



REHABILITATION AFTER ARTHROSCOPIC KNEE SURGERY

This protocol is a guideline for your **rehabilitation after arthroscopic knee surgery**. You may vary in your ability to do these exercises and to progress to full resumption of your previous activity. Please call Dr. Gill's office or your physical therapist if you are having a problem with your knee or need clarification of the exercises.

Phase one: The first week following surgery

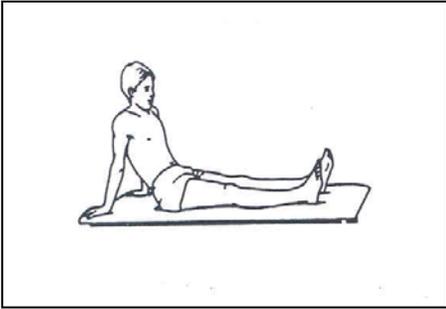
Goals:

1. Control pain and swelling
2. Maintain knee motion
3. Activate the quadriceps muscles

Guidelines and Activities:

1. The **novocaine** that is put in your knee at the time of surgery lasts six to eight hours. Begin taking the pain medication when you start feeling sensation return. The knee will be painful for several days after the arthroscopy.
2. You can bear full weight and **walk** on the leg unless otherwise instructed by Dr. Gill. In some instances, crutches can be used for a period of time if walking is uncomfortable.
3. Gently **move** the knee (flexion and extension) as much as you can to prevent stiffness.
4. Apply **cold** to reduce pain and swelling. Use ice on the knee 20 minutes/on and 20 minutes/off for the first day when awake. Then apply cold as often as needed for 15 to 20 minutes at a time for the next several days. Place a towel or cloth between the skin and the ice to prevent skin injury.
5. You may **shower** and get your incision wet. Do not soak the incision in a bathtub or Jacuzzi until the stitches have been removed.
6. Take an **aspirin** each morning for 10 days unless there is a medical contraindication to do so (such as a history of ulcers or aspirin allergy), or unless you are taking other blood thinners (such as Coumadin).
7. You can wear an **elastic stocking** (TED) below the knee to prevent leg swelling, and do at least 10 ankle pump exercises each hour to control swelling and to help prevent phlebitis (blood clots in the veins).

Exercise Program:

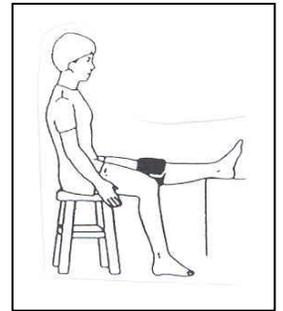


QUADRICEPS SETTING - to maintain muscle tone in the thigh muscles (quadriceps) and straighten the knee.

Lie on your back with your knee extended fully straight as in figure. Tighten and hold the front thigh muscles making the knee flat and straight. If done correctly, the kneecap will slide slightly upward toward the thigh muscles as the muscles contract. The tightening action of the quadriceps should make your knee straighten and be pushed flat against the bed or floor. Hold for five seconds for each contraction. Do 20 repetitions whenever you think about it (many times).

HEEL PROP - to straighten (extend) the knee.

Lie on your back with a rolled up towel under your heel or sit in a chair with the heel on a stool as shown in the figure. Let the knee relax into extension (straight). If the knee will not straighten fully, you can place a weight (2 to 5 pounds) on the thigh, just above the kneecap.

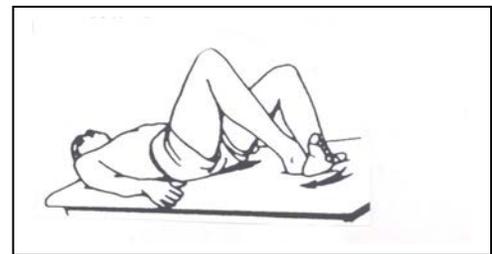


Try to hold this position for **5 minutes, three times a day. While maintaining this extended position, practice quadriceps setting.**

HEEL SLIDES - to regain the bend (flexion) of the knee.

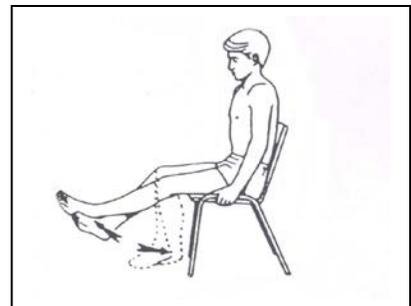
While lying on your back, actively slide your heel backward to bend the knee. Keep bending the knee until you feel a stretch in the front of the knee. Hold this bent position for five seconds and then slowly relieve the stretch and straighten the knee. While the knee is straight, you may repeat the quadriceps setting exercise.

Repeat exercise 20 times, three times a d

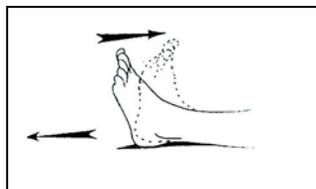


SITTING HEEL SLIDES -to regain the bend (flexion) of the knee).

