group (P=.665). In the match group, the inclination of the POLTP was signifi-
cantly larger (P=.042) and the LPLFC was more lateral (P=.0034) than in the U12 group. Conclusions: Saucerization for DLM can have the effect of preventing progression to the bone morphology characteristic of DLM.

Category: Knee · Meniscus

Evaluating the Clinical Presentation of Meniscal Root Tears

Abstract ID# 23029

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Summary:
The study demonstrates that many patients with repairable meniscal root tears do not present with classic symptoms or signs of meniscal root tears.

Data:
Objectives: The posterior root of the medial meniscus plays an important role in cartilage preservation by dissipating forces through hoop stresses, while preventing extrusion of the meniscus. Root tears are clinically significant because the joint reactive forces experienced by the articular cartilage increase substantially with extrusion related to a root tear. Unfortunately, root tears can be difficult to diagnose. Traditional mechanical symptoms of meniscal pathology may not be present. Therefore, obtaining a thorough patient history can provide valuable information that can assist with the diagnosis. The purpose of this study is to analyze the presenting symptoms and clinical exam findings of patients undergoing meniscal root repairs to aid physicians in diagnosing this injury. Methods: All patients undergoing arthroscopic meniscal repair from 1/3/2016-9/1/2021 were retrospectively identified at our institution using CPT codes, and patients who had definitive documentation of an isolated meniscal root repair within the operative report were included in the study. Patients under the age of 40 years were excluded. Physician clinical notes were reviewed, recording detailed information regarding the presenting symptoms and physical exam findings. Pre-operative radiographs were graded using the Kellgren-Lawrence (KL) scale for osteoarthritis. When available, pre-operative MRIs were evaluated. Root tears were graded using the radiographic criteria of Chung et al. and articular cartilage injury was graded using a validated system, AMADEUS (mean total Area Measurement And DEpth & Underlying Structures, a scale from 0 to 100; 100 = no injury). Results: There were 221 patients who met the inclusion criteria. Of the 221 patients, 65.6% of patients reported that their pain began following an acute injury, with only 39.3% of patients reporting a “pop.” Only 7.7% reported an injury while walking downstairs, and 76.4% of patients were able to bear weight after the injury. On physical exam, effusion was present in 71% of knees. A McMurray test was positive in 95.5% and a positive hyperflexion test in 53.8% of knees. Radiographically, 49.5% of knees were KL 1, 29.7% were KL 2, and 17.7% were KL 3. There were 118 MRIs available for review. There was a full thickness root tear in 53.3% and partial thickness tear in 35.6% of patients. Regarding the location of the tears, 44.1% of tears occurred at the midsubstance of the root, with 28.0% occurring at the enthesis and 28.0% occurring at the root-posterior horn junction. The mean AMADEUS score was 94.4 ± 11.4. Conclusion: The study demonstrates that many patients with repairable meniscal root tears do not present with classic symptoms or signs of meniscal root tears. Only 40% of patients reported feeling a “pop” and most patients were able to bear weight following the initial injury. There was an effusion and a positive McMurray test in the vast majority of meniscal root tears. The locations of the root tears were variable, but in our cohort over half of patients had a full thickness tear. A low index of suspicion is necessary to appropriately diagnose and ultimately treat repairable meniscal root tears.

Category: Knee · Meniscus

Arthroscopic Partial Meniscectomy in NCAA Division in Football Players: Return to Sport Rates and Player Performance

Abstract ID# 23446

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Summary:
This presentation seeks to report the outcomes of routine arthroscopic meniscectomy in National Collegiate Athletic Association (NCAA) Division I Football players.

Data:
Purpose: To report the outcomes of routine arthroscopic meniscectomy in National Collegiate Athletic Association (NCAA) Division I Football players. Methods: NCAA Division I football players at a single institution who underwent arthroscopic meniscectomy with or without chondroplasty over 5 years were included. Players who had incomplete data, previous knee surgery, ligamentous injury and/or microfractures were excluded. Variables collected for each player included: player position, age, timing of surgery (in season versus off-season), intra-operative findings, procedures performed, RTP time, and number of games played in the season the player returned to football activity. Player positions were grouped as non-skill positions (offensive and defensive line, tight end, punter) and skill positions (running back, wide receiver, defensive back, linebacker, quarterback) based on a previous analysis. 13 RTP time was defined as the number of days that elapsed between an athlete’s surgery and the day that the athlete fully participated in football practice or game without any physical restrictions. Continuous variables were analyzed with Student’s t-tests or a one-way analysis of variance (ANOVA). A simple linear regression was performed to compare RTP time and number of games played in the season in which the player returned to football activities. Statistical significance was defined as p<0.05. Results: Thirty-six athletes (38 knees) who underwent arthroscopic partial meniscectomy (31 lateral, 7 medial) were analyzed. The mean athlete age was 20 ± 2.4 (range: 18-22) years. Half (19/38 players, 50%) of players were non-skill players and 50% (19/38 players) were skill players. The mean RTP time was 71±39 days. The mean RTP time in athletes who underwent in-season surgery was significantly shorter than the RTP in athletes who had off-season surgery (58±41 days vs. 85±33 days, p<0.05). The mean RTP in 29 athletes (31 knees) with lateral meniscectomy was similar to the 7 athletes (7 knees) who had medial meniscectomy (70±36 vs. 77±56, p=0.6803). The mean RTP time was similar between football players who underwent isolated lateral meniscectomy and those who had lateral meniscectomy with chondroplasty (61±36 days vs. 75±41 days, p=0.32). Athletes played an average of 7.7 ± 4.9 games the season they returned; position category and anatomical compartment of the knee lesion had no bearing on number of games played (p=0.1864 and p=0.425). Conclusions: NCAA Division I football players who underwent arthroscopic partial meniscectomy RTS at approximately 2.5 months postoperatively. Athletes who underwent off-season lateral meniscectomy surgery had longer RTP time compared to those who underwent surgery in-season. We found no difference in the RTP rate following arthroscopic partial meniscectomy between skill-position players (linebacker, running back, defensive back, wide receiver, quarterback) and non-skill position players (defensive lineman, offensive lineman, tight end, punter) who competed in the NCAA Division I category (mean RTP of 73 days vs. 70 days, p=0.82). RTP time and performance after surgery did not differ based on anatomical location of the lesions, or chondroplasty at the time of meniscectomy. Level of evidence: Level IV, retrospective case series