

## **PATELLAR TENDON DEBRIDEMENT SURGERY**

### **PREOPERATIVE INSTRUCTIONS**

**Here are guidelines that will help you prepare for surgery:**

#### **WITHIN ONE MONTH BEFORE SURGERY:**

Dr. Gill will see you in the office. The doctor or his associate will do a preoperative history and physical examination and complete the necessary paperwork. He will write preoperative hospital orders and order laboratory tests. These tests usually include a complete blood count (and also electrocardiogram for patients over 40 years old.)

#### **SEVERAL DAYS BEFORE SURGERY:**

Wash the knee several times a day to get it as clean as you can. This decreases the risk of infection. **Be careful not to get any scratches, cuts, sunburn, poison ivy, etc.** The skin has to be in very good shape to prevent problems. You do not need to shave the knee.

#### **THE DAY BEFORE SURGERY:**

Please contact the doctor's office to get the exact time you should report to the hospital for surgery. **You can have nothing to eat or drink after midnight on the evening before surgery.** It is very important to have a completely empty stomach prior to surgery for anesthesia safety reasons. If you have to take medication, you can take the medication with a sip of water early in the morning prior to surgery (but later tell the anesthesiologist you have done so).

#### **THE DAY OF SURGERY:**

Please bring the crutches, ice machine or imaging studies that you might have received.

#### **SURGERY:**

If a problem inside of the knee is suspected (such as chondromalacia), arthroscopy may be done in addition to open surgery to debride the patellar tendon. After anesthesia has been given, your knee will be cleaned and sterile drapes will be placed. To perform the patellar tendon debridement, a small incision will be made over the patellar tendon in just below the kneecap. Dr. Gill will debride the tendon and then repair the injured area.

## AFTER SURGERY:

You will be given a prescription for **pain medication** to take home with you (usually Percocet, Vicodin, or Tylenol with codeine). The pain medication has a tendency to make you constipated while you are taking it and occasionally can cause nausea.

In addition to pain medication you should take one **aspirin** a day for 10 days to help prevent blood clots (phlebitis) unless there is a reason to avoid aspirin.

You will have a **knee brace** applied to protect the knee. The immobilizer can be removed for washing and sleeping, but should be used when you are up and walking for about two weeks. If necessary, you can use crutches for the first week or two to take excess pressure off of the knee.

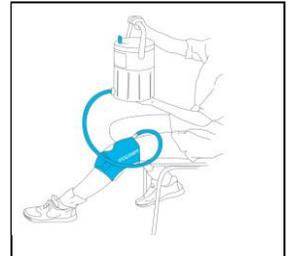
The **dressing** will be changed the day following surgery and can be removed at two days. The wound is sealed with steri-strips (small pieces of tape on the skin). You can **shower** on the second day following surgery, but be careful standing in the shower so you do not fall. It is better to have a small stool to be able to sit on. You can get the incision wet and wash the knee.

If the lower leg swells, use below-knee **elastic stockings** to control swelling. If you develop calf pain or excessive swelling in the leg, call the doctors office.

The **cryocuff** is a blue wrap that is sometimes put on the knee to make it easier to keep it cold. You can use the cryocuff or ice packs as often as you want to cool down the knee to reduce swelling and pain.

## OFFICE VISIT

Please arrange an office visit approximately 7 to 10 days after surgery for suture removal and further instructions.



## **Rehabilitation after Patellar Tendon Debridement Surgery**

Post-operative instructions: The first week after surgery

### **Goals:**

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

### **Guidelines and Activities:**

#### **Knee Range of Motion:**

You can fully extend (straighten the knee). The surgeon will give you instructions for how much you can flex (bend) your knee.

#### **Brace and Crutches:**

You will go home with crutches and a knee brace locked in full extension (straight).

Unless otherwise instructed by Dr. Gill, use crutches when walking and **bear weight as tolerated** (with brace-on and your knee locked straight) on the operated leg. That is, you can bear as much weight as you can, even full weight, as long as there is no knee pain when you put your weight on the limb (brace-on). Wear the post-operative brace for walking. Lock the brace when walking to keep the knee from buckling and causing a fall. When walking with the crutches, follow the instructions below:

#### **Walking (weight bearing as tolerated):**

- Put the crutches forward about one step's length.
- Put the injured leg forward; level with the crutch tips.
- Touch the foot of the involved leg to the floor and bear weight as tolerated (brace-on).
- While bearing weight (on the crutches if there is pain in the knee) on the involved leg, take a step through with the uninjured leg.

