

**ACL Reconstruction/PCL Reconstruction/  
Posterolateral  
Corner Reconstruction/Peroneal Nerve Neurolysis**

The Gundersen Sports Medicine Multi-ligament 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.

<b>Phase I: 0-6 weeks</b>	<b>Immediate post op maximum protection phase</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Protect anatomic repair</li> <li>• Minimize knee joint effusion</li> <li>• Gently increase ROM per guidelines, emphasis on extension</li> <li>• Encourage quadriceps function</li> <li>• Prevent negative effects of immobilization</li> </ul>
<b>ROM (prone)</b>	<ul style="list-style-type: none"> <li>• wk 0-2: 0-90 deg</li> <li>• wk 2-6: 0-120 deg</li> </ul>
<b>WB</b>	<ul style="list-style-type: none"> <li>• wk 0-6: NWB with brace locked into extension</li> </ul>
<b>Precautions</b>	<ul style="list-style-type: none"> <li>• Emphasis on regaining ROM to decrease knee stiffness.</li> <li>• No prone hangs or heel props into extension</li> </ul>
<b>Modalities</b>	<ul style="list-style-type: none"> <li>• Cryotherapy 15 minutes in duration 3x/day</li> <li>• IFC for pain/effusion if needed</li> <li>• NMES quadriceps if needed</li> </ul>
<p><b>Treatment Recommendations</b></p> <p>Guidelines for progression based on tolerance</p> <p>Avoid posterior tibial sag, avoid tibial external rotation x 4 months</p> <p>Hold open chain hamstring exercises x 4 months</p> <p>Adequate pain control</p> <p>No excessive swelling</p> <p>SLR without a quadriceps lag</p>	<ul style="list-style-type: none"> <li>• Active warm-up: Well leg biking from weeks 2-6</li> <li>• ROM: Wk 0-2: Emphasis on achieving 90 degrees of flexion. Patellar mobilizations PROM / AAROM Wk 2-6: progress range of motion 0-120 deg</li> <li>• Flexibility exercises for gastroc-soleus</li> <li>• Scar tissue massage</li> <li>• Therapeutic exercises. Exercise in a pain-free manner. Encourage quadriceps activation. wks 1-6 Biofeedback QS, SLR Short arc 0-30 quadriceps with biofeedback with no weight Hip NWB: 4 way SLR, sidelye resisted ER Gastroc/ soleus strengthening Core stability and upper body exercises if desired</li> <li>• IFC for pain/effusion, NMES for quadriceps activation and control as needed</li> <li>• Ice</li> </ul>

Updated 6/2017

<b>Phase II: 6-12 weeks</b>	<b>Moderate protective phase</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Progress ROM as tolerated</li> <li>• Progress WB (per MD approval) and promote a normal heel-toe walking program</li> <li>• Gradual progression of therapeutic exercises for strengthening, stretching, and balance</li> </ul>
<b>ROM</b>	<ul style="list-style-type: none"> <li>• wk 6+: progress to full ROM as tolerated. Goal of full ROM by 8-12 weeks</li> </ul>
<b>WB</b>	<ul style="list-style-type: none"> <li>• Wk 6-8: WBAT per MD. Brace unlocked for ambulation if good SLR without lag.</li> <li>• Utilize crutches as needed until patient demonstrates a normal heel-to-toe pattern.</li> </ul>
<b>Brace</b>	<ul style="list-style-type: none"> <li>• Patient will use the post-op brace until wk 7-8. Replace with a functional Combined Instability brace.</li> </ul>
<b>Modalities</b>	<ul style="list-style-type: none"> <li>• Cryotherapy 15 minutes in duration 1-2x/day</li> <li>• IFC for pain/effusion if needed</li> <li>• NMES quadriceps if needed</li> </ul>
<b>Precautions</b>	<ul style="list-style-type: none"> <li>• No WB stretching into flexion until 8 wks</li> <li>• Avoid descending stairs reciprocally until adequate quadriceps control and lower extremity alignment</li> </ul>
<b>Treatment Recommendations</b>  Guidelines for progression based on tolerance	<ul style="list-style-type: none"> <li>• Active warm-up: Bike with resistance, Nu Step, Treadmill walking wk 12: Elliptical Trainer</li> <li>• Stretching for full extension and flexion PROM / AAROM / AROM Patellar mobilizations if needed Manual stretching for flexion wk 8: WB knee flexion stretch on leg press with light resistance</li> <li>• Flexibility exercises for hamstring, gastroc-soleus, iliopsoas, quadriceps if indicated</li> <li>• 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 Beginning cord exercises (8-12 weeks) 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 wk 12: Progress to full lunges, reverse lunges, 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</li> <li>• Ice</li> </ul>

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
<b>Phase III: 12+ wks</b>	<b>Advanced strengthening and Gradual Return to activity phase</b>
<b>Goals</b>	<ul style="list-style-type: none"> <li>• Progress muscle strength, endurance, and balance activities. Ideally 3x/week of exercises at a fitness center, step-down, or home program</li> <li>• Progress to higher level activities depending on functional demands and MD approval</li> <li>• Return back to vocational, recreational, and sport activities</li> </ul>
<b>Brace</b>	<ul style="list-style-type: none"> <li>• Your MD may recommend continuing with the knee brace to be used until 12 months from your surgery for higher level activities</li> </ul>
<b>Modalities</b>	Cryotherapy 15 minutes 1x/day or after strenuous activity
<b>Treatment Recommendations</b>	<ul style="list-style-type: none"> <li>• Active warm-up: Bike, Elliptical Runner, Nu Step, Treadmill walking</li> <li>• Continue with stretching and flexibility exercises as needed</li> <li>• Strengthening and endurance exercises: Advance as tolerated with emphasis on functional strengthening. Avoid medial collapse during strengthening and functional activities. <ul style="list-style-type: none"> <li>Total leg strengthening</li> <li>Single leg strengthening</li> <li>Hip strengthening</li> <li>Heel raises</li> <li>Hamstring full ROM isotonic, SL deadlift</li> <li>CKC exercises: Leg press, multiple direction lunges, step-ups, squats, Gastroc soleus exercise</li> <li>Stairmaster, Rowing machine (16 weeks)</li> </ul> </li> <li>• Dynamic balance exercises</li> <li>• Foot placement drills submax:: agility ladder / line jumps /submax anterior-lateral hop to stabilization (24 weeks)</li> <li>• CV conditioning and core stability</li> <li>• Wk 24: (6 months): Return to running program if meets criteria – see next page</li> </ul>
<b>Return to running</b>	<ul style="list-style-type: none"> <li>• 8 months: Plyometric program – submax with gradual progression</li> <li>• 12 months: Return to play if meets criteria – see next page</li> </ul>
<b>Return to sport</b>	

# ACL Reconstruction, PCL Reconstruction, Biceps Repair, Posterolateral Corner Reconstruction and Peroneal Nerve Neurolysis

## Testing and Return to Running/Sports Recommendations

### Testing:

#### 16 weeks (4 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

#### 24 weeks (6 months) – RETURN to RUNNING

Repeat previous tests not passed

Anterior lateral hop to stabilization

Trial of running.

Jump test: no arm swing – submax for apprehension/technique

Single Hop test: no arm swing- submax for apprehension/technique

#### 9-12 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)

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

### Return to Running Criteria:

#### Return to Running Requirements:

Time: at least 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/PCL Reconstruction/Posterolateral Corner Reconstruction and Peroneal Nerve Neurolysis

## Testing and Return to Running/Sports Recommendations

### **Return to Play Criteria:**

#### **Return to Play Requirements:**

Time: at least 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