The Gundersen Sports Medicine ACL Reconstruction with LCL Reconstruction Rehabilitation Program is an evidence-based and soft tissue healing dependent program allowing patients to progress to vocational and sports-related activities as quickly and safely as possible. Individual variations will occur depending on surgical technique and the patient’s response to treatment. Please contact us at 1-800-362-9567 ext. 58600 if you have questions or concerns.

<table>
<thead>
<tr>
<th>Phase I: 0-6 weeks</th>
<th>Immediate post op maximum protection phase</th>
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<tbody>
<tr>
<td><strong>Goals</strong></td>
<td>• Protect anatomic repair</td>
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<tr>
<td></td>
<td>• Minimize knee joint effusion</td>
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<td></td>
<td>• Gently increase ROM per guidelines, emphasis on extension</td>
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<td></td>
<td>• Encourage quadriceps function</td>
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<td></td>
<td>• Prevent negative effects of immobilization</td>
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<tr>
<td><strong>ROM</strong></td>
<td>• wk 0-2: 0-90 deg- passive ROM is best, must have posterior support otherwise</td>
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<td>• wk 2-6: 0-120 deg</td>
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<td><strong>WB</strong></td>
<td>• wk 0-6: NWB with brace locked into extension</td>
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<td><strong>Precautions</strong></td>
<td>• Emphasis on regaining extension ROM ASAP to decrease stress to the PF joint during ambulation.</td>
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<td></td>
<td>• No isolated hamstring contraction 0-6 weeks</td>
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<td>• No hyperextension stretching with prone hangs or heel props into extension</td>
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<tr>
<td><strong>Modalities</strong></td>
<td>• Cryotherapy 15 minutes in duration 3x/day</td>
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<td></td>
<td>• IFC for pain/effusion if needed</td>
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<td></td>
<td>• NMES quadriceps if needed</td>
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<td><strong>Treatment</strong></td>
<td>• Active warm-up: bike (passive involved LE- weeks1-6) or Nustep per ROM guidelines with no resistance</td>
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<tr>
<td><strong>Recommendations</strong></td>
<td>• ROM: Wk 0-2: Gentle stretching to attain full extension and 90 degrees of flexion. Emphasis on full return of knee extension ASAP. Low-load long duration stretching for extension with heat if needed (1st TERT= Total End Range Time)</td>
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<tr>
<td></td>
<td>• Patellar mobilizations</td>
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<tr>
<td></td>
<td>• PROM / AAROM</td>
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<td>• Wk 2-6: progress range of motion 0-120 deg</td>
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<td></td>
<td>• Flexibility exercises for gastroc-soleus</td>
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<td>• Scar tissue massage</td>
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<td></td>
<td>• Therapeutic exercises. Exercise in a pain-free manner. Encourage quadriceps activation. wks 1-6 Biofeedback QS, SLR</td>
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<td>• Adequate pain control</td>
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<td>• No excessive swelling</td>
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<td>• SLR without a quadriceps lag</td>
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<td>• Short arc 0-30 quadriceps with biofeedback with no weight</td>
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<td>• Hip NWB: 4 way SLR, sidelying resisted ER (brace on), no hip abduction</td>
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<td></td>
<td>• Gastroc soleus strengthening NWB</td>
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<td>• Core stability and upper body exercises if desired</td>
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<td></td>
<td>• IFC for pain/effusion, NMES for quadriceps activation and control as needed</td>
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<td></td>
<td>• Ice (in stretch for extension if needed) 2nd TERT</td>
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<td>• HEP for 3rd TERT</td>
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</table>
### Phase II: 6-12 weeks

**Goals**
- Progress ROM as tolerated
- Progress WB (per MD approval) and promote a normal heel-toe walking program
- Gradual progression of therapeutic exercises for strengthening, stretching, and balance

**ROM**
- wk 6+: progress to full ROM as tolerated. Goal of full ROM by 8-12 weeks

**WB**
- Wk 6-8: WBAT per MD. Brace unlocked for ambulation if good SLR without lag.
- Utilize crutches as needed until patient demonstrates a normal heel-to-toe pattern.