#### **Elastic Stockings**

Wear an elastic stocking (TED) below the knee when out of bed until your first post-operative office visit. Do at least 10 ankle pump exercises each hour to help prevent phlebitis (blood clots in the veins).

**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 surgery.
2. Remove the outer **bandage** when you get home and apply cold directly to the knee. Change the bandages whenever needed.
3. 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.
4. Wrap an **elastic bandage** (ace) around the knee at other times to control swelling.
5. You may **shower** and get your incision wet. Do not soak the incision in a bath tub or Jacuzzi until the stitches have been removed.
6. Take an **aspirin** each morning, unless there is a reason not to take aspirin.
7. Wear an **elastic stocking** (TED) below the knee, and do at least 10 ankle motion exercises each hour to control swelling and to help prevent phlebitis (blood clots in the veins).

**OFFICE VISIT**

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

## **Rehabilitation After Patellar Tendon Debridement Surgery**

### **Phase one: 0 to 2 weeks after surgery**

This protocol is a guideline for your **rehabilitation after patellar debridement surgery**. You may vary in your ability to do these exercises and to progress from one phase to the other. Please call Dr. Gill's office if you are having a problem with your knee or if you need clarification of these instructions.

### **GOALS:**

1. Protect the healing patellar tendon
2. Ensure wound healing
3. Maintain full knee extension (knee straight)
4. Initiate active and passive knee flexion exercises
5. Decrease swelling in the knee and leg
6. Promote activation of the quadriceps muscle
7. Avoid blood pooling in the leg

### **ACTIVITIES:**

#### **1. BRACE/CRUTCHES**

Use the knee brace (immobilizer) when you get out of bed and walk. The brace is set for full extension (straight). You can put your full weight on your operated leg while wearing the immobilizer. You should use the crutches if you need extra support when you are walking. Do not step up or down stairs on the operated side.

#### **2. COLD APPLICATION (CRYOCUFF OPTIONAL)**

Fill the blue cryocuff by putting ice water in the container and elevating the container above the knee so the cold water runs into the cryocuff. Use the cryocuff for 20 minutes at a time whenever you want to, but especially after exercising. You can use the cryocuff as much as you like to cool the knee area. If you do not have a cryocuff, put ice into a plastic bag. Put a thin towel over the knee and apply the ice pack.

#### **3. WOUND CARE**

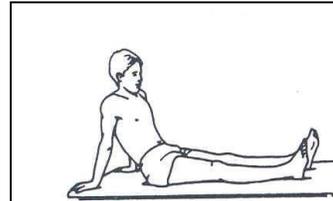
Remove your bandage on the second morning after surgery but leave on the small pieces of white tape (steri strips) that cross the incision. You can wrap an elastic bandage (ace) around the knee at other times to control swelling. You may now shower and get your incision wet, but do not soak the incision in a bathtub or Jacuzzi until the stitches have been removed.

#### 4. **ASPIRIN / ELASTIC STOCKINGS**

Continue to take an aspirin each morning (unless there is a reason not to take aspirin) to reduce the chance of developing phlebitis (blood clots). Wear an elastic stocking (TED) below the knee to reduce swelling. Do at least 10 ankle pump exercises (moving the foot up and down) each hour to help prevent phlebitis (blood clots in the veins).

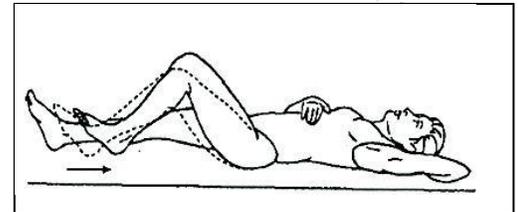
**QUADRICEPS SETTING** - to maintain muscle tone in the quadriceps (thigh) muscles and (extend) straighten the knee.

Lie on your back with the knee extended fully straight as illustrated. Tighten (contract) and hold the front thigh muscle (quadriceps) making the knee flat and straight. If done correctly, the kneecap will slide slightly upward toward the thigh muscles. The tightening action of the quadriceps muscles should make your knee straighten and be pushed flat against the bed or floor. Hold five seconds for each contraction. Do 20 repetitions at least three times a day.



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

While lying on your back, use your muscles to 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 20 times, three times a day.



**SITTING KNEE FLEXION** - to regain the bend (flexion)

While sitting in a chair or over the edge of your bed, support the operated leg with the uninvolved leg.

