

## ACL Tear (Non-Operative)

**Anterior Cruciate Ligament (ACL) Tear (Non-operative or Pre-operative):** An ACL tear disrupts the primary stabilizing ligament of the knee. Non-operative management may be appropriate for individuals not returning to pivoting sports, or it can serve as a **“pre-hab” phase** before surgery to optimize recovery. Rehabilitation focuses on restoring range of motion, reducing swelling, and strengthening dynamic stabilizers to maximize function and knee stability

### Key Rehabilitation Points:

- **Control swelling and restore full extension early** to prevent long-term stiffness.
- **Strengthen quadriceps, hamstrings, and gluteals** to compensate for ligament loss and prepare for possible surgery.
- **Enhance neuromuscular control and proprioception** to improve knee stability during daily and athletic activities.
- **Avoid high-risk movements** (pivoting, cutting, sudden deceleration) until adequate control is achieved or surgery is performed.

### Exercise Principles:

- **Restore Range of Motion:** Prioritize terminal extension and symmetrical flexion using gentle stretching and mobilization.
- **Progressive Strengthening:** Closed-chain, controlled exercises (mini squats, step-ups, bridges) with emphasis on hamstrings and hip stabilizers.

- **Neuromuscular & Balance Training:** Single-leg stance, perturbation training, and controlled agility drills to retrain coordination.
- **Gradual Functional Progression:** Low-impact conditioning (cycling, swimming) advancing to light jogging or sport-specific movements as tolerated.

**Exercises are most effective when guided by a qualified professional, such as a physiotherapist, athletic therapist, or strength and conditioning coach. If you have any concerns, it's always a good idea to consult with an expert.**

## 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. Heel Slides

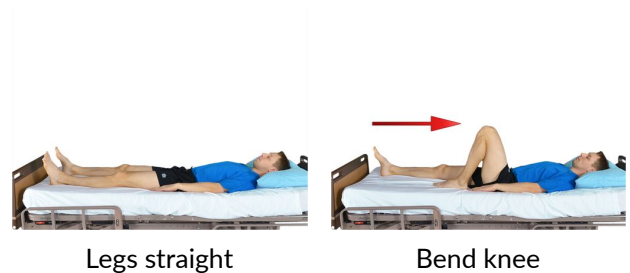
Sets: 2 | Reps: 15 | Frequency: 2x daily

##### Preparation:

- Lay on your back with your legs straight

##### Execution:

- Slide your heel up towards your buttocks
- Keep your heel in contact with the surface
- Straighten your knee to return to the start



#### 2. 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



### 3. 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

## 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 Concentric (Band)                                                                                                                |  | Sets: 2                                                                              | Reps: 15 | Frequency: 2x daily  |
| <b>Preparation:</b> <ul style="list-style-type: none"><li>Sit in a chair with good posture with a band around your ankle</li></ul>                 |  |   |          |                      |
| <b>Execution:</b> <ul style="list-style-type: none"><li>Straighten your knee</li><li>Return your foot to the floor with control</li></ul>          |  |                                                                                      |          |                      |
| 2. Knee Flexion (Band)                                                                                                                             |  | Sets: 2                                                                              | Reps: 15 | Frequency: 2 x Daily |
| <b>Preparation:</b> <ul style="list-style-type: none"><li>Lay flat on your stomach with your legs straight</li><li>Attach a band to foot</li></ul> |  |  |          |                      |
| <b>Execution:</b> <ul style="list-style-type: none"><li>Lift your heel up towards your buttocks, bending your knee against resistance</li></ul>    |  |                                                                                      |          |                      |

### 3. 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

### 4. Bridge | Arms Flat

Sets: 2-3 | Reps: 10-15 | Frequency: Daily

#### Preparation:

- Lie flat on your back with your arms straight beside you
- Bend knees with your feet flat on the floor

#### Execution:

- Lift your hips up in the air to make a bridge
- Lower down in a controlled manner



Start Position



Lift hips up

### 5. Squat

Sets: 2-3 | Reps: 10-15 | Frequency: Daily

#### Preparation:

- Stand with good posture, feet are shoulder width apart

#### Execution:

- Perform a squat by bending at the hip
- Stop at the point where you cannot keep your lower back flat
- Rise up by straightening at the hip



Feet shoulder width apart



Squat down keeping your knees apart



Rise up using your hips



Bend at your hips



Continue to lower keeping back flat and pelvis in neutral

## 6. Single Leg Balance

Sets: 2 | Reps: 20-30 sec | Frequency: daily

### Preparation:

- Stand next to a wall, counter or chair if needed

### Execution:

- Stand on one leg



Balance on one leg

## 7. Calf Raise Eccentric | Bilateral

Sets: 2-3 | Reps: 15 | Frequency: 3-4x/week

### 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

## 8. 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 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 jog 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. Bridge | Arms Flat

