

ACL Reconstruction/LCL Reconstruction and/ or Posterolateral Corner Reconstruction

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.

| Phase I: 0-6 weeks | Immediate post op maximum protection phase |
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| Goals | <ul style="list-style-type: none"> • Protect anatomic repair • Minimize knee joint effusion • Gently increase ROM per guidelines, emphasis on extension • Encourage quadriceps function • Prevent negative effects of immobilization |
| ROM | <ul style="list-style-type: none"> • wk 0-2: 0-90 deg- passive ROM is best, must have posterior support otherwise • wk 2-6: 0-120 deg |
| WB | <ul style="list-style-type: none"> • wk 0-6: NWB with brace locked into extension |
| Precautions | <ul style="list-style-type: none"> • Emphasis on regaining extension ROM ASAP to decrease stress to the PF joint during ambulation. • No isolated hamstring contraction 0-6 weeks • No hyperextension stretching with prone hangs or heel props into extension |
| Modalities | <ul style="list-style-type: none"> • Cryotherapy 15 minutes in duration 3x/day • IFC for pain/effusion if needed • NMES quadriceps if needed |
| <p>Treatment Recommendations</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"> • Active warm-up: bike (passive involved LE- weeks1-6) or Nustep per ROM guidelines with no resistance • ROM: Wk 0-2: Gentle stretching to attain full extension and 90 degrees of flexion. Emphasis on full return of knee extension ASAP. <ul style="list-style-type: none"> Low-load long duration stretching for extension with heat if needed (1st TERT= Total End Range Time) Patellar mobilizations PROM / AAROM Wk 2-6: progress range of motion 0-120 deg • Flexibility exercises for gastroc-soleus • Scar tissue massage • Therapeutic exercises. Exercise in a pain-free manner. Encourage quadriceps activation. <ul style="list-style-type: none"> wks 1-6 Biofeedback QS, SLR Short arc 0-30 quadriceps with biofeedback with no weight Hip NWB: 4 way SLR, sidelying resisted ER (brace on), no hip abduction Gastroc soleus strengthening NWB Core stability and upper body exercises if desired • IFC for pain/effusion, NMES for quadriceps activation and control as needed • Ice (in stretch for extension if needed) 2nd TERT • HEP for 3rd TERT |

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| Phase II: 6-12 weeks | Moderate protective phase |
| Goals | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • wk 6+: progress to full ROM as tolerated. Goal of full ROM by 8-12 weeks |
| WB | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • Patient will use the post-op brace until wk 7-8. Replace with a functional ACL brace. |
| Modalities | <ul style="list-style-type: none"> • Cryotherapy 15 minutes in duration 1-2x/day • IFC for pain/effusion if needed • NMES quadriceps if needed |
| Precautions | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 isotonic , 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 |

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| | <p>Gastroc soleus strengthening Total leg strengthening Balance / Proprioception training: Double leg progress to single leg, static progressing to dynamic activities CV conditioning / Core Stability</p> <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> Total leg strengthening Single leg strengthening Hip strengthening Heel raises Hamstring full ROM isotonic. Quadriceps isotonic 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 |
| Return to running | <ul style="list-style-type: none"> • 5-6 months: Return to running program if meets criteria – see next page |
| Return to sport | <ul style="list-style-type: none"> • 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) |

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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

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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