

Anterior Cruciate Ligament Reconstruction with Autograft Physical Therapy Protocol

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Patient Name: _____

Date of Surgery: _____

Procedure: Right / Left ACL Reconstruction with

- Bone Patella Tendon Bone (BTB)
- Quadriceps Tendon
- Hamstring Tendon

Associated Procedure (checked if performed):

- Anterolateral Ligament Reconstruction with Allograft
- Partial Meniscectomy
- Meniscus Repair
 - Please amend the below protocol with the following restrictions:
 - Weightbearing:
 - 0-4 weeks: TTWB with crutches
 - 4-6 weeks: WBAT
 - Brace use for 6 weeks, locked in extension during ambulation and sleeping. Unlocked or removed for PT and ROM exercises
 - ROM: 0-90° for 4 weeks, full flexion by 6 weeks
 - No tibial rotation x4 weeks

Frequency: 2x per week for _____ weeks

Key Features of protocol:

- Please prioritize range of motion with daily stretching and physical therapy.
- Weight Bearing: WBAT unless the meniscus was repaired as detailed above.
- Brace use: Wean after 4 weeks. Locked in extension for walking and sleeping, unlocked at all other times.
- Return to Sport: 8-9 months based on return to sport assessment

Phase I (0-4 weeks): *Period of protection*

- **Weightbearing:** As tolerated with crutches. Discontinue by post-op day 10.
- **Brace:** Locked in extension for walking and sleeping until week 4. May be removed for PT and independent exercise.

- **ROM:**
 - Progress PROM/AAROM/AROM. Goal: full extension and 90° of flexion by 2 weeks; >120° by 6 weeks.
 - Extension board and prone leg hangs out of brace with ankle weights (up to 10 lbs) recommended if difficulty obtaining full extension after 2 weeks.
 - Passive leg hangs out of brace to 90°.
- **Therapeutic exercises:**
 - Patellar mobilization 5-10 minutes daily
 - Quad sets
 - Straight leg raises with knee brace locked in extension until quadriceps strength prevents extension lag.
 - Leg lifts standing with brace on for balance and hip strength
 - No restrictions to ankle/hip strengthening.
- **Restrictions:** No elliptical, no running, no jumping.

Phase II (4-6 weeks): *Initiate Controlled Strengthening*

- **Weightbearing:** As tolerated.
- **Brace:** Discontinue brace use when patient has achieved full extension with no evidence of lag and excellent quadriceps strength as evidenced by a good set of 10 SLR.
- **ROM:** Obtain full ROM. Continue extension board and prone hang with ankle weights (up to 10 lbs) if any flexion contracture.
- **Therapeutic exercises:**
 - As above plus:
 - Short arc quads (SAQs)
 - Step ups
 - Step backs
 - Toes Rises
 - Heel slides
 - Wall slides
 - Other closed chain exercises between 0-45°
 - Initiate stationary bike with no resistance for ROM and cardio (lower seat height as ROM increases).
- **Restrictions:** No elliptical, no running, no jumping.
- **Progression Criteria:** Normal gait on all surfaces, ability to carry out functional movements without pain demonstrating good leg control, single leg stance greater than 15 seconds, full ROM.

Phase III (6-16+ weeks): *Advance strengthening.*

- **Rehabilitation Goals:** Single leg control with no pain during functional movement
- **Weightbearing:** Full weightbearing with painless ROM
- **ROM:** Continue with daily ROM exercises
- **Therapeutic exercises:**
 - As above plus:
 - Increase closed-chain activities to 0-90°. Add pulley weights and theraband resistance.

- Initiate non-impact balance and proprioceptive drills. Monitor for anterior knee pain symptoms.
- Add core strengthening exercises, side lunges and/or slideboard.
- Continue stationary bike.
- **Restrictions:** Initiate elliptical and Stairmaster at 12 weeks. Initiate straight ahead jogging at 16 weeks. Initiate open chain exercises at 18 weeks. No jumping.
- **Progression Criteria:** Normal gait on all surfaces, single leg stance greater than 30 seconds, ability to carry out multi-plane functional movements without unloading affected leg or pain, while demonstrating good control.

Phase IV (6-9 months): *Sport-specific conditioning.*

- **Rehabilitation Goals:** Good dynamic neuromuscular control and no pain with multiplanar activities; functional sports specific progression.
- **Weightbearing:** Full weightbearing with normal gait.
- **ROM:** Full and painless.
- **Precautions:** Post-activity soreness should resolve within 24h. Initiation of impact may occur if the involved leg has at least 80% of the strength of the uninvolved leg when measured using a single leg squat test.
- **Therapeutic Exercises:**
 - Advance strengthening as tolerated
 - Sports specific balance and proprioceptive drills
 - Initiate and progress impact control exercises to reactive strengthening and plyometrics
 - Initiate a running program
 - Movement control exercise beginning with low velocity, single plane activities and progressing to higher velocity, multi-plane activities from one foot to the other and then one foot to same the foot
 - Hip and core strengthening.
- **Progression Criteria to Functional Sports Assessment:** Dynamic neuromuscular control with multi-plane activities without instability, pain or swelling; ability to land from a sagittal, frontal and transverse plan; leap and jump with good control and balance.