Lower the operated leg, with the unoperated leg controlling, allowing the knee to bend as far as you are comfortable.

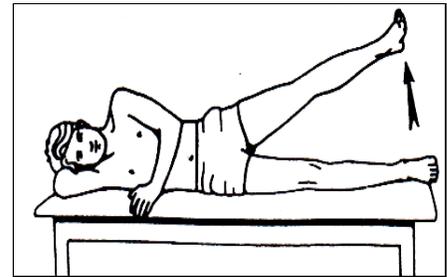
Hold five seconds and slowly relieve the stretch by lifting the foot upward, with the uninvolved leg, to the straight position (passive assist).

Repeat exercise 20 times, three times a day.



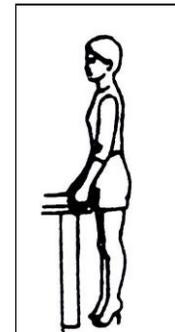


**HIP ABDUCTION** - lie on your unoperated side. Keep the knees fully extended. Raise the operated limb upward to a 45 degree angle as illustrated. Hold one second, then lower slowly. Repeat 20 times, once or twice a day

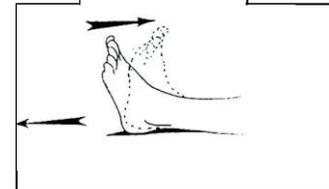


**STANDING TOE RAISES**

With the knee brace on, use a table for support and balance. 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.



**ANKLE PUMPS** - move your foot up and down at the ankle to stimulate circulation in the leg. You should do at least 10 ankle pump exercises each hour.



**OFFICE VISIT**

Please return to see Dr. Gill approximately six weeks after your surgery.

## Rehabilitation After Patellar Tendon Debridement Surgery

### Phase two: Two to six weeks after surgery

#### Goals:

1. Walk normally
2. Regain full motion
3. Regain full muscle strength

#### Activities:

1. You may discontinue the knee immobilizer when you feel safe walking without it.
2. Bear full weight and **walk** on the leg. Try to avoid limping and walk slowly but normally. Do not walk up or down stairs with your full weight at this time.
3. Continue to ice the knee if there is pain and swelling. Place a towel or cloth between the skin and the ice to prevent skin injury.

#### Exercise Program

The following exercise program will help you regain knee motion and strength. 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 to build strength. Start with one pound and add one pound per week until you reach five pounds.

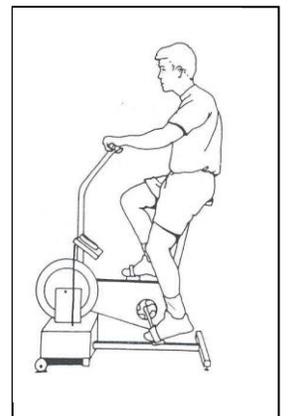
Do the exercises daily for the first week, then decrease to every other day when using ankle weights.

You may ride the stationary bicycle daily for 10 to 20 minutes. Avoid using stair-stepper machines, doing deep knee bends and squats or any exercise that causes crunching, clicking or pain at the kneecap.

#### **STATIONARY BICYCLE**

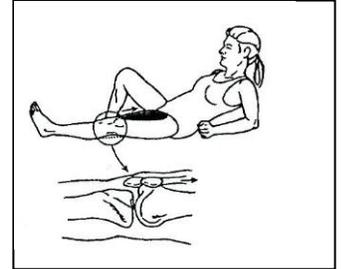
Utilize a stationary bicycle to move the knee joint and increase knee flexion.

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 10 to 20 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 ride the bicycle with your forefoot resting on the pedal.



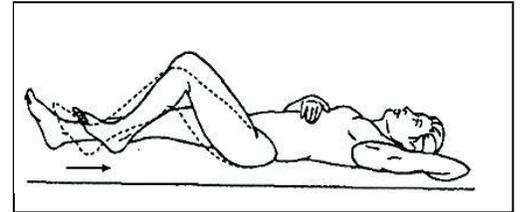
**QUADRICEPS SETTING - to maintain muscle tone in the thigh muscles and straighten the knee. See figure in phase 1.**

Lie on your back with the knee extended fully straight. 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 unoperated side.



