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Hip Arthroscopy for Labral Tears

Review of Clinical Outcomes With 4.8-Year Mean Follow-Up

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Background: Arthroscopy of the hip joint is a relatively new diagnostic and therapeutic option for labral tears.

Purpose: More data are needed to characterize the utility and effectiveness of hip arthroscopy and identify patient-related factors that might predict functional outcome.

Study Design: Case series; Level of evidence, 4.

Methods: This retrospective study with prospective follow-up examined the clinical outcomes of 52 consecutive patients undergoing hip arthroscopy for labral tears. Outcomes measures included clinical outcome and the modified Harris hip score. Any complications associated with the procedure were recorded. Exclusion criteria included age younger than 18 years or prior ipsilateral hip surgery.

Results: Mean patient age was 42 years. Mean follow-up was 4.8 years. Twenty-one patients (40.4%) had a traumatic cause of the labral tears. Eight patients (15.4%) had possible secondary gain issues. Four (7.7%) patients suffered transient nerve palsies; in 1 case, the guide wire broke during initial cannulation. Three patients (5.8%) went on to total hip arthroplasty after hip arthroscopy. On multivariate analysis, left-sided surgery, a higher preoperative activity level, and duration of symptoms greater than 18 months were found to be positive predictors of good or excellent outcomes. Smoking and secondary gain issues were significant negative predictors of good or excellent outcomes. Only prior level of activity was a significant positive predictor of return to activity after surgery. A traumatic cause of the labral tear was a significant negative predictor of return to activity. Chondromalacia and osteoarthritis were not significant predictors of negative outcome. Postoperative modified Harris hip score improved 40% from 56.8 preoperatively to 80.4 ($P < .001$). No cases of patients with secondary gain issues achieved good or excellent outcomes. Overall percentage of good or excellent outcomes was 56%, or 66% when those with secondary gain issues were excluded; 84% of patients were able to return to sports or equivalent level of preoperative recreational activity. Neither preoperative radiographic osteoarthritis nor grade of intraoperative chondromalacia predicted postoperative outcome.

Conclusion: This series supports the hypothesis that hip arthroscopy provides safe and reliable improvement of labral symptoms in the majority of patients.

Keywords: hip arthroscopy; acetabular labral tear; modified Harris hip score (MHHS)

Hip arthroscopy has its historical roots in the 1930s,^{4,32} but it did not gain popularity until the late 1970s. Operative indications and surgical technique have evolved

considerably since its inception,¹⁸ and there has been renewed interest in hip arthroscopy for the management of intra-articular hip lesions.

The hip labrum, a fibrocartilaginous structure surrounding the acetabular rim, provides functions analogous to the menisci in the knees: joint force distribution, stabilization, and lubrication of contact surfaces.^{11,12} Tears may be associated with groin pain, locking, and catching,⁵ and they are often the sequelae of sports-related or traumatic injury, laxity/hypermobility, femoro-acetabular impingement, or congenital and developmental disorders. Candidates for hip arthroscopy should include those patients with mechanical symptoms that have failed to respond to nonoperative therapy.

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Magnetic resonance arthrography is 92% sensitive for diagnosing labral tears,³³ and radial contrast-enhanced computed tomography can be used with good diagnostic accuracy in patients with contraindications to the use of MRI.³⁶ Hip arthroscopy remains the most sensitive tool for diagnosis of labral tears,^{5,17} and arthroscopic labral debridement is currently a viable treatment option for symptomatic labral tears that have failed nonoperative measures.

Although indications and techniques continue to evolve, more functional and clinical outcomes data are needed to better evaluate the effectiveness and utility of arthroscopy of the hip. Prior studies have demonstrated excellent patient satisfaction and clinical results.^{27,30} However, for the treatment of labral tears, only short-term outcomes have been studied in relatively small cohorts. Santori and Villar³⁰ studied 58 cases with a mean 3.5-year follow-up—the largest cohort and longest follow-up after hip arthroscopy for labral tears. Farjo et al⁹ examined 28 patients at a mean 34 months after surgery. In one of the few prospective trials in the hip arthroscopy literature, Byrd and Jones⁶ collected 35 cases with 2-year follow-up. Our cohort size, coupled with the longest follow-up presented to date in the surgical management of labral tears, offers more data in the ongoing study of hip arthroscopy.