While sitting in a chair, slide the heel backward as if trying to get the foot underneath the chair. Hold five seconds and slowly relieve the stretch by sliding the foot forward. You can help with the opposite foot if necessary. Repeat exercise 20 times, three times a day.



ANKLE PUMPS - move the foot up and down to stimulate circulation in the leg.



Do at least 10 ankle pump exercises each hour.



OFFICE VISIT

Please return to Dr. Gill's office approximately **10-14 days** after your surgery. At this time, your progress will be checked.

You can view a video clip of most of the listed exercises by going to the Boston Sports Medicine and Research Institute website:

http://www.bostonsportsmedicine.com/sports/protocols_therapy_videos.html

REHABILITATION AFTER ARTHROSCOPIC KNEE SURGERY

Phase Two: 2 to 6 weeks after surgery

Goals:

1. Protect the knee from overstress and allow healing
2. Regain full motion
3. Regain full muscle strength

Activities:

1. You can bear weight and walk on the leg as you are able. Try to avoid limping and walk with a heel - toe pattern. Avoid walking for long distances for 4 to 6 weeks after surgery.
2. Continue to ice the knee to reduce pain and swelling. Ice the knee three times a day for 15 to 20 minutes. Always place a towel or cloth between the skin and the ice to prevent skin injury.
3. Leave the small strips of tape (steri-strips) in place. They will gradually loosen and fall off as you move the knee and shower. You can wrap an elastic bandage (ace) around the knee, if necessary, to control swelling.

Exercise Program

The following exercise program should be followed as directed by Dr. Gill's office or the physical therapist. If the exercises can be performed easily after the first week, then an ankle weight may be used to increase the resistance of the exercise and build strength. Start with 1 pound and add 1 pound per week until you reach 5 pounds.

Do the exercises daily for the first week, and then decrease to every other day when using ankle weights.

You may ride the stationary bicycle daily for 20 to 30 minutes.

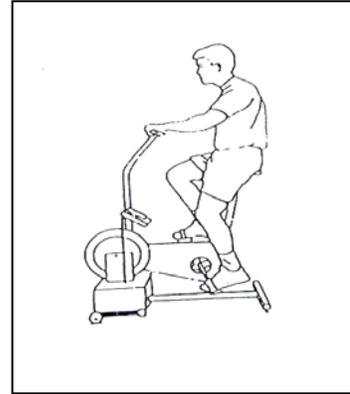
Avoid using stair-stepper machines, deep knee bends and squats or any exercise that causes crunching, clicking or pain at the kneecap.

You can view a video clip of most of the listed exercises by going to the Boston Sports Medicine and Research Institute website: http://www.massgeneral.org/sports/protocols_therapy_videos.html

At 6 weeks after surgery, you may gradually resume your previous activities if you have full range-of-motion, full strength and no swelling.

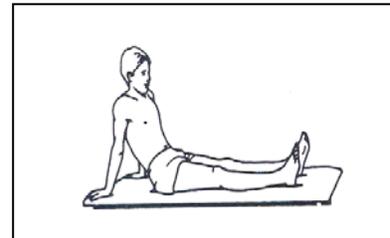
STATIONARY BICYCLE

Utilize a stationary bicycle to move the knee joint and increase knee flexion. If you cannot pedal all the way around, then keep the foot of your operated leg on the pedal, and pedal back and forth until your knee will bend far enough to allow a full cycle. Most people are able to achieve a full cycle revolution backwards first, followed by forward. You may ride the cycle with no resistance for 20 to 30 minutes a day. Set the seat height so that when you are sitting on the bicycle seat, your knee is fully extended with the heel resting on the pedal in the fully bottom position. You should then actually ride the bicycle with your forefoot resting on the pedal.



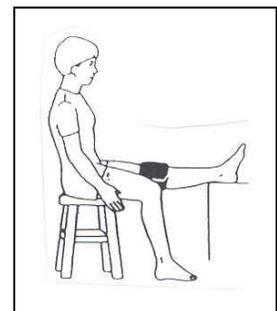
QUADRICEPS SETTING - to maintain muscle tone in the thigh muscles and straighten the knee.

Lie on your back with the knee extended fully straight as in the figure. Tighten and hold the front thigh muscle making the knee flat and straight. If done correctly, the kneecap will slide slightly upward toward the thigh muscle. The tightening action of the quadriceps should make your knee straighten and be pushed flat against the bed or floor. Hold 5 seconds for each contraction. Do 20 repetitions three times a day until you can fully straighten your knee equal to the opposite side.



HEEL PROP - to straighten (extend) the knee.

Lie on your back with a rolled up towel under your heel or sit in a chair with the heel on a stool as shown in the figure. Let the knee relax into extension (straight). If the knee will not straighten fully, you can place a weight (2 to 5 pounds) on the thigh, just above the kneecap.

