at late follow-up. Of those with pain recorded at both follow up time points, 60% had no pain at early compared with 24% at late follow-up (figure). At late follow-up, 21% of men and 19% of women had Oxford Knee Scores $\leqslant$24.

Conclusions: Long term followup of young patients undergoing TKR suggests that implant survival was respectable. However, while pain and functional outcomes were good in the short term, by long term followup a significant proportion of patients had poor outcomes. Further studies of long term pain and functional outcome in this age group are required to confirm these findings.

560 FUNCTIONAL CAPACITY, QUALITY OF LIFE AND COSTS IN OSTEOARTHRITIS (OA) PATIENTS WHO UNDERWENT TOTAL HIP OR KNEE REPLACEMENT SURGERY

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Purpose: To estimate the mean osteoarthritis attributable costs of medical attention, functional capacity and health-related quality of life in patients with hip and knee OA who underwent joint replacement surgery (JRS).

Methods: A descriptive, prospective, economical evaluation was done in a outpatient population with knee or hip OA, radiological stage IV KL who where on waiting list for total JRS. A baseline structured questionnaire was performed including sociodemographic and disease characteristics, comorbid conditions, pharmacological treatment, monthly income and expenses, direct expenses due to OA; clinimetric evaluation included quality of life (SF-36) and functional capacity (HAQ-DI, WOMAC). AfterJRS, costs were assessed by means of a weekly diary where patients registered their expenses related to OA. Clinimetric assessment was performed every two-months until one year. Costs are expressed in US dollars ($1 = 10.51 Mexican pesos). Statistics: Descriptive analysis included mean, standard deviation (SD) and proportions. T test for parametric and continue variables was used.

Results: A total of 43 patients were included. Demographics 79% female, 21% male. Mean age female 65.9$\pm$13.97 years old, male 73.61$\pm$6.7 years old. Body mass index female 26.48$\pm$3.26, male 29.65$\pm$4.06 kg/m^2. Average monthly income 287.9\pm$269.5s. Mean cost of economical resources related to JRS during the month previous to JRS were: medication 36.7\pm$27, visits to physicians 36.7\pm$30.5, X-ray studies 28.2\pm$35.3, support devices 25.8\pm$25.7, transportation to health visits 48.4\pm$62.7, rehabilitation therapy 2.2\pm$6.7 with a total expenditure of 186.6\pm$132.9 (33–879). A total of 31 knee and 12 hip JRS were performed. Mean cost of prosthesis were $2409.6 (1950.2$\pm$4091.3). Six months after JRS, direct costs decreased significantly reaching 31.3\pm$29.6 ($p = 0.04$). On the other hand, quality of life improved markedly in all spheres: physical function, physical role, pain, global health, vitality, social function, emotional role and mental health. Table 1 shows a significant improvement in WOMAC's sub-scales.

Conclusions: Despite high JRS costs for hip and knee OA, the surgical procedure offers a satisfactory improvement in quality of life and physical function and decreases disease's costs of medical attention.

Basal and after JRS WOMAC's sub-scales

WOMAC	Pre-JRS	2 months	4 months	6 months
Pain	13.6$\pm$2.4	6.6$\pm$2.5	5.1$\pm$1.9	3.7$\pm$1.5
Stiffness	5.8$\pm$1.7	1.2$\pm$1.3	0.4$\pm$0.8	0.13$\pm$0.5
Function	53.7$\pm$7.9	22.9$\pm$9.8	16.3$\pm$8.4	11.1$\pm$4.5

561 ANKLE JOINT DISTRACTION FOR ADVANCED ANKLE OSTEOARTHRITIS: THE EFFECT OF MOTION DURING DISTRACTION

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Purpose: Recently, scattered but promising reports have emerged on the use of distraction, with or without motion, as treatment for established OA [1−5]. Unlike the other common treatment options (fusion or replacement), distraction does not "burn any bridges" precluding more definitive treatment if eventually necessary. These distraction studies documented measurable and clinically significant improvements in clinical and radiographic parameters in at least half of patients undergoing non-articulated (immobilized), thin-wire ankle joint distraction for ankle OA. Joint motion has been accepted as an essential adjunctive component in the biological restoration of articular cartilage from injury [6,7]. Procedures that are intended to enhance intrinsic healing capacity of articular cartilage, for example subchondral drilling, abrasion arthroplasty, and microfracture, are all used in conjunction with early motion to create a functional articular surface [8−12]. The relative contribution of motion to outcome of distraction remains largely unknown but is presumed to be clinically important and beneficial. The purpose of this study was to assess the effect of joint motion during distraction arthroplasty for advanced ankle osteoarthritis.

Methods: A prospective, randomized controlled trial was conducted comparing outcomes of patients with advanced OA treated with I) fixed ankle distraction vs II) ankle distraction permitting motion. Following IRB approval, patients with advanced OA (Kellgren-Lawrence 4−5) were selected according to the entry criteria (skeletally mature and $\leqslant$60 years, and unilateral post-traumatic or primary OA, failure non op Rx for 1 yr). Between 2002 and 2006, 40 of 111 patients approached agreed to participate for the follow up period. The surgical procedure was carried out in the standard fashion for both groups, randomized in the operating room. For patients chosen for motion, the distraction rods across the ankle had hinges at the level of the malleollar axis. Evaluations were made in a blinded manner. Patients completed the Ankle Osteoarthritis Scale (AOS) and the short form SF 36 as outcome measures. Standard maximal plantar flexion and dorsiflexion radiographs were taken at each time interval. Each patient was seen at 1, 3, 6, 9 weeks perioperatively, with fixator removal between 85−95 days. Patients were evaluated at 1 week, 6, 12, 24 mos.

Results: At the time of this evaluation, 34 patients had been seen at 6 mos, 29 at 1 yr, 20 at 2 yr. At baseline, there were no significant differences between the two groups in terms of demographics or pre-op pain scores.

Overall, ankle distraction improved scores at all time points, with the scores continuing to improve with time for the motion-capable cohort. For the AOS pain, disability, and overall scores, the motion group showed better performance at 26, 52, and 104 weeks follow-up (Figure 1). For all three measures, group differences were statistically significant ($p < 0.05$) at two of the follow-up periods, and close to significant ($0.05 < p < 0.08$) for the other period, based on an ANCOVA test adjusted for baseline scores one week after surgery.

Conclusions: Based on the results of this study, opportunity for motion during the distraction process seemed to improve the outcomes compared to distraction alone. Further investigation is necessary to elucidate the mechanisms responsible for these findings.

562 OUTCOMES OF PARTIAL HUMERAL HEAD RESURFACING ARTHROPLASTY FOR OSTEOARTHRITIS

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Purpose: To present our prospective series of nine patients diagnosed with osteoarthritis (OA) who underwent partial humeral head resurfacing arthroplasty.

Methods: Nine patients diagnosed with shoulder OA were treated with partial humeral head resurfacing and followed prospectively for a minimum of 24 months. Their mean age was 62.2 years. Preoperative and postoperative standardized evaluations included history, physical examination (PE), radiographs, and clinical scoring systems – including the Western Ontario Osteoarthritis of the Shoulder index (WOOS), American Shoulder and Elbow Surgeons (ASES) score, Constant and Visual Analog Pain (VAS) scores. All patients had failed conservative treatment and were experiencing worsening pain and progressive loss of motion prior to surgery. Postoperative assessments were conducted at 4−7 days, 6 weeks, 3, 6, 12, 18 and 24 months. Statistical analysis of the data