

## **ADDUCTOR RELEASE FOR ATHLETIC GROIN PAIN**

### **THE INJURY**

The adductor muscles of the thigh connect the lower rim of the pelvic bone (pubis) to the thigh-bone (femur). These muscles exert high forces during activities such as soccer, hockey and football when powerful and explosive movements take place. High stresses are concentrated especially at the tendon of the adductor longus tendon where it attaches to the bone. This tendon can become irritated and inflamed and be the source of unrelenting pain in the groin area. Pain can also be felt in the lower abdomen.

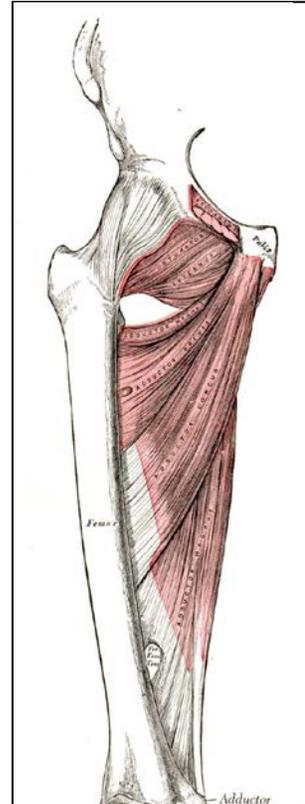
### **THE OPERATION**

Athletic groin pain due to chronic injury to the adductor longus muscle-tendon complex usually can be relieved by releasing the tendon where it attaches to the pubic bone. A small incision is made over the tendon attachment and the tendon is cut, or released from its attachment to the bone. The tendon retracts distally and heals to the surrounding tissues. The groin pain is usually relieved since the injured tendon is no longer anchored to the bone.

It takes several weeks for the area to heal. Athletes can often return to full competition after a period of 8-12 weeks of rehabilitation, but it may take a longer period of time to regain full strength and function.

### **RISKS OF SURGERY AND RESULTS**

As with any operation, there are potential risks and possible complications. These are rare, and precautions are taken to avoid problems. The spermatic cord (in males) is close to the operative area, but it is rarely at risk. There is a small chance for bleeding in the area. There is a small (less than 1%) risk of infection after surgery. The success rate of adductor release surgery is high if the pain is coming from the adductor longus tendon. Pain can also come from an associated lower abdominal strain, which may require additional (or concomitant) surgery. If the adductor is painful on only one side, occasionally the other side can also be strained and become painful.



## **ADDUCTOR TENDON RELEASE PREOPERATIVE INSTRUCTIONS**

### Within one month of surgery

- Preoperative office visit for history and physical examination and instructions
- Complete blood count (CBC) if indicated
- Electrocardiogram (EKG) if indicated

### Within several days of surgery

- Wash the upper thigh and groin area well with soap or Hibiclens
- Be careful of the skin to avoid sunburn, poison ivy, rashes, etc.

### The day before surgery

- Check with the doctor's office for your time to report to the surgical unit the next day.
- **HAVE NOTHING TO EAT OR DRINK AFTER MIDNIGHT.** If surgery will be done in the afternoon, you can have **clear liquids only** up to **six hours** before surgery but no milk or food.

### The day of surgery

- Nothing to eat or drink
- You probably will be able to go home shortly after surgery.
- Bring crutches if they were provided prior to surgery.
- You will wake up in the operating room and be taken to the recovery room. A sterile dressing will be in place and your legs will be stretched out to the sides. You should keep the legs stretched out to the sides (abducted) continuously for the first two or three days after surgery (starting in the recovery room). An ice pack will be applied to the groin area to reduce pain and swelling.
- When you have fully recovered from anesthesia (usually in 1-2 hours), you can go home.



**ADDUCTOR TENDON RELEASE  
POST-OPERATIVE INSTRUCTIONS**

**Phase One: First week after surgery**

There is often no need for crutches but you may have some discomfort walking. At home, keep your legs widely separated/abducted while lying down or sitting. Put several pillows between your knees to keep your knees spread widely apart. Remove the outer dressing on the second day after surgery and shower. Leave the little pieces of tape (steri-strips) in place. You can get the wound wet, but do not soak in a tub.

After you are up and around (two or three days after surgery) continue to stretch the legs into wide abduction at least every two or three hours when awake. When sleeping, keep pillows between the legs to keep them apart.

**Office Visit**

You should set up a follow up appointment in Dr. Gill's office 10-14 days following surgery.

## **REHABILITATION AFTER ADDUCTOR RELEASE SURGERY**

**Phase Two: from the second through the fourth week after surgery**

### **GOALS:**

1. Ensure wound healing
2. Keep adductor muscles stretched as much as possible
3. Prevent excess scarring
4. Improve flexibility of the adductor muscles

### **ACTIVITIES**

1. Apply ice to the groin area as tolerated to reduce pain and swelling.  
Protect the testicles from too much cold.
2. You may walk for short distances as tolerated. You may ride a stationary cycle for ten minute periods as tolerated. You should not run, jump or participate in sports yet.

### **EXERCISE PROGRAM**

**The following exercise program should begin at one week after surgery. Start with stretching exercises and over the next week, add muscle-strengthening exercises. Do the exercises 1 to 2 times per day. Ride a stationary cycle for 10 to 20 minutes to warm-up prior to stretching. Let pain be your guide as to how far to stretch. As time goes on and healing occurs, you can stretch further. Apply ice to the adductor area for 10 to 15 minutes following the exercises to reduce pain and swelling.**

#### **Stretching Exercises**

The following stretches are illustrated and described in the back of the handout. Hold each stretch for 15 to 30 seconds. Do 3 to 5 of each, 2 times a day.

