

## MCL Sprain

Medial Collateral Ligament (MCL) injuries are one of the most common knee injuries in an athletic population. Injury to the MCL is common in sports such as hockey, skiing and football. The MCL is most commonly injured by a blow to the outside of the thigh and are almost always treated non-operatively. Hinged knee braces are required for proper rehabilitation and crutches may be used initially to assist with pain control. The diagnosis of an MCL sprain is based on clinical findings and can be enhanced with imaging such as ultrasound or MRI.

### Key Points To Rehabilitation

- Exercises can be started right after injury
- Crutches are used for pain control and are no longer needed when you can walk without a limp
- Rehabilitation is goal based rather than timeline based
- A hinged knee brace should be used when returning to sport as the knee can feel "vulnerable" even after tissue healing timelines have passed

### Guiding Principals Of Exercise:

#### Decreasing Muscle Tone

With this injury, muscles around the knee may become tight in an attempt to protect the injury leading to increased muscle tone. Self

massage and gentle stretching can be beneficial in decreasing muscle tone.

### Progressive Strengthening

Strength exercises can be started immediately after injury and initially will focus on maintaining strength and improving muscle activation. Muscles around injuries will not usually work as efficiently as their pre injured state so even though exercises are started immediately, there will be a minor deficit in strength and function. Once strength improves and the healing process has progress, dynamic exercises will be added which will involve jumping and lateral movements.

### Gradual Return To Activity

It is very important to return to activity gradually while still monitoring symptoms. You may find that even after the healing process is complete, you still want to wear their brace when completing more complex movements or during their sports as the knee may still feel uneasy. Weekly progressions of 10% can be made as long as there is no return of symptoms.

### Equipment Needed:

- Brace (ROM)
- Return To Play Brace
- Theraband (@G23 Store) [Click here to order](#)
- Exercise Ball

## Level 1

### Potential Inclusion Criteria:

- Pain on the inside of the knee
- Swelling
- Instability or feeling uneasy with side to side movements

### Goals:

- Protect ligament healing
- Decrease pain and swelling
- Restore quad activation
- Try to maintain as much pre injury strength and cardiovascular endurance as possible

### Requirements For Progression:

- Quad activation
- Walking unassisted without a limp
- Swelling and pain are controlled
- Direction from your physician to progress range of motion

### Aerobic Exercise:

Avoid Running, Jumping or any exercise that provokes symptoms. Continue exercise with non-weight bearing activities such cycling if tolerated.

## 1. Knee Extension Concentric (Band)

Sets: 2 | Reps: 15 | Frequency: 2 x Daily

### Preparation:

- Sit in a chair with good posture

### Execution:

- Straighten your knee as far as is comfortable, do not push through pain



Start Position



Straighten Knee

## 2. Clamshell

Sets: 2 | Reps: 15 | Frequency: 2 x Daily

### Preparation:

- Lie on your side with your hips at 45 degrees and your knees bent to 90 degrees.
- Your heels are in line with your buttocks.
- Tilt your hips forward towards the ground slightly.

### Execution:

- Lift your knees apart (like a clam opening)



Start position



Lift knees apart

### 3. Straight Leg Raise | End Range

Sets: 2 | Reps: 15 | Frequency: 2 x Daily

#### Preparation:

- Sit on the ground with your legs stretched out in front of you. Support yourself by placing your hands behind your hips
- Bend your uninvolved knee to 90 degrees, foot flat on the ground
- Perform in your Brace

#### Execution:

- Keeping your knee straight, lift your foot about 10 inches off the ground
- Gently lower your foot back to the ground



Prop up on hands



Lift leg

### 4. Ankle Plantar Flexion Concentric (Band)

Sets: 2 | Reps: 15 | Frequency: 2 x Daily

#### Preparation:

- Sit with your leg straight in front of you, elastic band around your foot

#### Execution:

- Point your toes away from you against the resistance



Loop tubing/band around foot



Point toes against resistance

### 5. Wall Squat (Ball)

Sets: 2 | Reps: 15 | Frequency: 2 x Daily

#### Preparation:

- Place exercise ball against wall

#### Execution:

- Perform a squatting motion, sliding down the ball
- Rise up, straightening at the hip



Lean against ball, Feet one stride length forward



Squat to desired depth

## Helpful Hint

Record your progress in the G23 exercise logbook ([Link](#)) and bring it to your next appointment as your doctor or physiotherapist will ask to review it.

