

# HOFFA'S DISEASE

## (Infrapatellar Fat Pad Syndrome)



### ■ ■ ■ Description

Hoffa's disease is characterized by a pinching of the fatty tissue below the kneecap (patella) between the end of the thigh bone (femur) and the leg bone (tibia). The fat pad protects the patellar tendon from scarring to or getting stuck on the leg bone below the knee. Sometimes this fat can get pinched or injured, resulting in inflammation that causes the fat pad to be repeatedly pinched.

### ■ ■ ■ Common Signs and Symptoms

- Pain below the patella, worsened by physical activity, including sports or when completely straightening the knee
- Swelling of the knee (occasionally)
- Tenderness and swelling (occasionally) on either side of the patellar tendon

### ■ ■ ■ Causes

Hoffa's disease is caused by direct injury to the knee or repeated injury to the fat pad below the patella during activities that require maximal bending or straightening of the knee. The fat pad becomes caught and pinched between the end of the femur and the upper part of the tibia.

### ■ ■ ■ Risk Increases With

- Sports that require repeated, forceful straightening or bending of the knee (such as kicking or jumping)
- Repeated injuries to the knee
- Sports in which the knee may receive direct injury (volleyball, soccer, football) or those that require prolonged kneeling

### ■ ■ ■ Preventive Measures

- Maintain appropriate conditioning:
  - Knee flexibility
  - Muscle strength and endurance
- Wear proper padding to reduce direct injury to the fat pad.
- Allow a complete recovery before returning to sports.

### ■ ■ ■ Expected Outcome

Usually there is complete recovery with proper treatment.

### ■ ■ ■ Possible Complications

- Frequent recurrence of symptoms, resulting in chronically inflamed tissue and eventually resulting in a chronic problem
- Disability severe enough to diminish an athlete's competitive ability
- Delayed healing or resolution of symptoms, particularly if activity is resumed too soon
- Risks of surgery, including infection, bleeding, injury to nerves (numbness, weakness, paralysis), continued pain and pinching of the fat pad, and rupture of the patellar tendon

### ■ ■ ■ General Treatment Considerations

Initial treatment consists of medications and ice to relieve pain and reduce inflammation, stretching and strengthening exercises, and modification of the activity that produces the symptoms. These may be carried out at home, although occasionally referral to a physical therapist or athletic trainer may be indicated. Occasionally your physician may recommend an injection of cortisone to reduce the inflamed tissue that is repeatedly getting pinched. Your physician may also recommend a heel lift for your shoes to help prevent complete straightening of the knee (and thus reduce pinching of the fat pad). Surgery is not usually necessary; it is usually reserved for cases in which symptoms persist despite conservative treatment. Surgery is usually done arthroscopically to remove the inflamed tissues or chronic scar tissue.

### ■ ■ ■ Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Topical ointments may be of benefit.
- Stronger pain relievers may be prescribed as necessary by your physician, usually only after surgery. Use only as directed and only as much as you need.
- Injections of corticosteroids may be given to reduce inflammation, although not usually for acute injuries.

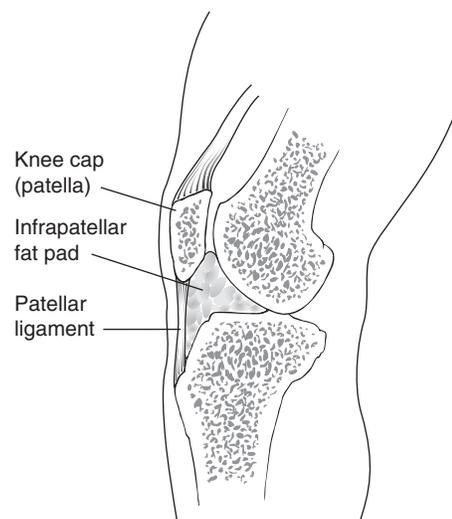


Figure 1

### ■ ■ ■ Heat and Cold

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. Cold should be applied for 10 to 15 minutes every 2 to 3 hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