The goals of this study were to determine if the outcome of hip arthroscopy for acetabular labral tears at greater than 2-year follow-up provides significant and reliable relief of symptoms based on the modified Harris hip score (MHHS). In addition, the study aimed to determine if any patient-related factors—such as preoperative evidence of osteoarthritis, intraoperative chondromalacia, or secondary gain issues—made a patient more or less likely to achieve good or excellent results at greater than 2-year follow-up.

MATERIALS AND METHODS

A power analysis based on type 1 error rate of 0.05 and a power of .80 was performed. To detect a medium-sized difference between preoperative and postoperative outcomes scores (standardized delta = 0.5 for the paired *t* test), 50 patients would be needed to achieve sufficient power. The present study exceeded this number.

All patients were positioned supine on a fracture table with an extra-large padded perineal post. Traction was applied with the operative extremity in slight hip flexion, neutral to slight internal rotation, and neutral to slight abduction with the minimal necessary force to gain adequate portal access to the hip joint. Generally, distraction of nearly 1 cm was obtained. An anterolateral portal was first established using cannulated technique and under fluoroscopic guidance. Care was taken to enter close to the femoral head and away from the labrum to avoid iatrogenic labral injury. This was followed in all cases by establishment of an anterior portal using cannulated technique, fluoroscopic guidance, and direct arthroscopic visualization to ensure an optimal capsular entry site inferior to the labrum. In many cases, a posterolateral portal was

established as well, using the cannulated technique described above. When necessary for evaluation of the peripheral compartment, a distal anterolateral accessory portal was also established. After confirmation of localization of the hip joint with fluoroscopy, the central compartment of the hip was entered. Labral tears were arthroscopically identified. An attempt was made to repair with suture anchors detached tears at the peripheral rim with good quality labral tissue. All other labral tears were debrided to stable margins, removing all diseased tissues.

At the time of labral debridement, the articular cartilage was inspected and classified by the Outerbridge classification. Chondroplasty was performed, removing as little articular cartilage as possible to provide a stable base. Microfracture was performed only in the case of Outerbridge grade IV chondral defects. After treatment of the central compartment, later in the series, the traction was released, and the peripheral compartment was entered to assess for any femoro-acetabular impingement. Traction was performed for less than 2 hours in all patients.

The patient records, surgical reports, and radiologic studies of 66 consecutive patients from 2000 to 2006 who underwent surgical hip arthroscopy for labral derangement at our institution were retrospectively analyzed. Research protocols were approved by the institutional review board at our institution, informed consent was granted by all patient participants in the study, and all patient material was protected according to the HIPAA guidelines. All patients were prospectively called back in telephone surveys. The physician-administered survey included the MHHS, which explores patient pain and functional levels. Good or excellent outcomes were considered to be greater than 80 on the MHHS.²⁸ Patients' activity levels were retrospectively agreed on by 3 authors using the University of California, Los Angeles (UCLA) activity scale.^{1,3} Inclusion criteria were patients with symptomatic labral tears. All patients were treated with hip arthroscopy by the senior author; 49 patients received labral debridement, and 3 patients underwent labral repair with suture anchor fixation.

Only patients with follow-up greater than 2 years were included. Exclusion criteria included those who were younger than 18 years, had prior ipsilateral hip surgery, or had severe preoperative arthritis, or those who were lost to follow-up. Fifty-two patients met all of our inclusion criteria and none of our exclusion criteria. Of the 14 excluded patients, 4 patients had prior hip surgery, 1 patient had pre-existing severe arthritis, 1 patient was not 18 years old at time of presentation, and 8 patients were lost to follow-up.

