

Patient Information:

## Knee Injury

- Types of Knee Injuries
- Quick Treatment: Knee Pain
- RICE System
- Rehabilitation Exercises
- Returning To Normal Activity

### TYPES OF KNEE INJURIES:

Knee injuries can be acute or chronic in nature. A direct blow or twisting of the knee accounts for most acute injuries.

Chronic problems arise from overuse of the joint and often involve the surrounding ligaments or tendons. These problems are likely when pain develops gradually or discomfort is recurrent over a period of time.

Chronic problems are often triggered by prior injuries, especially if original injury was not allowed to heal completely. Certain activities, such as contact sports or any repetitive movements involving the knee can increase risk for injury.

### TREATING KNEE PAIN:

The events preceding injury or pain development will help determine appropriate treatment and rehabilitation.

- ☑ When pain develops suddenly or is a result of direct trauma, stop all strenuous use of the affected knee to prevent aggravation of injury that may increase damage and delay healing.
- ☑ If walking is difficult or if knee movement is limited, evaluation by health care provider is suggested.
- ☑ Depending upon severity of injury an X-ray or other imaging study may be needed.
- ☑ Under most circumstances applying the **RICE** system is appropriate and can even accelerate your healing.
- ☑ Severity of injury will determine if crutches, knee brace or other stabilization device will be required. The type of injury will dictate length of recovery and need for walking aids.

### RICE SYSTEM

**R = Rest.** Initially, rest the joint by avoiding activities that use or place weight on the joint.

**I = Ice.** Wrap sealed ice bag in towel and apply to injury as soon as possible. Keep on injury for 20 minutes and

repeat every 2-3 hours for the first 48 to 72 hours. This will help reduce swelling and pain.

**C = Compression.** Use elastic bandage over the injured joint to reduce swelling. The bandage should provide a snug compression, but not restrict movement or blood flow. Remove compression bandages at night while sleeping.

**E = Elevation.** Elevate injured part above level of heart for best results. As swelling reduces it may be necessary to adjust compression bandage. Consistent elevation will accelerate healing process.

### QUICK TREATMENT : Knee Pain


- ☑ If you suspect injury, **stop activity** or reduce use.
- ☑ Apply **RICE** system.
- ☑ Rest the injury as much as possible, especially the first 2-3 days.
- ☑ If pain is severe at time of injury or you can't move your knee, visit a health care provider as soon as possible.


As pain and swelling improve allowing more comfortable use of the joint gradually resume normal activities; only if it doesn't cause significant discomfort. *During this phase of recovery, exercise with caution to prevent re-injury.* Appropriate, slow, gradual rehabilitation will reduce healing time and help prevent re-injury.


# Knee Injury Rehabilitation Exercises


## REHABILITATION EXERCISES

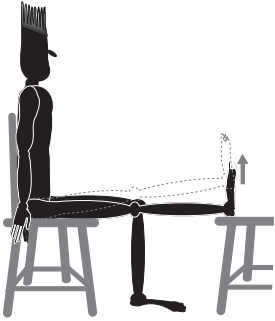
- ☑ **RECOVERY TAKES TIME.**
- ☑ Rehabilitation may take weeks or even months depending on severity of injury. The severity of the injury will dictate recovery time. Slow, gradual rehabilitation will reduce healing time and prevent re-injury.
- ☑ As affected area begins to heal gradually resume normal activity, but only if it doesn't cause significant discomfort.
- ☑ Rehabilitation exercises are critical for recovery process. Here are some general exercises that will strengthen muscles surrounding the injured knee and promote flexibility without excessive stress to the injured joint.
- ☑ **HELPFUL HINT:** Take deep even breaths while completing stretches and concentrate on the exercises with slow steady movements.


Calf Stretch		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Lean onto wall with both hands. Lunge one leg forward while keeping the back leg straight. You should feel the stretch in the calf muscle of the STRAIGHT leg. Repeat with opposite leg.</p>		

Quad Stretch		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Slowly pull knee backward while holding leg above ankle with the hand of the same side. Feel a stretch in the front part of your thigh. You may hold onto a chair with other hand to keep your balance.</p>		


Step-Up		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Step up with injured leg, followed by good leg. Next, step down with good leg followed by injured leg. Start with a 2-inch step and increase to 4 and then 6 inches as long as exercise does not cause pain.</p>		

