

viable. Despite reducing symptoms, arthritic changes were observed to increase radiographically over time. It is unclear if these radiographic changes are related to the initial traumatic and what their future significance might be. The midterm clinical response was favorable for these patients. Further investigation of the long-term results is required.

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Treatment of Large Osteochondral Defects in the Knee With Partial Condylar Transfer (SS-45)

This is a long-term follow-up study of about 53 patients over 5 to 15 years. Treatment of large and deep osteochondral lesions is very demanding. We use large autogenous osteochondral grafts from the most posterior part of the lateral and medial femoral condyles as a partial condylar transfer (PCT). If necessary additional smaller grafts of the trochlea patellae can be used. Harvesting is done by a diamond cutting device. Between 1986 and 1996 we operated 53 patients with large osteochondral defects of the femoral condyles. Postoperative ingrowth control was done by MRI in all cases after 6 and 12 weeks. Only 1 case developed a wide necrosis of the transplants and had to be revised. This complication was due to technical error. Two cases showed small subchondral cysts of no clinical evidence. Clinical evaluation of the long-term follow-up was done by the Standard Cartilage Evaluation Form of the ICRS. More than 90% of the patients showed a significant improvement compared to the preoperative data. There was no morbidity of the posterior harvest side whereas the harvest side in the anterior parts cases problems in a few cases. The Kellgren and Lawrence Score was used for X-ray evaluation. There was only a mild degenerative progression in most of the cases. Patients with varus or valgus deformity showed more progression than those patients without malalignment. Advantage of our method is the possibility of immediate full weight bearing, little harvest morbidity and excellent long-term results.

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Rotator Cuff Repair With Ultrasonic Suture Welding (SS-46)

Rotator cuff repair techniques traditionally employ suture fixation of the tendon to both soft and bony tissues. The suture is tied by hand or arthroscopic knot pusher to provide secure loops to fix tissue to facilitate healing. A new technology allows the creation of secure loops with ultrasonic energy welding. This study was conducted to assess the clinical results of mini-open rotator cuff repair

employing ultrasonic suture welding. Fifty consecutive patients treated by one surgeon were retrospectively evaluated with an average follow-up of 26 months. These patients were then compared to 55 patients treated by the same surgeon with a technique employing standard knot-tying with nonabsorbable suture with similar follow-up. The groups were similar in regard to age, sex, hand dominance and preoperative duration of symptoms. All procedures were performed in a hospital ambulatory surgery center in a lateral decubitus position. A glenohumeral arthroscopy and arthroscopic acromioplasty were performed in all cases. All patients were evaluated by an independent examiner using the UCLA scale; 47 of the 50 suture weld patients were available for evaluation. Preoperative UCLA score averaged 21.5 and postoperative 29.8. There were four failures in this group but two of the patients who failed had a significant postoperative traumatic events; a dislocation in one and a car accident in another. Both patients underwent revision cuff repair. At revision, both repairs had pulled through tendon without failure of the weld. 40 of the 55 patients treated with tied sutures were available for evaluation. Preoperative UCLA score averaged 13.2 and postoperative 31.6. There was one failure in this group of patients and none with postoperative trauma. Postoperative scores for the two groups did not differ significantly according to Student *t* test. An Analysis of Covariance (ANCOVA) of postoperative UCLA scores was also not statistically significant. Suture welding produces secure loops that allow for cuff repair with results similar to traditional knot-tying techniques. Welding technology may facilitate arthroscopic cuff repair by obviating the need to tie arthroscopic knots.

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Very Strong Sutures Can Still Slip: Evaluation of Five Knot Types and Two Suture Materials for Shoulder Arthroscopy (SS-47)

Persistent defects after arthroscopic rotator cuff repair may be due to the technical challenges associated with suture loop and knot security. Very strong suture materials decrease the incidence of suture breakage during knot tying, however these materials are not automatically more reliable in regard to slippage at sub-maximal loads. The purpose of this study was (1) to compare the performance of a standard suture material (No. 2 Ethibond [Ethicon]) with a newer material (No. 2 Fiberwire [Arthrex]) in regard to knot security and load to failure using multiple arthroscopic knot configurations, and (2) to evaluate the biomechanical performance of a new sliding