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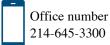
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Standard Anterior Cruciate Ligament Reconstruction Rehabilitation Protocol

Standard Anterior Cruciate Ligament Reconstruction Rehabilitation Protocol				
Time	Goals	Precautions/Restrictions	Treatment	
Weeks 0 - 2	 Protect surgical site Reduce pain and swelling Active ROM: 0-90 degree Full passive extension Active quadriceps control Reduce muscle atrophy Safe use of crutches with near normal gait mechanics 	 Brace locked full extension for ambulation and sleeping 0-1 week Unlock amulation 1-4 weeks WBAT with crutches No resisted open chain knee extensions for six weeks No isolated hamstring strengthening for hamstring autograft surgery 	 ROM (as tolerated) PROM – AAROM - AROM Patella mobilizations Quadriceps recruitment/NMES Global LE/hip strengthening Gait training with crutches Modalities as indicated Cryotherapy: 5-7 times per day Initial Visit: FOTO, LEFS, PSFS 2 week follow up with MD 	
Weeks 2 - 6	 Full, symmetric and pain-free AROM SLR without extensor lag Normalized gait mechanics DL squat with good mechanics Progression of quadriceps strength/endurance Increase functional activities 	 Open kinetic chain is limited to bodyweight leg extensions (weeks 2-6) No resisted open kinetic chain exercises Initiate isolated hamstring strengthening for hamstring autograft surgery (6 weeks) No running, jumping, cutting, pivoting, or twisting Avoid painful activities/exercises Discontinue brace at 28 days if patient has no extension lag 	 AAROM - AROM Gait training progressing from assistive device Core stabilization exercises Closed kinetic chain strengthening as tolerated Global LE strengthening Begin functional strengthening exercises (bridge, mini-squat, step up, etc) Double limb to single limb balance/proprioception Aerobic training: Walking program when walking with normal gait mechanics Stationary bike Optional therapies (if available/as indicated): BFR therapy Anti-gravity treadmill for walking gait Aquatic therapy once incision is healed and cleared by surgeon (2-4 weeks) NMES Modalities as indicated Week 6: FOTO, LEFS 	
Weeks 6 - 12	 Full, symmetric and pain-free ROM Progress quadriceps strength/endurance Increase functional activities 	 May initiate resisted open kinetic chain exercise 90-45° at 6 weeks 90-30° at 8 weeks 90-0° at 10 weeks 90-0° with progressive loading at 12 weeks No running, jumping, cutting, pivoting, or twisting Avoid painful activities/exercises Avoid patellofemoral pain 	 End range flexion and extension Aerobic training on stationary bike, elliptical, stair climber, UBE Core stabilization exercises Progressive double and single limb strengthening Single to multi-plane exercise Progression of balance/proprioception Modalities as indicated Week 12: FOTO, LEFS, PSFS, ACL-RSI 6-8 week follow up with MD (SGYM) 	
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Weeks 12-16

- Full, symmetric ROM
- No effusion with increased activity
- Increase intensity and duration of functional LE strength
- Initiate return to jogging program
- Begin low level plyometric and agility training
- Avoid painful activities/exercises
- Jogging program initiated at 12 weeks if cleared by surgeon
 - o No effusion
 - o Full AROM
 - o >80% LSI
- No jogging on painful or swollen knee
- Increase loading capacity for lower extremity strengthening exercises
- Continue balance/proprioceptive training
- \bullet Week 12: begin return to jogging program
- If applicable, start with pool/anti-gravity treadmill
- Begin low level plyometric and agility training at 12 weeks
- Functional assessment (see attached)
- 3-4 month follow up with MD (SGYM)

Months 4-6

- Continue to progress functional strengthening
- Successful progression of the return to running program
- Initiate higher level plyometric and agility training
- No jogging on a painful or swollen knee
- Avoid painful activities/exercises
- Avoid patellofemoral pain
- No participation in sports unless specified by care team
- Progression of return to jogging program
- Gradually increase lifting loads focusing on form, control, and tissue tolerance
- Progress as tolerated:
 - o Core Stability
 - o Strength
 - o Endurance
 - o Proprioception/Balance
- Increase intensity of plyometric and agility training
- Foot speed and change of direction
- Functional assessment at 6 months (see attached)
- Month 6: FOTO, LEFS, PSFS, ACL-RSI

Months 6 - 9

- Continue to progress functional strengthening
- Sport-specific training
- No participation in sports unless specified by your care
- Avoid painful activities
- Progress as tolerated:
 - o Core Stability
 - o Strength
 - o Endurance
 - Proprioception/Balance
- Begin sport-specific training
- Single-to multi-task
- Reactionary drills
- Perturbation training
- Closed to open environment

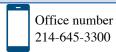
Months 9+

- Pass return to play criteria (re-test at 12+ months, if necessary)
- Begin gradual return to sport
- Gradual return to full participation in sports
- Progress as tolerated:
 - o Core Stability
 - o Strength
 - $\circ \ Endurance$
 - o Proprioception/Balance
 - o Plyometric training
 - Agility drills
- Sport-specific activities
- Gradual return to sport progression
- Month 9: FOTO, LEFS, PSFS, ACL-RSI
- Functional assessment (see attached)
- 9+ month follow up with MD (SGYM)





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Phase	Goals	Surgery	Testing
Week 12 (SGYM)	 Full, symmetric ROM Y-balance anterior reach asymmetry < 5 cm Quadriceps strength for isometric test > 80% of uninvolved side 	 ACL reconstruction ACL reconstruction with meniscus repair ACL Allograft (12 week and 6 month recheck) ACL revision (12 week and 6 month recheck) 	 TESTING: Knee assessment including assessment for effusion Passive and active ROM Y-balance anterior reach Isometric knee extension at 60° and 90° FOTO, LEFS, PSFS, ACL-RSI
Month 6 (No SGYM)	 Full, symmetric ROM Y-balance anterior reach asymmetry < 3 cm > 80% LSI for isokinetic testing 90% LSI for functional testing ACL-RSI > 56 	 ACL reconstruction ACL reconstruction with meniscus repair ACL Allograft (9 month) ACL revision (9 month) 	 Knee assessment including assessment for effusion Passive and active ROM Hop Test Single Hop Triple Hop Isokinetic Test (90°, 180°/s) Y-Balance Anterior Reach Agility T-Test FOTO, LEFS, PSFS, ACL-RSI
Month 9-10 (SGYM)	 Full, symmetric ROM > 90% LSI for isokinetic and functional testing Y-balance anterior reach asymmetry < 3 cm ACL-RSI > 56 	 ACL reconstruction ACL reconstruction with meniscus repair ACL Allograft (12 month) ACL revision (12 month) 	 Knee assessment including assessment for effusion Passive and active ROM Hop Test Single Hop Triple Hop Cross-over Hop Isokinetic Test (90°, 180°/s) Y-Balance Anterior Reach Agility T-Test FOTO, LEFS, PSFS, ACL-RSI

This protocol is not meant to be prescriptive but a recommendation to guide the rehabilitation process.

Each patient's progress may vary based on specifics to their injury and procedure.





