

purpose of this study was to prospectively evaluate outcomes following lateral unicompartmental knee arthroplasty.

**Methods:** Patients that underwent unicompartmental arthroplasty by one surgeon from 2000-2005 were prospectively studied. Nineteen patients underwent lateral unicompartmental knee replacements. The average age for the lateral unicompartmental group was 68 (range, 50-80). Assessment included preoperative and postoperative range of motion, subjective testing, KT-1000, radiographic evaluation consisting of a full plain radiograph knee series including 3-foot alignment films. An MRI was completed in all patients but one who had a pacemaker. All patients had the same implant utilized.

**Results:** All patients reported severe knee pain preoperatively involving the lateral compartment. No patients were lost to follow-up. One patient was converted to a total knee arthroplasty. Average follow-up was 33 months (range: 24-56 months). The average post-surgical Lysholm score was 91 (range, 67-100) points with a pre-operative Lysholm score of 64 ( $P=0.001$ ). The pre-operative Tegner was 4 (range, 1-7) with a postoperative Tegner of 5 (range, 1-8) ( $p=0.001$ ). The preoperative HSS score was 67 (range, 45-87) with a postoperative score of 92 (range, 82-100) ( $p=0.001$ ). Physical examination and subjective questioning along with MRI correlation helped predict successful outcomes. The average medial compartment Outerbridge grade was 2.2 for the medial femoral condyle and 2.3 for the medial tibial plateau. The average trochlear groove Outerbridge grade was 2.3 and for the patella was 2.2. Overall, patients reported a return to skiing in 5 months, tennis in 4 months, and 1-2 months for walking and jogging.

**Conclusion:** Determining specific patient selection criteria improves patient outcomes and helps with patient education. This study will give the guidelines necessary to offer an alternative to repeat arthroscopic intervention or total knee arthroplasty and allow patients the ability to return to their activities of daily living and sport. Long term results need to be carefully followed. We are not aware of any previous study attempting to report success with lateral unicompartmental knee arthroplasty in a population having returned to sport.

#### **Effects of HYLAN G-F 20 (Synvisc) Supplementation on Cartilage Preservation in Osteoarthritis of the Knee: A Two-Year, Single-blind Clinical Trial (SS-A)**

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**Introduction:** To assess the effect of viscosupplementation with Hylan G-F 20 on the progression of cartilage loss over two years in patients with knee osteoarthritis (OA).

**Methods:** A single-blind, parallel control group pilot clinical trial was performed in 78 eligible patients with symptomatic knee OA (Kellgren Lawrence grade II and III). Patients were assigned to either an intervention group ( $n=39$ , receiving four courses ( $3 \times 2.0\text{cc}$ ) of intra-articular HYLAN-G-F 20 injections at six months intervals or a control group ( $n=39$ , without injections but receiving usual care for OA). Magnetic resonance imaging the target knee was performed at baseline, 6, 12, and 24 months and images were analyzed blinded both to patient group and sequence. Tibial cartilage volume, tibiofemoral cartilage defects and bone marrow lesions were assessed at baseline and follow up.

**Results:** 55 subjects (71%) completed 2-year follow up. There was no significant difference in age, gender, BMI, baseline cartilage volume, bone marrow lesions and bone area in those who completed and those who did not (all  $P>0.13$ ). Analysis of completers demonstrated a significantly reduced annual percentage rate of medial, lateral and total tibial cartilage loss in the intervention group (mean  $\pm$  SD,  $-0.3 \pm 2.7\%$ ,  $-1.4 \pm 4.3\%$  and  $-0.5 \pm 2.3\%$ ) compared with the control group ( $2.3 \pm 2.6\%$ ,  $1.4 \pm 2.6\%$ ,  $1.6 \pm 1.8\%$ ,  $P=0.001$ ,  $0.005$  and  $0.001$  for difference, respectively). The intervention group also showed a significant reduction in the increase of cartilage defect score in the medial and total tibiofemoral compartments ( $0.1 \pm 1.3$  and  $0.5 \pm 2.0$ ) compared with the control group ( $0.8 \pm 1.5$  and  $1.6 \pm 2.0$ , all  $P=0.05$ ). There was no significant difference of change in bone marrow lesions between the intervention and control groups.

**Conclusion:** 6 monthly intra-articular injections of HYLAN-G-F 20 administered without regard to symptoms have a beneficial effect on knee cartilage preservation as measured by both cartilage volume and cartilage defect score. Over two years, the control group continues to lose cartilage while there is no significant loss of cartilage in the HYLAN G-F treated group. HYLAN G-F 20 could be further evaluated in larger trials as a possible disease-modifying agent in patients with knee OA.

#### **A Prospective Randomized Study of 4-strand Hamstring Tendon Anterior Cruciate Ligament Reconstruction Comparing Single-Bundle and Double-Bundle Techniques (SS-39)** *Sang Eun Park, M.D., Ph.D.*

**Introduction:** A randomized clinical study was conducted to compare the outcome between double-bundle and single-bundle anterior cruciate ligament (ACL) re-