Sets: 2-3

Reps: 10-15

Frequency: Daily

#### Preparation:

- Lie flat on your back with your arms straight beside you
- Bend knees with your feet flat on the floor

#### Execution:

- Lift your hips up in the air to make a bridge
- Lower down in a controlled manner



Start Position



Lift hips up

### 2. Calf Raise Eccentric | Single Leg

Sets: 2-3

Reps: 10-15

Frequency: Daily

#### Preparation:

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

#### Execution:

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



Stand on tip toes



Slowly lower heel to ground



### 3. Squat

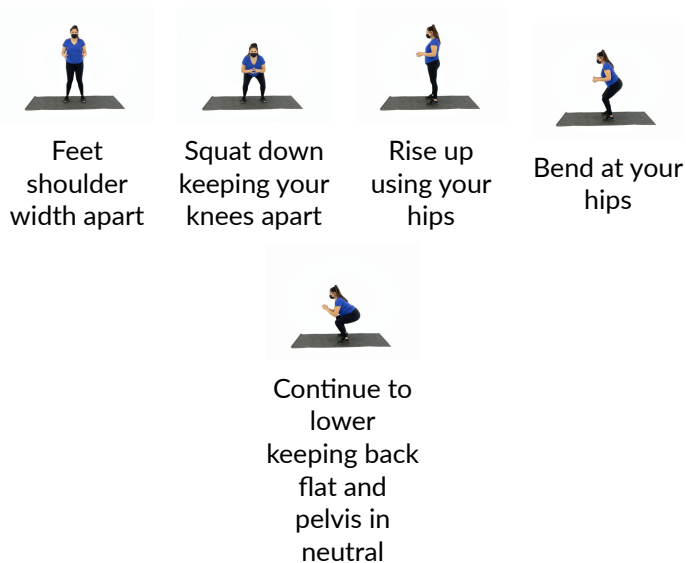
Sets: 2-3 | Reps: 10-15 | Frequency: Daily

#### Preparation:

- Stand with good posture, feet are shoulder width apart

#### Execution:

- Perform a squat by bending at the hip
- Stop at the point where you cannot keep your lower back flat
- Rise up by straightening at the hip



### 4. Step Up

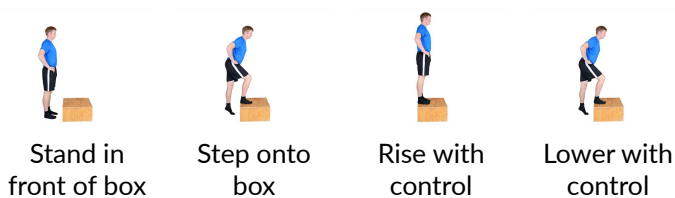
Sets: 2-3 | Reps: 10-15 | Frequency: 3-4x/week

#### Preparation:

- Stand in front of a box or step

#### Execution:

- Step up onto the box
- Lower down in a controlled manner
- Repeat, alternating legs



### 5. Single Leg Squat

Sets: 2-3 | Reps: 10-15 | Frequency: 3-4x/week

#### Preparation:

- Stand with good posture on one leg

#### Execution:

- Begin to squat with one leg by bending at the hip and knee
- Rise up by straightening at the hip



## 6. Bridge + Hamstring Curl (Ball)

Sets: 2-3 | Reps: 10-15 | Frequency: 3-4x/week

### Preparation:

- Lie on back, feet up on ball as shown

### Execution:

- Lift hips off floor
- Bend knees, rolling ball towards you - keep hips up!
- Hold, then slowly return to the start position



Feet up on ball



Lift hips



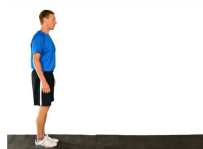
Bend knees - keep hips up!

## 7. Lunge Walk

Sets: 2 | Distance: 15m | Frequency: 3-4x/week

### 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

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

Sets: 2 | Reps: 15 | Frequency: 3-4x/week

### 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

## 9. Single Leg Balance (Foam)

Sets: 2-3 | Reps: 30-40sec | Frequency: 3-4x/week

### Execution:

- Balance on foam



Balance on foam



Hands on hips

## 10. 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

## 11. Cycling Stationary Bike

Duration: 15-20 Mins

Frequency: Alternate Days

Cycling Stationary Bike



Cycling Stationary Bike

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

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The return to activity and sport-specific training should be tailored to each individual, as recovery and progression will vary based on factors like the severity of symptoms, fitness level, and the demands of the sport. It's crucial to consult with experts, including a physiotherapist, coach, athletic therapist, or strength and conditioning coach, who can provide personalized guidance and ensure a safe and effective recovery plan.

Their expertise will help you progress at a pace that's right for you while minimizing the risk of reinjury and ensuring proper technique as you return to activity.