**Brace**
- Patient will use the post-op brace until wk 7-8. Replace with a functional ACL brace.

**Modalities**
- Cryotherapy 15 minutes in duration 1-2x/day
- IFC for pain/effusion if needed
- NMES quadriceps if needed

**Precautions**
- No WB stretching into flexion until 8 wks
- Avoid descending stairs reciprocally until adequate quadriceps control and lower extremity alignment

**Treatment Recommendations**

**Guidelines for progression based on tolerance**

<table>
<thead>
<tr>
<th>wk 1</th>
<th>Description</th>
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<tbody>
<tr>
<td>wk 8</td>
<td>WB knee flexion stretch on leg press with light resistance</td>
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</table>

- Active warm-up: Bike (with no resistance weeks 7-9) with resistance (weeks 9+), Nu Step, Treadmill walking (weeks 9-12)
- wk 12: Elliptical Trainer, Rowing machine
- Stretching for full extension and flexion
  - PROM / AAROM / AROM
  - Patellar mobilizations if needed
  - Manual stretching for extension and flexion
  - Low-load long duration stretching with heat if needed
  - *(1st TERT= Total End Range Time)*
- wk 8: WB knee flexion stretch on leg press with light resistance

- Flexibility exercises for hamstring, gastroc-soleus, iliopsoas, quadriceps if indicated
- Therapeutic exercises: Exercise in a pain-free manner. Gradual progression with avoiding medial collapse during strengthening and functional activities. Incorporate total leg strengthening and balance / proprioception exercises.
  - Biofeedback QS SLR
  - CKC knee extension
  - Hip 4 way SLR
  - Hamstring OKC isotonics, double leg bridge (weeks 8-10), Reverse lunges
  - Beginning cord exercises (weeks 8-10)

- CKC exercises: 0-70 deg: leg press, wall squats, lateral step-overs, step-ups
- wk 8: Resisted sidestep with T-band, leg press (DL)1:1, partial lunges with UE support as needed
- wk 9: Progress to squats to 70 deg, BOSU partial squat 0-60 prone hamstring curls, Stair master
- wk 12: Progress to full lunges, SL deadlift, SL squat
| Gastroc soleus strengthening | Total leg strengthening  
| Balance / Proprioception training: Double leg progress to single leg, static progressing to dynamic activities  
| CV conditioning / Core Stability  
| • Ice (in stretch if needed) 2nd TERT  
| • HEP for 3rd TERT if needed  

**Independent strengthening**  
wk 12-16: Progress to independent strengthening program with monthly or bimonthly rechecks if good ROM, minimal effusion or pain, and good muscle control

**Phase III: 12+ wks**  
**Advanced strengthening and Gradual Return to activity phase**  
Week 12+: Closed chain 0-90 deg as tolerated

**Goals**  
• Progress muscle strength, endurance, and balance activities. Ideally 3x/week of exercises at a fitness center, step-down, or home program  
• Progress to higher level activities depending on functional demands and MD approval  
• Return back to vocational, recreational, and sport activities

**Brace**  
• Your MD may recommend continuing with the functional combined instability knee brace to be used until 12 months from your surgery for higher level activities

**Modalities**  
Cryotherapy 15 minutes 1x/day or after strenuous activity

**Treatment Recommendations**  
• Active warm-up: Bike, Elliptical Runner, Nu Step, Treadmill walking, Stair Stepper (16 weeks)  
• Continue with stretching and flexibility exercises as needed  
• Strengthening and endurance exercises: Advance as tolerated with emphasis on functional strengthening. Avoid medial collapse during strengthening and functional activities.  
  — Total leg strengthening  
  — Single leg strengthening  
  — Hip strengthening  
  — Heel raises  
  — Hamstring full ROM isotonics.  
  — Quadriceps isotonics in ROM without chondrosis, if needed  
  — CKC exercises: Leg press, multiple direction lunges, step-ups, squats, Gastroc soleus exercise  
  — Isokinetic quadriceps/hamstrings in ROM without chondrosis  
  — Stairmaster,  
• Dynamic balance exercises  
• Foot placement drills submax (16 weeks): agility ladder / line jumps /submax anterior-lateral hop to stabilization  
• CV conditioning and core stability  
• 5-6 months: Return to running program if meets criteria – see next page  
• 6 months: Plyometric program – submax with gradual progression  
• 6-9 months: Return to play if meets criteria – see next page  
• Golf (6 months)  
• Outdoor biking, hiking (5 months)
# ACL Reconstruction/ LCL Reconstruction/ and/or Posterolateral Corner Reconstruction