### ■ ■ ■ Notify Our Office If

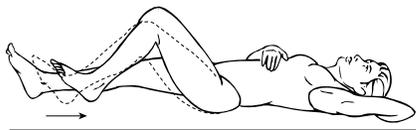
- Symptoms get worse or do not improve in 2 weeks despite treatment
- Any of the following occur after surgery:
  - Pain, numbness, or coldness in the foot and ankle
  - Blue, gray, or dusky color appears in the toenails
  - Increased pain, swelling, redness, drainage, or bleeding in the surgical area
  - Signs of infection (headache, muscle aches, dizziness, or a general ill feeling with fever)
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

## EXERCISES

### ➤ RANGE OF MOTION AND STRETCHING EXERCISES • Hoffa's Disease (Infrapatellar Fat Pad Syndrome)

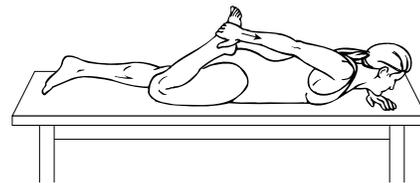
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. If any of these exercises causes pain or discomfort, consult your physician, physical therapist, or athletic trainer. Please remember:

- Flexible tissue is more tolerant of the stresses placed on it during activities.
- Each stretch should be held for 20 to 30 seconds.
- A *gentle* stretching sensation should be felt.



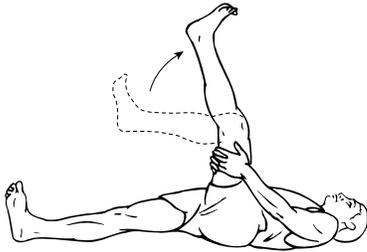
### RANGE OF MOTION • Knee Flexion

1. Lie on your back with your legs out straight.
2. Slowly slide your heel toward your buttocks. Bend your knee as far as is comfortable to get a stretching sensation.
3. Hold for \_\_\_\_\_ seconds.
4. Return your leg to the starting position.
5. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



### STRETCH • Quadriceps, Prone

1. Lie on your stomach as shown.
2. Bend your knee, grasping your toes, foot, or ankle. If you are too "tight" to do this, loop a belt or towel around your ankle and grasp that.
3. Pull your heel toward your buttock until you feel a stretching sensation in the front of your thigh.
4. Keep your knees together.
5. Hold this position for \_\_\_\_\_ seconds.
6. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



**FLEXIBILITY • Hamstrings**

1. Lie on your back with your leg bent and both hands holding on to it behind the thigh as shown.
2. Your hip should be bent to **90 degrees** and the thigh pointing straight at the ceiling.
3. Straighten out your knee as far as you can. Keep your thigh pointing straight toward the ceiling.
4. Keep the other leg flat on the floor.
5. Hold this position for \_\_\_\_\_ seconds.
6. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



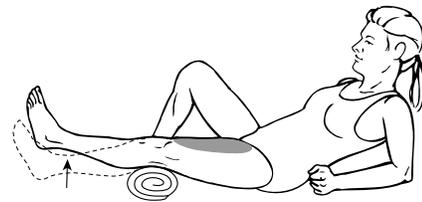
**FLEXIBILITY • Hamstrings, Ballet**

1. Stand and prop the leg you are stretching on a chair, table, or other stable object.
2. Place both hands on the outside of the leg you are stretching.
3. Make sure that your hips/pelvis are also facing the leg you are stretching.
4. Slide your hands down the outside of your leg.
5. Lead with your chest/breast bone. Keep your chest upright and back straight. Do not hunch over at the shoulders. Keep your toes pointing up.
6. You should feel a stretch in the back of your thigh.
7. Hold this position for \_\_\_\_\_ seconds.
8. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.

➤ **STRENGTHENING EXERCISES • Hoffa's Disease (Infrapatellar Fat Pad Syndrome)**

These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Strong muscles with good endurance tolerate stress better.
- Do the exercises as *initially* prescribed by your physician, physical therapist, or athletic trainer. Progress slowly with each exercise, gradually increasing the number of repetitions and weight used under their guidance.