STATISTICAL METHODS

Demographics were analyzed descriptively. Paired *t* tests were employed to compare preoperative MHHS with postoperative scores at greater than 2-year follow-up. Univariate binary logistic regression was used to determine patient factors associated with good or excellent outcomes and return to activity. Fisher's exact test was used in

cases in which using binary logistic regression was inappropriate. Patient characteristics for patients with various degrees of chondromalacia at the time of hip arthroscopy were examined using independent-sample *t* tests and Fisher's exact test. Finally, multivariate binary logistic regression models were constructed using the backward likelihood ratio method, with the criteria of 0.10 for removal using the -2 log likelihood statistic. These models were used to determine factors important for good or excellent outcomes after surgical hip arthroscopy for labral tears and return to activity. Because of the small number of patients who underwent labral repair, these patients' results were combined with those of the labral debridement group. All factors considered to be important by previous studies, or by our findings in the univariate portion of our analysis, were entered in the first step of the multiple regression analyses. Bonferroni corrections were included for multiple tests. Finally, post hoc analysis was conducted to assess the utility of our model. All statistics were calculated with SPSS version 15.0 (SPSS Inc, Chicago, Illinois).

RESULTS

Our sample consisted of 52 patients with a mean age of 42 years (range, 25-76 years). There were 20 men and 32 women. The mean body mass index was 25.18 (range, 18.5-34.4). The mean preoperative UCLA activity score was 8.94 (scale, 1-10, with 10 being an activity level consistent with regular impact sports, such as tennis or jogging, or heavy labor). Ten patients had sports-related injuries. Sports included soccer, running (cross-country, track, and hurdles; high school and collegiate levels), yoga, martial arts, wrestling, jet skiing, and professional football. Eight (15.4%) patients admitted to smoking; 44 (84.6%) patients were nonsmokers. The mean duration of symptoms before surgical intervention was 22 months (range, 3-120 months). Follow-up was greater than 2 years in all cases; the mean follow-up was 58 months (range, 28-102 months). Thirty-three patients had right hip tears; 19 patients had left hip tears. Twenty-one patients (40.4%) had a traumatic cause of their labral tears, whereas 31 cases (59.6%) were degenerative or idiopathic. Preoperative MRI showed the labral tears in 88.5% (46) of cases; 3 MR arthrograms were read as negative for labral tears.

Fifteen patients (28.8%) had preexisting osteoarthritis on their imaging studies. Based on a commonly accepted grading system for chondromalacia,²⁵ 40.4% had no chondromalacia at the time of hip arthroscopy, 32.7% had grade I or II changes, and 26.9% had grade III or IV changes.

Three patients had labral repairs with suture anchors, and the remainder had labral debridement. In addition to labral debridement or repair, 21 patients (40.4%) underwent chondroplasty, and 1 had removal of a loose body. Eight (15.4%) patients had possible secondary gain issues (pending litigation, disability, or workers' compensation claims), whereas 44 (84.6%) patients did not have such issues.

Paired *t* tests revealed that MHHS improved significantly from a preoperative baseline of 56.79 points to a

postoperative 80.44 points, a 40% increase in scores ($P < .001$). Overall percentage of good or excellent outcomes was 56%. No patients with secondary gain issues experienced good or excellent outcomes. When excluding these secondary gain patients, 66% of patients experienced good or excellent outcomes at midterm follow-up. Four (7.7%) patients suffered transient nerve palsies: 2 involved the lateral femoral cutaneous nerve with sensory changes in the anterior/lateral thigh, and 2 involved the pudendal nerve, with 1 patient experiencing paresthesias in the skin of the penis and 1 of the scrotum. In 1 case, the guide wire broke during establishment of the anterior portal; this required a 2-cm extension of the anterior portal skin incision for removal of the broken wire.

Three patients went on to total hip arthroplasty after their hip arthroscopies (5.8%). The mean duration of symptoms before arthroscopy was 22 months, and the mean time to total hip arthroplasty was 8 months (range, 6-11 months) after the hip arthroscopy. The patients in this subgroup were 44, 47, and 54 years old at the time of arthroscopy. Mean body mass index for these patients was 30.8. None of these patients reported good or excellent outcomes at follow-up: mean postarthroscopy MHHS was 67. The 2 patients with traumatic injuries did not have pending litigation; the third patient with idiopathic hip pain was applying for disability. Two of the 3 patients had evidence of preexisting arthritis, and the other had grade III to IV chondromalacia at the time of surgery.

Although not a primary focus of this study, 2 patients had imaging studies suggestive of femoro-acetabular impingement on retrospective review. One of these patients had evidence of bilateral impingement seen on MRI. Secondary gain was not an issue in these patients, and both experienced significant increases in their postoperative MHHS (scores of 87 and 93 for good or excellent results). Of note, both patients received labral debridement but no specific surgery aimed at treatment of impingement.