## Testing and Return to Running/Sports Recommendations

### Testing:

**20 weeks (5 months)**

- **SL 60 deg Stork test**
- **Hip strength:**
  - Abduction MMT
  - Hip Abduction Side plank test
- **Biodex test:**
  - 30 deg block
  - 2 speeds: 180 deg/sec (5 reps) 300 deg/sec (30 reps)
- **Y balance test**
- **FOTO**

**20 weeks (5-6 months) – RETURN to RUNNING**

Repeat previous tests not passed
Anterior lateral hop to stabilization
Trial of running

**24 weeks (6 months)**

- **Biodex test:** Full ROM with no ext block
  - 3 speed test: 60 deg/sec (5 reps), 180 deg/sec (5 reps), 300deg/sec (30 reps)
- **Jump test:** no arm swing – submax for apprehension/technique
- **Single Hop test:** no arm swing- submax for apprehension/technique

**9-12 months**

- **Single Hop test:** no arm swing
- **Triple hop/Cross over hop test:** arm swing-Tuck Jump or Landing Assessment
- **Agility Test:** LEFT test components or time
- **FOTO**
- **Biodex testing**

### Return to Running Criteria:

**Return to Running Requirements:**

- **Time:** at least 5-6 months post-op
- **MD / PT clearance**
- **No knee joint effusion**
- **ROM:** limb symmetry:
  - extension within 5 deg
  - flexion within 10 deg

**Biodex:**

- **Limb symmetry of PT:**
  - Quad: 75%
  - Hams: 80-90%

- **Proper running form:** Treadmill running (6-10 mph, 5 min) with equal audibly rhythmic foot strike
- **Anterior lateral hop to stabilization drill completed with no apprehension and good movement control**

### Return to Running Recommendations:

**Biodex:**

- **180 deg/sec:**
  - Quad PT/BW: Males: 65%
  - Females: 55%
  - H/Q ratio: 65%

- **300 deg/sec:**
  - Quads Power :Limb symmetry:75%
  - Hams Power: Limb symmetry: 75%

- **SL 60 deg stork test:**
  - Limb symmetry: 90%

- **Hip Abduction Side Plank test:**
  - Level II or greater

- **Y balance:** Limb symmetry: < 4cm
ACL Reconstruction/ LCL Reconstruction/ and/or Posterolateral Corner Reconstruction

Testing and Return to Running/Sports Recommendations

**Return to Play Criteria:**

**Return to Play Requirements:**
- Time: at least 9-12 months
- MD/PT clearance
- No knee joint effusion
- ROM: limb symmetry:
  - extension within 5 deg
  - flexion within 10 deg
- Biodex:
  - Limb symmetry of PT:
    - Quad: 90%
    - Hams: 90%
- Tuck Jump or Landing Assessment: no faulty movement patterns
- Single Hop test: Limb symmetry: 90%,
- Triple Hop test or Cross-Over Hop Test Limb symmetry: 90%
- LEFT test or Agility Test with no compensation

**Return to Play Recommendations:**
- Biodex:
  - 60 deg/sec:
    - Quad PT/BW: Males: 100%
    - Females: 80%
    - Hams PT/BW: Males: 60%
    - Females: 60%
    - H/Q ratio: 60 deg/sec : 60%
      - 180 deg/sec: 70%
      - 300 deg/sec: 80%
  - 300 deg/sec:
    - Quads Power: Limb symmetry: 90%
    - Hams Power: Limb symmetry: 90%
- Hip Abduction Side Plank test:
  - Level III or greater
- Y balance: Limb symmetry: < 4cm