lesions. A novel non-distraction technique with rapid switching position was used to treat the patients with posterior and anterior ankle impingement syndrome with combined posterior and anterior arthroscopy. The clinical results were assessed retrospectively.

Method: 13 consecutive patients with posterior and anterior ankle impingement syndrome were treated with combined posterior and anterior arthroscopy. There were 10 Males and 3 Females. The mean age of the patients was 30.3 years (From 15 to 47 years). All the patients accepted at least 1 year follow up for clinical subjective scoring, range of motion and complications.

Results: The mean follow-up time was 15.5 months (From 12 to 22 months). The mean post-operative AOFAS score was 70.7 ± 3.9. The mean post-operative was 92.8 ± 4.7. The variant was statistic significantly (P<0.01). All patients reached normal post-operative range of motion of the ankle joint. There was no significant postoperative complication occur.

Conclusion: The non-distraction technique with rapid switching position which used for treat posterior and anterior ankle impingement syndrome with combined posterior and anterior arthroscopy is an effective and high reproducible method. The extensive lesions of the ankle can be overall assessed and treated by this method.

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B0431
Arthroscopic medial reattachment of the torn cuff tendon for massive rotator cuff tears
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Background: Reattaching the cuff medial to the anatomic cuff insertion site is an option for repairing massive rotator cuff tears. By doing so, tension at the repair site can be reduced and the return rate will be decreased. Although medial reattachment of the torn cuff tendon is commonly used for repairing retracted cuffs, there have been no clinical studies regarding its influence on the range of motion and the function of the shoulder.

Material: There were 12 patients with massive rotator cuff tears who were treated in our institution. There were 8 males and 4 females, with an average age of 53.3 ± 7.9 years (37-68). Five left shoulders and seven right ones were involved. The mean size of rotator cuff tears was 5.4 ± 0.9 cm.

Method: All twelve patients underwent arthroscopic rotator cuff tear repairs, by reattaching the torn cuff tendons medial to the anatomic cuff insertion site without excessive tension. The distance of medial reattachment was recorded during the operation. All operations were performed by one same surgeon. All patients were reviewed in the clinic. The mean follow-up time was 31.2 ± 10.0 months. MRI examinations were performed on every patient to observe the tendon-bone healing. The shoulder Constant-Murley score, visual analogue scale (VAS) for pain and ranges of motion were measured and recorded before and after surgery.

Results: At the follow-up ending time, there was only one patient who got the recurrence rotator cuff tear by MRI. The shoulder Constant-Murley score, Rowe score and the VAS score for instability and the other two showed 0.

Conclusion: Arthroscopic medial reattachment of the torn cuff tendon is an effective method of repairing massive rotator cuff tears. At 13mm of medial reattachment of the torn cuff tendons, the range of abduction motion significantly decreased. Therefore, less than 13mm of medialization is recommended.

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B0432
Dual-energy CT staining technique: Detecting knee sports injury-feasibility study
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Objective: To evaluate sports injury with a dual-energy (DE) computed tomographic (CT) staining technique.

Methods: In this prospective institutional review board--approved study, 40 patients with sports injury underwent DE CT and arthroscopy. A software application was used to staining. Presence of cruciate ligament or meniscus injury were noted, and Presence of site was noted too by two radiologists, with arthroscopy serving as the reference standard.

Results: Agreement of DE-CT with arthroscopy was good in the anterior cruciate ligament (κ=0.77), moderate in the lateral meniscus and medial meniscus (κ=0.41, κ=0.60), and excellent in posterior cruciate ligament (κ=1). Accuracy was 95%, 70%, 80% and 100% for the respective tissue. For cruciate ligament observer 1 achieved a sensitivity of 100%, a specificity of 95.7%, a positive predictive value of 83.3%, a negative predictive value of 100%, and an accuracy of 97.5%. Observer 2 achieved values of 100%, 97.8%, 91%, 100%, and 98.7%, respectively. For meniscus observer 1 achieved a sensitivity of 72.2%, a specificity of 77.3%, a positive predictive value of 72.2%, a negative predictive value of 77.3%, and an accuracy of 75%. Observer 2 achieved values of 83.3%, 79.5%, 76.9%, 85.4%, and 81.3%, respectively.