## Level 2

When Do I Start Level 2?

- Completed level 1 goals
- Able to tolerate 3 sets x 8 reps without significant increase in knee pain

Goals:

- Full knee ROM
- Protect ligament healing
- Try to maintain as much pre injury strength and cardiovascular endurance as possible

Requirements For Progression:

- Able to do a straight leg raise in full extension
- Ride stationary bike with little to no pain

Aerobic Exercise:

Avoid Running, Jumping or any exercise that provokes symptoms. Continue exercise with non-weight bearing activities such as swimming or cycling if tolerated.

### 1. Knee Extension Stretch| Knee Protected (Brace, Towel)

Sets: 1 | Duration: 2-5 Mins |  
Frequency: 2 x Daily

#### Important:

- Your knee must not completely straighten when you are exercising.
- You are allowed to straighten your knee to "-5" degrees or just slightly less than fully straight.

#### Execution:

- Place a large rolled towel under your ankle. The back of your knee and your calf will be lifted slightly off the surface.
- Keep your knee pointed up towards the ceiling.
- Let the back of your knee relax into the brace.



Let the back of your knee relax into the brace

## 2. Monster Walk (Band)

Sets: 2 | Distance: 10m | Frequency: 2 x Daily

### Preparation:

- Attach tubing to ankles as shown
- Wide stance, knees and hips slightly bent

### Execution:

- Perform a partial squat
- Walk forward, keeping legs wide
- Keep tension on tubing throughout the whole exercise



Wide stance



Walk forward,  
keeping legs wide



Walk wide - Keep  
tubing under  
tension

## 3. Knee Flexion (Band)

Sets: 2 | Reps: 15 | Frequency: 2 x Daily

### Preparation:

- Lay flat on your stomach with your legs straight
- Attach a band to foot

### Execution:

- Lift your heel up towards your buttocks, bending your knee against resistance



On stomach



Bend knee



Continue bending

## 4. Cycling Stationary Bike

Sets: 1 | Duration: 5-20 Mins | Frequency: 1 x Daily

Cycling Stationary Bike



Cycling Stationary Bike

## Level 3

When Do I Start Level 3?

- Completed level 2 goals
- Able to tolerate 3 sets x 8 reps without significant increase in knee pain

Goals:

- Regain strength and cardiovascular endurance that was lost during Level 2
- Protect ligament healing
- Gain confidence with single plane and multidirectional movements
- Wean hinged brace for non sporting activities

Requirements For Progression:

- 10 hops alternating legs
- Able to complete full squat and walking lunge
- Able to job 3/4 speed for 200m

Aerobic Exercise:

Gradual return to running or jumping activities as long as no pain or symptoms are present before or during activity.  
Continue swimming and cycling.

### 1. Calf Raise Eccentric | Bilateral

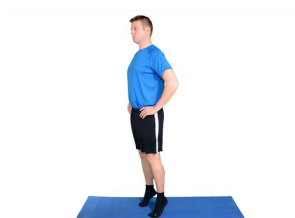
Sets: 2 | Reps: 15 | Frequency: 1 x Daily

Preparation:

- Stand next to a chair, counter or wall
- Stand on your tip toes, lifting your heels as high as you can

Execution:

- SLOWLY lower your heels down to the ground
- Stand on your tips toes, returning to the start position