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

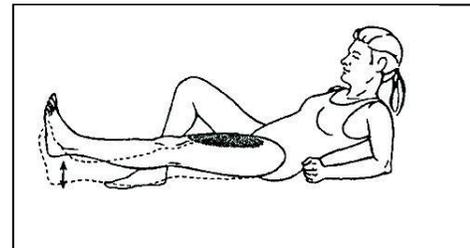
While lying on your back (figure), actively slide your heel backward to bend the knee. Keep bending the knee until you feel a stretch in the front of the knee. Hold this bent position for five seconds and then slowly relieve the stretch and straighten the knee. While the knee is straight, you may repeat the quadriceps setting exercise. Continue this exercise until you can fully bend your knee equal to the unoperated side. Repeat 20 times, three times a day.



**STRAIGHT LEG LIFT**

The quality of the muscle contraction in this exercise is what counts the most, not just the ability to lift the leg!

1. Tighten the quadriceps (quadriceps setting) as much as you can, push the back of the knee against the floor.
2. Tighten this muscle **harder!**
3. Lift your heel 4 to 6 inches off the floor
4. Tighten the quadriceps **harder again.**
5. Lower your leg and heel back to the floor. Keep the quadriceps as tight as possible.
6. Tighten this muscle **harder again.**
7. Relax and repeat .

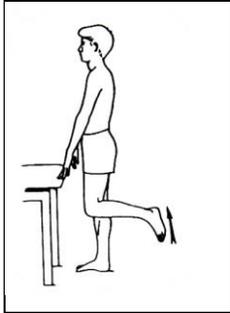
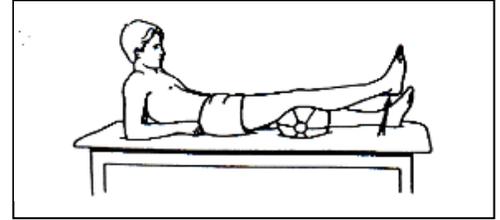


If the knee bends when you attempt to lift the limb off of the bed, do not do this exercise. Keep trying to do the quadriceps setting exercise until you can lift the limb without letting the knee bend.



### 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 five seconds, then slowly lower. Repeat 20 times.

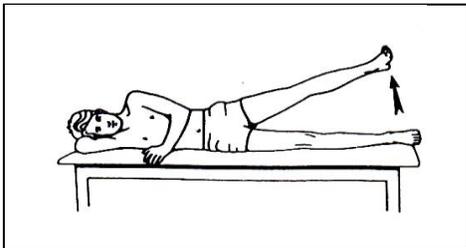
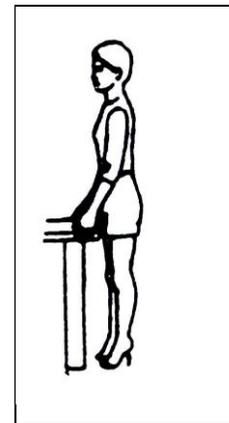


### STANDING HAMSTRING CURL

Stand facing a table, using the table 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 table, hands on the table 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.

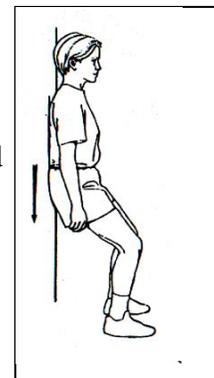


### HIP ABDUCTION

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.

### WALL SLIDES

Stand upright with your back and buttocks touching a wall. Place the feet about 12 inches apart and about 6 inches from the wall. Slowly lower your hips by bending the knees and slide down the wall until the knees are flexed about 45 degrees (illustration). Pause five seconds and then slowly slide back up to the upright starting position. Do 3 sets of 10 to 15 repetitions.





**BOSTON SPORTS  
MEDICINE**  
\_\_\_\_\_  
**& RESEARCH INSTITUTE**

**40 Allied Drive  
Dedham, MA 02026  
781-251-3535 (office)  
[www.bostonsportsmedicine.com](http://www.bostonsportsmedicine.com)**

OFFICE VISIT

Please set up an appointment to see Dr. Gill in 4 weeks (6 weeks after surgery).

## Rehabilitation After Patellar Tendon Debridement Surgery

### Phase two: Two to six weeks after surgery

#### Goals:

1. Walk normally
2. Regain full motion
3. Regain full muscle strength

#### Activities:

1. You may discontinue the knee immobilizer when you feel safe walking without it.
2. Bear full weight and **walk** on the leg. Try to avoid limping and walk slowly but normally. Do not walk up or down stairs with your full weight at this time.
3. Continue to ice the knee if there is pain and swelling. Place a towel or cloth between the skin and the ice to prevent skin injury.

#### Exercise Program

The following exercise program will help you regain knee motion and strength. 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 to build strength. Start with one pound and add one pound per week until you reach five pounds.