Standing spread

Sitting split

Butterfly spread

Standing hip flexor

Floor hip flexor

Rectus femoris

Hamstring

Piriformis

Single knee to chest

Double knee to chest

Quadriceps and knee flexion

### **Strengthening exercises**

**The following exercises can begin, as tolerated during the second week after surgery. Do 20 repetitions of each exercise. The exercises are described and illustrated in the back of the handout.**

Standing abduction  
Alternating hip rotations  
Straight leg raises

Alternating toe-hand touches  
Toe touches  
Straight leg sit-up

## **REHABILITATION AFTER ADDUCTOR RELEASE SURGERY**

**Phase Three: from the fifth through the seventh week after surgery**

### **GOALS:**

5. Begin exercises against some resistance
6. Keep adductor muscles stretched and flexible
7. Start a walking program and progress to running
8. Improve flexibility all lower extremity muscles

### **ACTIVITIES:**

#### **Exercises**

Continue the stretches from phase one two times a day. Each stretch can be done 3 to 5 times each with a 15 to 30 second hold. Generally, you should do some walking or cycling so that you break a sweat before you stretch. After stretching, do the strengthening exercises, and then stretch again as you are cooling down. Ice for 20 minutes after completing the exercise program. Strengthening exercises can be done on an every-other-day basis. The strengthening exercises from phase one can now be done as part of your warm-up routine. Stationary cycle can continue with light resistance on a daily basis for 20 to 40 minutes.

#### **Theraband exercises**

Exercises using rubber tubing as resistance can gradually begin at this time. These exercises should be done slowly for sets of 20 to 30 repetitions, every other day. The strength of the rubber tubing can be gradually increased each week if there is no pain.

#### **Weight training exercises**

Exercises using weight training equipment can begin at this time in certain athletic training applications. As the starting weight for these exercises, use an amount of weight that feels easy enough to perform 20 repetitions. Use this weight for the first week before raising the weight. The weight may be increased by about 5 pounds every 7 to 10 days thereafter, as long as you can perform 20 repetitions per set for 3 sets. Weight training can be done three times a week. Do the theraband exercises before the weight training as a warm up activity.

The following weight training machines can be used at this time:

Leg press  
Calf machine  
Roman chair

Hamstring curl  
Quadriceps extension

## **Progression from walking to jogging**

The progression to help you return to running is attached in the back of this handout. A gradual transition from walking to jogging needs to be achieved before returning to full speed running. This program can be followed three times a week, on the days when you are not doing the theraband or weight training exercises.

## **Progression from walking to jogging**

### General Instructions

1. Walking/jogging should be done no more than three times a week.
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 stretching exercises.
4. Ice the injured area for 20 minutes after 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 3/4 mile, Walk 1/4 mile, comfortable pace  
Day #2 Jog 1 mile  
Day #3 Jog 1 mile



For distance runners, 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.

When progressing after phase 5, running should be limited to 3 to 4 times per week with rest days in between run days. You should follow “periodized” training approach which utilizes the Heavy- Light- Medium format. For example, if your usual long run is 8 miles, then your “Heavy” run is 8 miles. If you are running three times per week, then your run distances would be:

Day 1: Heavy:	8 miles
Day 2: Light:	4 miles
Day 3: Medium:	6 miles

This approach will help prevent over-training and subsequent injury. Athletes returning to sprinting and cutting sports should progress to the Return to sports running Program, which is upcoming in phase 4 of the protocol.

## **REHABILITATION AFTER ADDUCTOR RELEASE SURGERY**

### **Phase Four: From the eighth week after surgery onward**

#### **GOALS:**

9. Safely return to full sports participation

#### **ACTIVITIES**

1. Continue using the stationary bicycle or elliptical trainer as a warm-up prior to exercising.
10. Continue strengthening exercises from phase 3 on a 2 to 3 times a week basis for 3 sets of 10 to 15 repetitions per set.
11. Continue stretching exercises before and after workouts.

#### **EXERCISE PROGRAM**

**You can now add the Hip abductor-adductor weight-training machine and resisted hip flexion machine to the strengthening workout. Illustrations of these exercises are in the back of the handout.**

Return to Running and Sports

**If you have completed all of the to steps in the ‘return walk-jog program’ from phase 3, you can now begin the ‘return to sports running program’ (attached to the back of this handout.). If you follow this program in a step-by-step fashion, you should be able to safely return to running sports successfully.**

After returning to sports participation:

- 1. Continue the strengthening program two times a week for 2 sets of 10 to 15 repetitions.**
- 2. Continue stretching program before and after workouts, practice and games.**
- 3. Ice after workouts (after cooling down by stretching).**
- 4. Use the final step of the sports running program to warm up prior to practice and games.**

### Overview of Rehabilitation after Adductor Release Surgery

Post-op Phase	ROM and Stretching	Strength training	Return to running and sports	Recommended Restrictions
<b>Phase One</b> The first week after surgery	Active ROM exercises Stretch thighs apart Pillows between knees for sleep	none	none	Wound care Avoid excessive walking
<b>Phase Two</b> Two to four weeks after surgery	Full Rom Stretch adductors and all muscle groups  Stationary bike	Active ROM exercises  Strength training for uninvolved muscle groups	Walking	Elliptical OK.
<b>Phase 3</b> Five to seven weeks after surgery	Progressive	Theraband resistance for hip muscles Leg press, knee extension, hamstring, calf and roman chair machines	Start walk/jog progression	Progress as tolerated
<b>Phase 4</b> Eight weeks after surgery onward	Progressive	Add resisted hip motions on cable pullies or multi-hip machine, hip abductor/adductor machine	Progressive run, agility, jump training	Progress as tolerated