Stand on tip toes



Slowly lower heels down to ground

### 2. Bridge | Towel Slide

Sets: 2 | Reps: 15 | Frequency: 1 x Daily

Preparation:

- Lie on back, feet on towel

Execution:

- Lift hips to make a bridge
- Now slide feet out on the towel - Keep the bridge
- Now slide feet up again - Keep the bridge



Feet on towel



Lift hips to make a bridge



Slide feet out on towel



Slide feet up again

### 3. Lunge Walk

Sets: 2 | Distance: 15m | Frequency: 1 x Daily

#### Execution:

- Take a big step forward
- Drop the back knee toward the ground
- Pull yourself forward using the front leg
- Repeat, alternating legs



Start position



Lunge



Repeat

### 4. Deadlift | Single Leg and Arm (Dumbbell)

Sets: 2 | Reps: 15 | Frequency: 1 x Daily

#### Preparation:

- Stand on one leg, dumbbell in the opposite hand as the stance leg

#### Execution:

- Bend at the hip, keeping the trunk aligned with the back leg
- Rise up from the hips



Stand tall, hold weight at side



Reach leg back, arm hangs straight down



Bend at the hip, back leg aligned with trunk

### 5. Side Jumps Over a Line

Sets: 2 | Reps: 20-30 | Frequency: 1 x Daily

#### Execution:

- Flex knees and hips, jump sideways over a line
- Immediately jump back



Flex hips and knees



Jump over line



Immediately jump back

### 6. Bounding

Sets: 2 | Reps: 20-30 | Frequency: 1 x Daily

#### Execution:

- Bend at knees and hip, propel yourself forward onto the opposite leg
- Immediately jump forward onto other foot
- Continue forward



Bend at hips and knees



Bound forward onto opposite leg



Keep going





## 7. Graduated Return to Jogging

Frequency: Alternate Days

**Graduated return to running suggested program:** (start and finish with 5 min walk)

- 5x (1' run / 1' walk)



Graduated Return to Jogging

## 8. Cycling Stationary Bike

Duration: 15-20 Mins | Frequency: Alternate Days

Cycling Stationary Bike



Cycling Stationary Bike

## Return To Activity / Achieving Your #RISEABOVE Goal(s)

Build back into your activity or sport, progressing slowly by 10% in intensity or time per week. Be sure to discuss sport specific progressions with a G23 physiotherapist

### 1. Repeated Bound Lateral | Single Leg

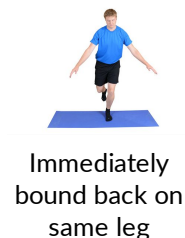
Sets: 3 | Reps: 15 | Frequency: 1 x Daily

#### Preparation:

- Stand balancing on one foot

#### Execution:

- Take a medium hop to the side away from the standing leg
- Land on the same leg
- Absorb the shock by bending at the hip, knee and ankle (triple flexion)
- Immediately bound back to the other side on the same leg
- Continue hopping side to side on the same leg



### 2. Tuck Jump Repeated

Sets: 3 | Reps: 15 | Frequency: 1 x Daily

#### Preparation:

- Start in a semi-squat position
- Engage your core

#### Execution:

- Jump into the air exploding from the hips
- Bring knees towards chest and parallel to the ground while in the air
- Keep upper body upright
- Land absorbing the shock with triple flexion (hips, knees, ankles)
- Immediately explode into the next jump



#### Note:

- Knees to chest
- NOT chest to knees

### 3. Zig-Zag Run

Sets: 1 | Reps: 5 | Distance: 50-100m | Frequency: 1 x Daily

#### Execution:

- Run in diagonal lines
- Focus on: 1) Acceleration and deceleration;  
2) The change in direction



Run in diagonals



### 4. Jogging / Running

#### Jogging / Running

- Jog 1 Km
- Five successive 100m sprints at half speed
- Five successive 100m sprints at three-quarter speed
- Five successive 100m sprints at full speed



Jogging / Running