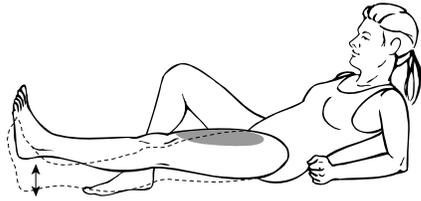


**STRENGTH • Quadriceps, Short Arcs**

1. Lie flat or sit with your leg straight.
2. Place a \_\_\_\_\_ inch roll under your knee, allowing it to bend.
3. Tighten the muscle in the front of your knee as much as you can, and lift your heel off the floor.
4. Hold this position for \_\_\_\_\_ seconds.
5. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.

**Additional Weights: OK TO USE DO NOT USE!!!**

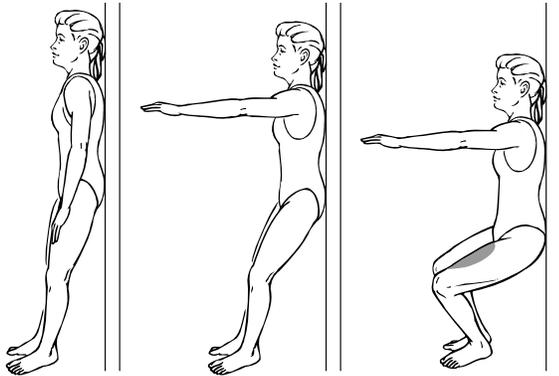
**If okay'd by your physician, physical therapist, or athletic trainer, a \_\_\_\_\_ pound weight may be placed around your ankle for additional weight.**



### STRENGTH • Quadriceps, 7 Count

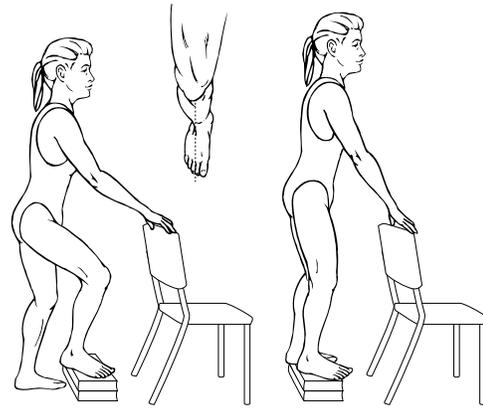
The quality of the muscle contraction in this exercise is what counts the most, not just the ability to lift your leg!

1. Tighten the muscle in front of your thigh as much as you can, pushing the back of your knee flat against the floor.
2. Tighten this muscle **harder**.
3. Lift your leg/heel 4 to 6 inches off the floor.
4. Tighten this muscle **harder again**.
5. Lower your leg/heel back to the floor. Keep the muscle in front of your thigh as tight as possible.
6. Tighten this muscle **harder again**.
7. Relax.
8. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



### STRENGTH • Quadriceps, Wall Slide

1. Stand with your back against the wall. Your feet should be shoulder-width apart and approximately 18 to 24 inches away from the wall. Your kneecaps should be in line with the tip of your shoes or your second toe.
2. Slowly slide down the wall so that there is a \_\_\_\_\_ degree bend in your knees. (*Your physician, physical therapist, or athletic trainer will instruct you how to progress the amount of bend based on your symptoms and diagnosis.*)
3. Hold this position for \_\_\_\_\_ seconds. Stand up and rest for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



### STRENGTH • Quadriceps, Step-Ups

1. Use a step or books.
2. Place your foot on the step or books approximately \_\_\_\_\_ inches in height. Make sure that your kneecap is in line with the tip of your shoe or your second toe.
3. Hold on to a hand rail, chair, wall, or another object for balance if needed.
4. Slowly step up and down. Make sure that the kneecap is always in line with the tip of your shoe or your second toe. Lightly touch the heel of the opposite leg to the floor and return to the starting position.
5. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.

Notes:

(Up to 4400 characters only)

Notes and suggestions