Patellar Subluxation with MCL, VMO, MPFL and Osteochondral Involvement: A Case Study
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**Background:** The patient is a nineteen year old collegiate football player who weighs 330 pounds and is 6’6” tall. This offensive lineman suffered a hit to the lateral aspect of the left knee by an opponent. There was a history of a previous medial collateral ligament injury to the affected leg. At the time of injury, there was a pop felt and heard. The patient was unable to continue due to severe pain, swelling and limited range of motion and was unable to bear weight. Point tenderness was noted when palpating the lateral patella and lateral femoral epicondyle. Range of motion and strength testing proved to be extremely limited due to pain. Lachman’s, varus stress test, valgus stress test and compression fracture tests were negative. Patellar glide test, patellar tilt test and patellar apprehension test were positive due to severe pain and laxity. **Differential Diagnosis:** Patellar Dislocation, Patellar Fracture, Femoral Condyle Fracture, Tibial Condyle Fracture, ACL Rupture, Patella Tendon Rupture. **Treatment:** Immediately following the injury a physician assessed the patella, anterior cruciate ligament (ACL), range of motion (ROM), and presence of fractures. Suspicion of a patella subluxation and surrounding structure involvement required diagnostic imaging to determine severity of the injury. Radiographic results indicated no chondral or osetochondral defects. However, the MRI showed evidence of the suspected patellar subluxation but also a medial collateral ligament (MCL) tear, vastus medialis oblique (VMO) detachment, medial patellofemoral ligament (MPFL) tear, and an osteochondral defect with a loose body within the joint. Following confirmation of the diagnosis cryotherapy, electrical stimulation, crutches, compression, and knee immobilization in full extension were used to treat pain, swelling and decreased ROM. Pre-surgical rehabilitation consisted of light ROM exercises for the ankle and knee once swelling and pain decreased. Strength exercises involved the ankle, knee and hip through the use of therabands and light weights. Leg raises into hip flexion, extension, abduction and adduction, hip hikes on a table and resistive ankle directions into inversion, eversion, dorsiflexion, and plantarflexion were all successfully completed. **Uniqueness:** Due to the immediate swelling and girth of the leg, diagnosis was difficult during the initial evaluation. After diagnostic imaging was completed, the severity of the injury with multiple structures injured made this case study unique. Not only was there an initial patella subluxation but the entire VMO was detached and there were tears to the MCL and MPFL. The osteochondral defect with a loose body within the joint however was causing him the most discomfort. The patient complained of locking, stiffness and a blockage in his knee. **Conclusion:** Due to the mechanism and extent of injury, diagnostic imaging was required to rule out osetochondral defects. The severity of damage required reconstructive surgery of the MCL, VML, MPFL and osteochondral surface. Conservative treatment would not be beneficial to the patient’s future. Until surgery, treatment had focused on pain, swelling reduction, re-establishment of ROM and strength. Following surgery, the treatment plans followed current rehabilitation protocols in the literature for this type of injury. **Relevant Evidence:** In this case study, MRI imaging was paramount in detecting further damage suffered during the patella subluxation. Also, when the girth of a patient’s leg and subsequent swelling hinders the clinician’s ability to detect further damage of surrounding structures, cryotherapy and compression are necessary components to reduce the swelling in order for easier clinical diagnosis. According to the literature, by following the rehabilitation protocols return to play should occur in about three months. **Word Count:** 573