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

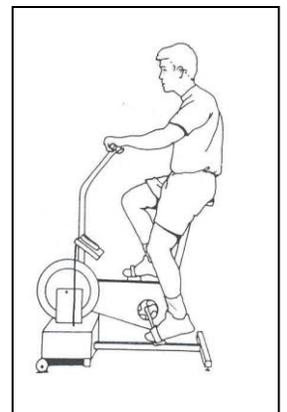
You may ride the stationary bicycle daily for 10 to 20 minutes.

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

#### STATIONARY BICYCLE

Utilize a stationary bicycle to move the knee joint and increase knee flexion.

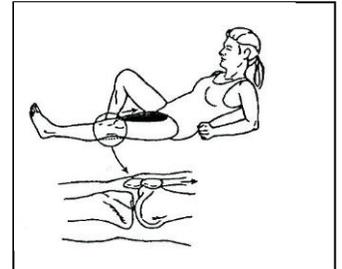
If you cannot pedal all the way around, then keep the foot of your operated leg on the pedal, and pedal back and forth until your knee will bend far enough to allow a full cycle. Most people are able to achieve a full cycle revolution backwards first, followed by forward. You may ride the cycle with no resistance for 10 to 20 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 ride the bicycle with your forefoot resting on the pedal.

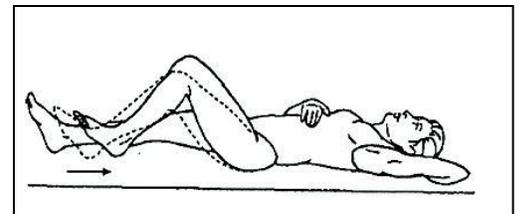
**QUADRICEPS SETTING - to maintain muscle tone in the thigh muscles and straighten the knee. See figure in phase 1.**

Lie on your back with the knee extended fully straight. 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 unoperated side.



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

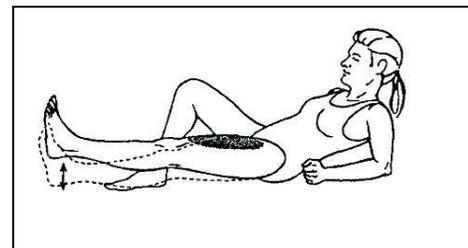
While lying on your back (figure), actively slide your heel backward to bend the knee. Keep bending the knee until you feel a stretch in the front of the knee. Hold this bent position for five seconds and then slowly relieve the stretch and straighten the knee. While the knee is straight, you may repeat the quadriceps setting exercise. Continue this exercise until you can fully bend your knee equal to the unoperated side. Repeat 20 times, three times a day.



**STRAIGHT LEG LIFT**

The quality of the muscle contraction in this exercise is what counts the most, not just the ability to lift the leg!

1. Tighten the quadriceps (quadriceps setting) as much as you can, push the back of the knee against the floor.
2. Tighten this muscle **harder!**
3. Lift your heel 4 to 6 inches off the floor
4. Tighten the quadriceps **harder again.**
5. Lower your leg and heel back to the floor. Keep the quadriceps as tight as possible.
6. Tighten this muscle **harder again.**
7. Relax and repeat .

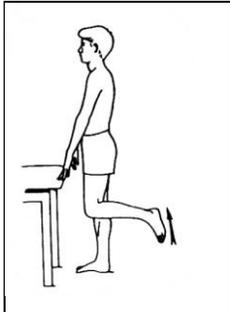
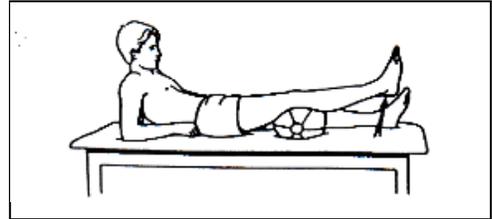


If the knee bends when you attempt to lift the limb off of the bed, do not do this exercise. Keep trying to do the quadriceps setting exercise until you can lift the limb without letting the knee bend.