Conclusion: This DE CT staining technique allowing cruciate ligament and meniscus assessment and potentially making sports injury of the knee detectable with CT.

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B0433
Changes in knee extensor strength after medial patellofemoral ligament reconstruction
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Background: In recent years, medial patellofemoral ligament (MPFL) reconstruction has been a common surgical choice to treat patients with recurrent patellar dislocations. Quadriceps strength weakness has been reported as one of the complications after MPFL reconstruction. However, muscle strength after medial MPFL reconstruction has been described in a limited number of reports, and particularly changes of the muscle strength over pre- and post-operative periods remain largely unknown. In this study, we investigated changes in knee extensor strength after MPFL reconstruction.

Methods: Thirteen patients who underwent MPFL reconstruction for unilateral recurrent patellar dislocation at our hospital (12 females and 1 male; mean age at the time of surgery, 20 ± 5.3 years old) were examined. The peak isometric torque of the knee extensor at 60° of knee flexion in both operated and non-operated limbs was measured using a dynamometer (MYOLET RZ-450) preoperatively and postoperatively at 6 months and 2 years. Follow-up parameters were evaluated. (1) The body weight-adjusted muscle strength (kgs) (2) The postoperative improvement index (post/pre-operative value x 100) (%) (3) The muscle strength ratio of the operated limb against the non-operated limb (operated/non-operated value x 100) (%).

Results: The mean knee extensor strength of the operated limb was not significantly changed at 6 months while it was significantly elevated at 2 years after surgery compared with before surgery and at 6 months. The mean extensor strength of the non-operated limb was significantly elevated at 6 months and at 2 years compared with before surgery. There was no statistically significant difference between at 6 months and 2 years. The mean postoperative improvement index at 2 years in the operated and non-operated limbs were 270% and 161% respectively. The mean muscle strength ratio of the operated limb against non-operated limb at 2 years was 84%.

Discussion: The knee extensor strength in the operated limb was significantly improved from the pre-operative level 2 years after MPFL reconstruction. Although the knee extensor strength in the operated limb tended to be lower than that of the non-operated limb, the knee extensor strength of the non-operated limb also significantly increased after surgery. The results in the present study suggest that MPFL reconstruction at least favorably affects knee extensor strength.

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B0434
Clinical results after all arthroscopic reduction and fixation with suture anchor of fresh bony bankart lesion
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Background: Restoration of glenoid bony integrity and repair of labrum and capsule lesion is critical to minimizing the risk of recurrence of subluxation and re-creating normal kinematics in the setting of anterior glenohumeral instability. We present an arthroscopic suture anchor-based technique for treating fresh bony Bankart fractures in which the fragment is secured to the glenoid using suture placed through the proximal and distal poles of the bony fragment and augmented with adjacent soft-tissue repair.

Material: Between May 2014 and February 2015, 4 patients with fresh bony Bankart lesion who underwent transient shoulder joint dislocation and showed remained instability as subluxation of shoulder, among them 3 were male and 1 patient was female, the age of the patients was 27,38,44 and 59 years old respectively.

Objective: All the 4 patients were treated with all arthroscopic labrum and fracture fragment reduction and internal fixation with suture anchors, 1 of the patients combined with Hill-Sachs lesion was proceeded with remplissage technique, and 1 patient’s combining supraspinatus tear was repaired arthroscopically. Constant-Murley score, Rowe score and the VAS score for instability were used to evaluate the effect.

Results: The average duration of follow-up was 10.2 months (7-14 months). The Constant-Murley were 98.3 ± 2.2, the Rowe score were 84.5 ± 22.0 and two of the patients showed 1 for the VAS score for instability and the other two showed 0.

Discussion: Indication of surgical intervention is the most crucial for success of fresh bony Bankart lesion treatment, it should be restricted in unreliability as subluxation of shoulder after reduction. Suturing technique and instrument is also important in the repair.

Conclusion: Arthroscopic reduction and fixation for fresh bony Bankart lesion in unstable shoul-der can achieve a good result and the combined injuries also could be addressed effectively.

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