



## Indiana University Health

*IU Health Physicians Orthopedics & Sports Medicine*

### **ANTERIOR CRUCIATE LIGAMENT (ACL) RECONSTRUCTION (STANDARD PROTOCOL)**

#### **PHYSICAL THERAPY PROTOCOL**

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**Patient Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Procedure:** Right/Left ACL Reconstruction with Patellar Autograft

**Associated Procedure** (circled if applicable): Meniscectomy/Meniscal Repair

\_\_\_ Evaluate and Treat – no open chain or isokinetic exercises

\_\_\_ Provide patient with home exercise program

**Frequency:** \_\_\_\_\_x/week    x    \_\_\_\_\_weeks



\_\_\_ **Phase I (0-6 wks): *Period of protection*\*\*\***

- Weight bearing** as tolerated **without assist by post-op day 10 unless meniscal work below**. Patients in hinged knee braces, including those who have had their own patellar tendon used, should be locked in extension while sleeping or ambulating until week 6.
- ROM** – progress through passive, active and resisted ROM as tolerated. Extension board and prone hang with ankle weights (up to 10 lbs) recommended if difficult obtaining full extension after 2 weeks. Stationary bike with no resistance for knee flexion (alter set height as ROM increases). Goal: full extension and 90 deg of flexion by 2 weeks, 120 degrees of flexion by 6 weeks).
- Patellar mobilization**, 5-10 minutes daily.
- Strengthening** – quad sets, SLRs with knee locked in extension. Begin closed-chain work (0-45 degrees) when full weight-bearing. No restrictions to ankle/hip strengthening.
- Restrictions**: No elliptical, running or jumping
- Brace use**: locked in extension for walking and sleeping until week 6. May be removed for PT efforts and hygiene.

**\*\*\*Note: if a meniscal repair was done simultaneously, please amend the above with the following restrictions:**

- NWB with brace limited to 0-90 degrees x 4 weeks**
- Limit ROM 0-90 degrees x 4 weeks**
- No tibial rotation x 4 weeks**

\_\_\_ **Phase II (6-12 wks): *Initiate Controlled Strengthening*.**

- Transition to custom ACL brace** if ordered by physician.
- ROM** – continue with daily ROM exercises (goal: increase ROM as tolerated)
- Strengthening** – increase closed-chain activities to 0-90 degrees. Add pulley weights, theraband, etc. Initiate non-impact balance and proprioceptive drills. Monitor for anterior knee pain symptoms. Add core strengthening exercises. Single leg control with no pain during functional movement.
- Add side lunges and/or slideboard.
- Begin stationary bike (no clips or resistance yet) for ROM, strengthening, cardio.
- Can be in pool with pull bouy for cardio but *NO kicking/walking in water*

\_\_\_ **Phase III (12-18+ wks): *Advance strengthening*.**

- Advance strengthening as tolerated, continue closed-chain exercises. Increase resistance on equipment.
- May begin Elliptical and Stairmaster.
- No straight ahead jogging OR swimming (flutter kick) until 4.5-5 months post op. Initiate open chain exercises at 18 weeks. No jumping.*



- Begin to wean patient from formal supervised therapy encouraging independence with home exercise program.
- Strict avoidance of open chain exercises until above
- No cutting/pivoting activities until 6.5-7 months postop*
- 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): *Begin more sport-focused conditioning.***

- Advance strengthening as tolerated, continue closed-chain exercises. Increase resistance on equipment.
- 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; continue 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 the same foot; Hip/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 plane; leap and jump with good control and balance

\_\_\_ **Other:**

- \_\_\_ Modalities                      \_\_\_ Electrical Stimulation                      \_\_\_ Ultrasound
- \_\_\_ Heat before/after                      \_\_\_ Ice before/after exercise
- \_\_\_ May participate in aquatherapy after week three, begin aqua-running week 6

**By signing this referral, I certify that I have examined this patient and physical therapy is medically necessary. This patient \_\_\_ would \_\_\_ would not benefit from social services.**

\_\_\_\_\_ **Date:**\_\_\_\_\_

**Bryan M. Saltzman, MD**