### 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 five seconds, then slowly lower. Repeat 20 times.

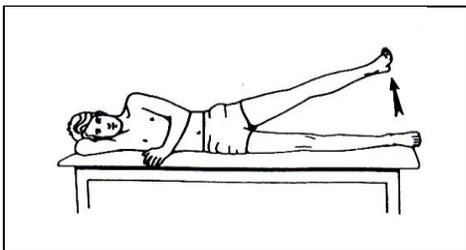
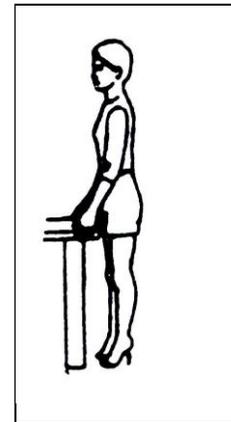


### STANDING HAMSTRING CURL

Stand facing a table, using the table 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 table, hands on the table 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.

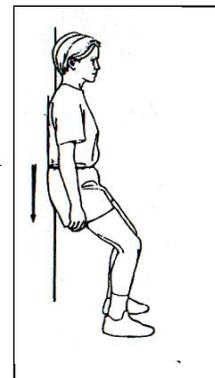


### HIP ABDUCTION

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.

### WALL SLIDES

Stand upright with your back and buttocks touching a wall. Place the feet about 12 inches apart and about 6 inches from the wall. Slowly lower your hips by bending the knees and slide down the wall until the knees are flexed about 45 degrees (illustration). Pause five seconds and then slowly slide back up to the upright starting position. Do 3 sets of 10 to 15 repetitions.





40 Allied Drive  
Dedham, MA 02026  
781-251-3535 (office)  
[www.bostonsportsmedicine.com](http://www.bostonsportsmedicine.com)

OFFICE VISIT

Please set up an appointment to see Dr. Gill in 4 weeks (6 weeks after surgery).

## Rehabilitation after Patellar Realignment

### Phase four: twelve weeks after surgery onward

#### ACTIVITIES

##### 1. Walking/Stairs

If you feel confident walking on the operated limb and have good strength and knee motion, you can walk up and down-stairs on the operated limb if it is not painful.

##### 2. Knee Support – for excess activities

Buy an elastic knee sleeve (made of neoprene rubber) at a sporting goods store. It should have an opening for the kneecap and velcro straps but does not need hinges on the sides. Use this support if you are on your feet for a prolonged period of time.

##### 3. Stationary Bicycle – good exercise

Utilize a stationary bicycle to both strengthen the thigh muscles and increase knee flexion. If you cannot yet 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. You may ride the cycle with mild resistance for up to 10 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.

##### 4. Swimming –good exercise

Swimming is good exercise at this time, if available.

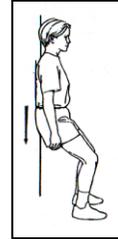
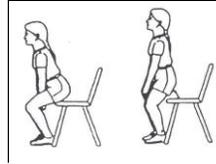
##### 5. Return to run progression

A gradual return to running can begin at this time with the approval of your doctor and physical therapist. The ‘Return to jog’ and ‘Return to run’ programs contained in this handout can serve as guidelines for safe return to running activities.

##### 6. Exercises

You should add the following exercises, every other day, as instructed by the physical therapist:

## CHAIR SQUAT



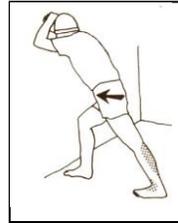
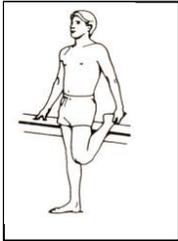
## WALL SLIDE

Continue these exercises from the previous phase.

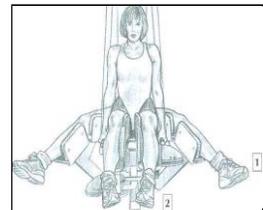
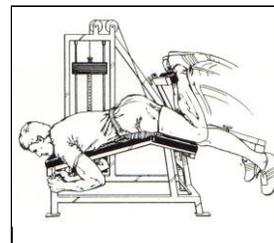
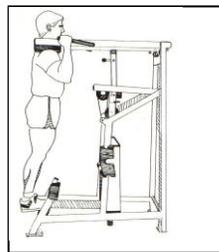
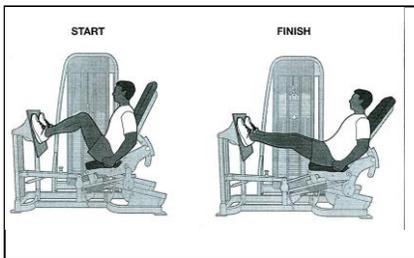
## ADVANCED SINGLE LEG STRENGTHENING PROGRESSION

Begin to follow the “Progression for Single Leg Strengthening” included in this packet if you are able to do the exercises without pain. The instructions estimate a time period of 10 to 12 weeks for you to progress through the whole program. This time line will vary for different people and knees, depending upon the presence of other knee problems. If these exercises cause pain or overload at the kneecap, you should not do them.

