

Long Term Post-Operative Complications Following Anterior Cruciate Ligament Reconstruction in a Collegiate Cross Country Athlete

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Background: An 18-year-old female, collegiate cross country and 1600m track athlete presented to the athletic training facility at 25 weeks post-Anterior Cruciate Ligament (ACL) reconstruction and medial meniscal repair, with mild effusion. She reported a “catching” sensation during gait (walking and running), with sharp isolated pain on the lateral joint line when performing box jumps. Initial assessment yielded 4/5 quadriceps strength and 7 degree extension range of motion (ROM) deficit on her operative limb. **Differential Diagnosis:** Meniscal pathology, patellofemoral pain, osteochondral lesion. **Treatment:** Because of symptom presentation and post-operative ACL status, the athletic trainer referred her to the team orthopedic surgeon, who ordered radiographic imaging; x-rays and magnetic resonance imaging. Radiology reports suggested 1) no evidence of fracture or articular damage, 2) presence of swelling over the patellar tendon and lateral joint line and 3) scar tissue formation anterior to the ACL graft. The localized anterior arthrofibrosis, or cyclops lesion, presented in the intercondylar notch. Four weeks after initial presentation, the athlete underwent surgical excision, arthroscopic debridement and notchplasty, to restore normal kinematic function. Post-operative protocol included 4-days of immobilization (full extension) and physical therapy. Rehabilitation protocol consisted of 1) aggressive extension ROM/stretching with reactivation of the quadriceps to control terminal knee extension and 2) closed kinetic chain strengthening and proprioception focusing on hip control to promote knee stability. At 4 weeks post-operation, the athlete had full ROM, good quadriceps control and performed activities of daily living without pain. Athlete began progression of low level plyometrics and transitioned to a graduated running protocol at 6 weeks. Athlete should return to unrestricted sport activity within 10-12 weeks post-operation. **Uniqueness:** Localized anterior arthrofibrosis occur in approximately 4% percent of post-operative ACL reconstructive cases. Potential pathogenesis of arthrofibrosis may be during tibial tunnel drilling, when fibrocartilagenous tissue debris remains in that area, which stimulates tissue deposits. Another potential etiology may include impingement of ACL fibers in the intercondylar notch, which may lead to fraying and scar tissue formation. Range of motion restrictions are one of the most common morbidities associated with ACL reconstructions, and cyclops lesions are considered the second leading cause of extension loss in this population. **Conclusions:** Athletic trainers should consider the potential of cyclops lesion sequella in patients who lack greater than 5 degrees of extension ROM at 2-3 months post ACL reconstruction.