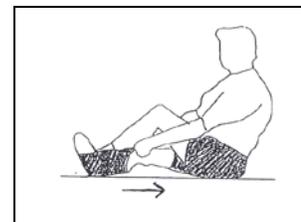


Try to hold this position for **5 minutes, three times a day. While maintaining this extended position, practice quadriceps setting.**

HEEL SLIDES - to regain the bend (flexion) of the knee.

While lying on your back, or assisting with a towel, actively slide your heel backward to bend the knee. Keep bending the knee until you feel a stretch in the front of the knee. Hold this bent position for 5 seconds and then slowly relieve the stretch and straighten the knee. While the knee is straight, you may repeat the quadriceps setting exercise. Continue this exercise until you can fully bend your knee equal to the opposite side.

Repeat 20 reps, three times a day.





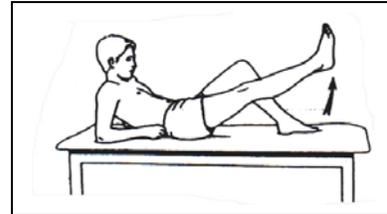
Rehabilitation after Arthroscopic Knee Surgery

Post-op Phase	Weight bearing status	Passive ROM and Active ROM	Strength training	Return to running and sports	Recommended Restrictions
Phase One The first week after surgery	Bear weight as tolerated Crutches as needed	Active ROM exercises Stationary bike starting the 2 nd post-op week	Isometric Quad and knee extension, active and assisted knee flexion, ankle pumps	none	Avoid excessive walking and standing
Phase Two Two to six weeks after surgery	Full weight bearing	Full Rom Stationary bike	Progressive ankle weight resistance	none	Avoid stair-stepper machines or Impact exercises Avoid pivoting and varus/valgus stresses Elliptical OK.
Phase Three Six weeks after surgery onward	Full	Full	See 'Strength Training for the Knee' program at www.bostonsportsmedicine.com	See 'Return to Walk/Jog Progression' at www.bostonsportsmedicine.com	Return to activities progressively.

STRAIGHT LEG LIFT

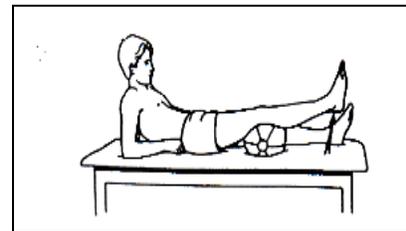
Tighten the quadriceps muscle so that the knee is flat, straight and fully extended. Try to raise the entire operated limb up off of the floor or bed. If you are able to keep the knee straight raise the limb to about 45 degrees, pause one second and then lower slowly to the bed. Relax and repeat.

***If the knee bends when you attempt to lift the limb off of the bed, **do not** do this exercise. Keep trying to do the quadriceps setting exercise until you can lift the limb without letting the knee bend. Repeat 20 times.



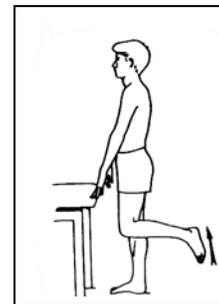
SHORT ARC LIFT

With the knee bent over a rolled up towel or blanket, lift the foot so that the knee fully straightens. Hold the knee locked in extension for 5 seconds, then slowly lower. Repeat 20 times.



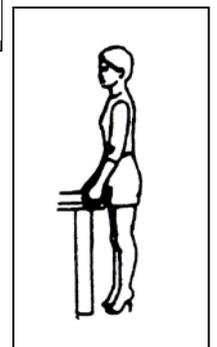
STANDING HAMSTRING CURL

Stand facing the wall, using the wall for balance and support. While standing on the unoperated limb, bend the knee of the operated side and raise the heel toward the buttock. Hold this flexed position for one second. Slowly lower the foot back to the floor. Keep the thighs aligned as illustrated. Repeat 20 times.



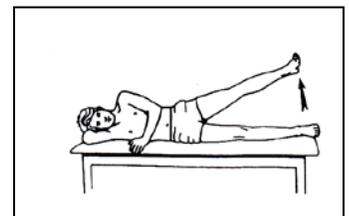
STANDING TOE RAISE

Stand facing a wall, hands on the wall for support and balance. Keep the knees extended fully. Tighten the quadriceps to hold the knee fully straight. Raise up on 'tip-toes' while maintaining the knees in full extension. Hold for one second, then lower slowly to the starting position. Repeat 20 times.



HIP ABDUCTION

Lie on your unoperated side. Keep the knees fully extended. Raise the operated limb upward to a 45 degree angle as illustrated. Hold one second, then lower slowly. Repeat 20 times.



OFFICE VISIT

No further office visits are necessary unless you are experiencing problems. If you have questions, call **781-251-3535**.