### Continue stretching exercises from phase 3:



### Continue optional weight training from phase 3:



### Phase 4 Exercise Program Summary:

Frequency: 3 times a week

Sets and repetitions: 3 sets of 15 repetitions

Exercises:

- Leg Press
- Hamstring Curl
- Wall Slides
- Roman Chair
- Chair Squat
- Calf Raises or Calf Raise machine
- Hip Abductor/Adductor machine
- Single leg strengthening progression
- Hamstring, Calf and Quadriceps stretching
- Quadriceps setting 20 repetitions, 3 times a day

### **Progression for Single Leg Strengthening**

#### **Step Up-Down exercise**

Start with a step of 3 inches in height

Start with 3 sets of 5 repetitions

Add one repetition per set, per workout, until you can do 3 sets of 10 ( about 2 weeks)

If pain free, progress to a step of 6 inches in height

Repeat progression starting with 3 sets of 5 repetitions

Add one repetition per set until you can do 3 set of 10 (about 2 weeks)

If pain free, progress to a step of 9 inches in height (the height of a standard stair)

Repeat process of progression from 3 sets of 5, to 3sets of 10 (about 2 weeks)

**Do not continue to raise the height of the step if there is pain or crepitus at the kneecap.**

At this point, you can begin to add the single leg wall slide exercise. The strength workouts should be practiced 3 times a week (every other day).

#### **Single Leg Wall Slide**

Start with 3 sets of 5 repetitions. Limit knee bend to 45 degrees.

Add one repetition per set, per workout, until you can do 3 sets of 10 (about 2 weeks minimum). **Progress to this exercise only if there is no pain or crepitus at the kneecap.**

At his point, you can begin to add the single leg squat exercise. The strength workouts should continue every other day at the most, with more time between workouts if the knee gets sore after a session. Continue doing the step-up exercise each workout. Alternate the workouts between the single leg wall slide and the single leg squat, e.g.,

Monday Single leg squat  
Wednesday Single leg wall slides  
Friday Single leg squat

### **Single Leg Squat**

Start with 3 sets of 5 repetitions. **Limit knee bend to 45 to 60 degrees.**  
Add one repetition per set, per workout, until you can do 3 sets of 10 (about 2 weeks minimum).

After working up to the point where you can do 3 sets of ten of all three drills, you can hold dumbbells to add resistance. Start with 3 pounds in each hand and add 1 to 2 pounds a week until you reach 10 pounds in each hand.

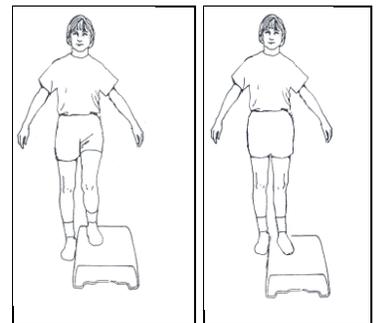
As you get stronger and gain better control of you leg muscles, try not to hold onto anything for balance.

When you return to sports or recreational activities, decrease the strength workouts to 2 times a week and do 1 set of 10 of each of the three drills only, as a maintenance workout.

### **Instructions for Single Leg Exercises**

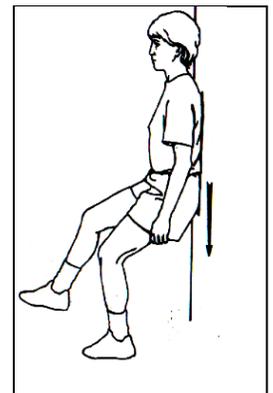
#### **Step Up- Down Exercise**

Place the foot of the operated limb on the stool. Maintain balance, if necessary, by holding onto the wall or chair (illustration). Standing **sideways** to the step, slowly step up onto the stool and slowly straighten the knee using the quadriceps muscles. Slowly lower the opposite foot to touch the floor. Do not land on the floor, just touch gently and repeat the step up



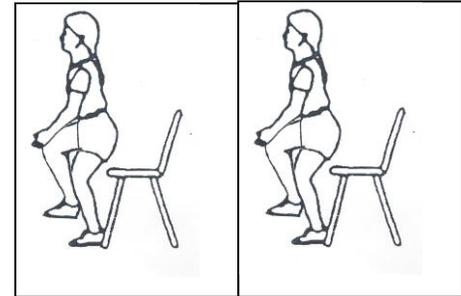
#### **Single Leg Wall Slide Exercise**

Stand on the single leg with your back and buttocks touching a wall. Place the foot about 6 inches from the wall. Slowly lower your body by bending the knee and slide down the wall until the knee is flexed about 45 degrees (illustration). Pause five seconds and then slowly slide back up to the upright starting position. Keep the hips level and be sure you are using your knee muscles to perform the exercise.