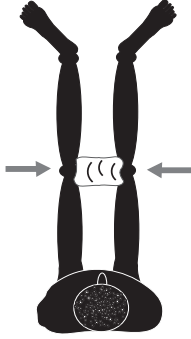
Lateral Step-Up		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Repeat the same instructions stated in "STEP 3," but this time step laterally. In other words, side step up and side step down. Repeat exercise with opposite leg.</p>		


Leg Raise		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Sit in a chair. Extend one leg to rest on chair in front of you. Raise extended leg upward just a few inches and hold briefly. Relax leg between reps. Complete 1-3 sets before repeating exercise with opposite leg.</p>		


Hamstring Stretch		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Bend one knee to rest on chair while keeping back leg straight. Lean forward slowly. You should feel a stretch in the back part of thigh.</p>		


# Knee Injury Rehabilitation Exercises (con't.)

Upper Thigh Strength		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Roll-up a small towel and place under injured knee. Gently press back of knee against towel for FIVE seconds while tightening the thigh muscles. Exercise should not cause pain.</p>		

Inner Thigh Strength		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Place rolled towel between knees of extended legs. Squeeze the towel by bringing thighs together and hold for FIVE seconds.</p>		

Hamstring Strength		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Lay on stomach with head rested on folded arms. Bend one knee toward buttocks. Tighten the back of your thigh resisting your own motion. Repeat exercise with opposite leg.</p>		

Buttocks/Hip Strength		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Lay on stomach with head rested on folded arms. Keep both legs straight and then lift one upward 4-5 inches while tightening your buttocks. Be careful not to arch your back during exercise. Repeat exercise with opposite leg.</p>		

Outer Thigh/Hip Strength		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Lay on side keeping legs straight. Raise top leg toward ceiling while bottom leg stays flat against floor. Keep toes pointed straight ahead. Repeat with opposite leg.</p>		

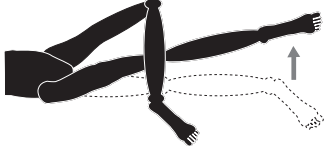
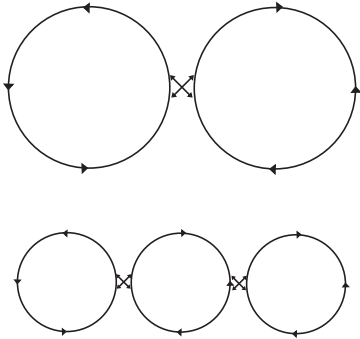
Inner Thigh/Hip Strength		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Lay on side and keep legs straight. Take the top leg and bend the knee placing foot in front of other leg. Next, lift straight leg upward 5-6 inches. Return leg to floor. Turn to other side and repeat exercise with opposite leg.</p>		

Figure 8		
Perform if checked	# of REPS	# of SETS
	5-10	1-3
		
<p><b>EXERCISE:</b> Walk or jog in large "figure 8" pattern and slowly progress to smaller circles as able. As injury heals you should be able to increase speed and reduce circle pattern size without pain.</p>		

# Knee Injury

## GENERAL GUIDELINES:

### Prior to Returning to Normal Activity:

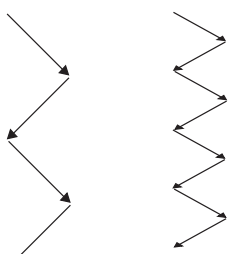
- ☑ Knee swelling should be resolved or almost resolved before resuming full activity.
- ☑ Full mobility (movement) has returned to knee.
- ☑ Pain should have resolved or be MINIMAL.
- ☑ Injured knee should regain normal strength and be comparable to uninjured knee.
- ☑ Apply **pass or fail tests** before returning to sport activity.

## BEFORE RETURNING TO SPORT ACTIVITY:

### Apply These Pass or Fail Tests

If you are able to complete these tasks, you are less likely to cause re-injury. Remember these are guidelines, NOT guarantees.

**PASS or FAIL Tests**  
**GOAL = PASS ALL FIVE**

- 1** JOG WITHOUT LIMPING
- 2** RUN WITHOUT LIMPING
- 3** SPRINT AND CUT TO THE RIGHT. REPEAT AND CUT TO THE LEFT. YOU SHOULD NOT BE COMPENSATING WITH GOOD KNEE.  

- 4** JUMP UP AND DOWN ON BOTH LEGS 5-10 TIMES.
- 5** HOP ONLY ON INJURED KNEE 5-10 TIMES

**CONSULT YOUR HEALTHCARE PROVIDER IF KNEE INJURY FAILS TO IMPROVE.**