Start 2 times a week, 15-20 minutes with low resistance (easy to pedal)
  - Slowly build up to 4-5 times a week, 25-30 minutes.
  - Increase resistance so you build thigh muscle strength.
  - Raise seat height so you do not flex the knee more than 90-95 degrees as greater flexion places marked stress on the kneecap.
  - Start 3 times a week, 15-20 minutes. Build to 4-5 times a week, 25-30 minutes.

**\*\*Avoid treadmills and Stairmaster machines as these will increase impact on the knee.**
5. Recreational activities: Limit activities that involve lots of walking or prolonged periods on the feet until the knees are relatively pain-free with daily activities. Focus on the conditional exercises (stationary biking or swimming) until the pain is minimal. Then slowly add in recreational activities on an intermittent basis.



Those who are faithful with all aspects of this knee program can expect marked improvement in their knee pain over an 8 to 12 week period of time. Though the knee may continue to give you intermittent aches and pains, the goal is to get you back to doing the things you want to pursue. If despite being faithful with this program over a 12-week period, the knee continues to be problematic then it is reasonable to call for a re-evaluation. If you develop recurrent swelling of the knee or catching or locking that is associated with pain, then please call to be seen as you may have a tear of the meniscus (shock-absorbing cartilage) and require further evaluation.



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## **Knee Exercise Program**

The return of normal strength and function to the quadriceps muscle (muscle in the front of the thigh) is the key to returning the knee to normal use. The quadriceps tends to weaken and diminish in size following a knee injury or surgery. Attention and time devoted to an exercise program will greatly facilitate your return to normal daily and athletic activities. Isometric and straight-leg raising (SLR) exercises should begin on the day of surgery and carried out daily as follows:

### **Exercise #1 — Isometric**

1. Lie down on the floor, bed, or couch
2. Place a pillow behind the knee
3. Extend (straighten) the knee as straight as possible and tighten the thigh muscle
4. Hold for 10 counts, then rest 10 counts
5. Repeat 10 times
6. Do this routine 6 to 10 times per day

### **Exercise #2— SLR**

1. Lie down on a floor, bed, or couch
2. Extend (straighten) the knee as straight as possible and tighten the thigh muscles
3. Lift the leg slowly up (keeping the knee straight) about ten inches off the floor and hold for 10 counts and then lower the leg to the floor again
4. Rest for 10 counts and then repeat 10 times
5. Complete 3 to 4 sets per day

Knee exercise tips:

- In a few days these exercises will become easier. As this occurs, weight should be added to the ankle while doing straight-leg lifts (ankle weights, sandbags, weighted down shoes or some substitute). Begin with one to two pounds and increase as tolerated to ten to twelve pounds.
- Avoid any exercises that involve vigorous bending or straightening of the knee until you are given an okay by your physician. These would include squats, stair climbing, weight machines or leg extension exercises while sitting on the side of a table.
- In general, it is best to let your knee be the guide to your rehabilitation. If the knee does not hurt, it is okay to increase activity. If the knee begins to hurt or swell, you have done too much and should drop back on your activity.