### Single Leg Squat Exercise

In the single leg squat exercise, you stand on the single leg and then lower your buttocks toward the chair. Slowly return to the standing and starting position. Remember to keep your head over your feet and bend at the waist as you descend. You do not have to squat all the way to the chair, instead, try to stay in a comfortable range of motion where there is no knee pain. As you gain strength, try to do the exercise without holding on to anything



### **Return to Walk/Run program**

#### General Instructions

1. Walking/jogging should be done no more than every other day.
2. The program should be performed step by step. Do not advance your program until you can successfully complete the initial step. Let pain and swelling be your guide. If the activity creates pain, swelling, or causes you to limp, go back to the previous step.
3. Before starting the program and after completion of the program allow 15 minutes to perform warm-up and gentle stretching exercises.
4. Cool down by gently stretching all muscle groups
5. Ice for 20 minutes after cool down stretching.

#### Phase 1

Day #1 - Walk 1/4 mile -- easy pace (1/2 speed)

Day #2 Walk 1/4 mile --(3/4 speed)

Day #3 - Walk 1/4 mile -- full speed - briskly

#### Phase 2:

Day #1 Walk 1/2 mile -- easy pace (1/2 speed)

Day #2 Walk 1/2 mile (3/4 speed)

Day #3 Walk 1/2 mile -- full speed - briskly

#### Phase 3:

Day #1 — Walk 3/4 mile-- (3/4 speed)

Day #2 — Walk 3/4 mile -- (full speed — briskly)

Day #3 — Walk 1 mile -- (comfortable pace — 3/4—full speed)

#### Phase 4:

Day #1 Jog 1/4 mile, Walk 3/4 mile, comfortable pace

Day #2 Jog 1/2 mile, Walk 1/2 mile, comfortable pace

Day #3 Jog 3/4 mile, Walk 1/4 mile, comfortable pace

Phase 5:

Day #1 Jog  $\frac{3}{4}$  mile, Walk  $\frac{1}{4}$  mile, comfortable pace

Day #2 Jog 1 mile

Day #3 Jog 1 mile

You can continue to increase distance by  $\frac{1}{4}$  mile per session until you reach your desired distance. When you have reached your training distance without causing any pain or swelling, and have a normal running form, you can gradually start to increase your running speed or progress to the "Return to sprint program".

**Return to Run Program**

**Warm-up and Stretch and Ice**

**Be careful to be sure that you warm-up well and stretch lightly before workouts, and stretch well again after workouts.** Generally, you should do some walking, cycling or jogging so that you break a sweat before starting the running program. You should **then** stretch **before** beginning the running drills. After completing the running drills, gently stretch all muscle groups as you cool down. Apply ice for 20 minutes after that

**The criteria to progress**

Do not progress to the next step in the progression until the present step is pain free.

**Frequency:** every other day or 3 to 4 times a week.

- DAY 1 Run  $\frac{1}{2}$  speed 100 yards, 10 repetitions  
2 No Run  
3 Repeat Day 1  
4 No Run  
5 Repeat Day 1  
6 Run  $\frac{3}{4}$  speed 100 yards, 10 repetitions  
7 No Run  
8 Repeat Day 6  
9 No Run  
10 Repeat Day 8  
11 No Run  
12 Run  $\frac{1}{2}$  speed, 100 yards, 3 repetitions  
Run  $\frac{3}{4}$  speed, 100 yards, 3 repetitions  
Run full-speed, 50 yards, 4 repetitions  
13 No Run



**BOSTON SPORTS  
MEDICINE**  

---

**& RESEARCH INSTITUTE**

**40 Allied Drive  
Dedham, MA 02026  
781-251-3535 (office)  
[www.bostonsportsmedicine.com](http://www.bostonsportsmedicine.com)**

14 -42 Continue workout from Day 12, adding one 50 yard run each workout until you can do (10) 50 yard full speed runs. This progression should take a minimum of 24 days (3 weeks, 3 days), but may take longer if pain or swelling occurs. Do not progress to the next step in the progression until the present step is pain free, without swelling.