Table 1 presents univariate odds of a good or excellent outcome based on MHHS for several patient factors. After a conservative Bonferroni correction for multiple tests, only secondary gain was significantly (negatively) related to outcome. Table 2 summarizes the univariate odds of return to previous level of activity with different patient factors. Only secondary gain and preoperative activity level were significantly associated with return to activity when the *P* values were adjusted for multiple tests.

Comparisons of patients who had chondromalacia at the time of surgery were made. Patients with gradually increasing levels of chondromalacia were more likely to be older and male and to have a greater body mass index, longer duration of symptoms, lower preoperative MHHS, and lower preoperative activity level. These differences, however, were not significant after correction for multiple tests.

All variables of interest were entered into a multivariate logistic regression to determine what factors could predict a return to preoperative level of activity. After this procedure, only preoperative activity level by UCLA activity scale (adjusted odds ratio = 2.794; $P = .003$) was a significant

TABLE 1
Univariate Odds of Good or Excellent Outcome by
MHHS Given a Variety of Patient Factors^a

Variable	Odds Ratio (Exp B)	95% CI	P
Age (continuous)	0.971	0.922-1.023	.267
Age >45 years	0.491	0.158-1.527	.219
Female sex	2.037	0.655-6.338	.219
Left side	5.089	1.385-18.696	.014 ^b
Preexisting OA	0.597	0.178-1.997	.402
Duration of symptoms (continuous)	1.027	0.988-1.069	.177
Duration >18 months	1.667	0.549-5.056	.367
Traumatic injury	0.205	0.062-0.750	.009 ^b
BMI >25	0.281	0.089-0.887	.030 ^b
Current smoker	0.082	0.009-0.725	.025 ^b
CM intraoperative	0.911	0.298-2.782	.870
CM grade I-II (vs 0)	0.844	0.233-3.053	.796
CM grade III-IV (vs 0)	1.000	0.255-3.922	1.000
UCLA preoperative	2.327	1.299-4.167	.005 ^b
Secondary gain ^c			.00065 ^{b,c,d}

^aOdds ratios are stated in terms of likelihood of achieving good or excellent results. BMI, body mass index; CI, confidence interval; CM, chondromalacia; MHHS, modified Harris hip score; OA, osteoarthritis; UCLA, University of California, Los Angeles.

^bStatistically significant.

^cThere were no patients who had secondary gain issues that achieved good or excellent results, and hence, binary logistic regression was not performed on that group. The result was highly significant using Fisher's exact test.

^dStatistically significant after Bonferroni adjustment for multiple tests (threshold $P = .003$).

positive predictor for return to activity. Only a traumatic origin of the labral tear (adjusted odds ratio = 0.078; $P = .006$) was a significant negative predictor of return to prior level of activity. Post hoc analysis showed that the model was significant, fit the data well, and had no multicollinearity.

An additional multivariate analysis was performed with identical methods to those above to determine factors related to good or excellent midterm outcomes. After this procedure, only left-sided surgery, preoperative activity level, and duration of symptoms greater than 18 months were found to be positive predictors of good or excellent outcomes (P value of odds ratio = .065, .070, and .047, respectively). Smoking was found to be a significant negative predictor of good or excellent outcomes ($P = .023$). There were no cases of patients with secondary gain achieving good or excellent outcomes. Post hoc analysis showed that the model was significant, fit the data well, and had no multicollinearity.

DISCUSSION

Does hip arthroscopy represent a "hip-preserving" procedure in the young? Previous work has supported the use of labral debridement as a temporizing procedure before hip arthroplasty, even in patients with milder chondromalacia.¹⁰ Labral tears are often accompanied by articular

TABLE 2
Univariate Odds of Return to Activity
Given a Variety of Patient Factors^a

Variable	Odds Ratio (Exp B)	95% CI	P
Age (continuous)	0.965	0.912-1.022	.229
Age >45 years	0.458	0.126-1.672	.237
Female sex	1.531	0.429-5.459	.512
Left side	1.406	0.367-5.386	.619
Preexisting OA	0.884	0.225-3.474	.860
Duration of symptoms (continuous)	1.014	0.973-1.057	.499
Duration >18 months	1.228	0.349-4.322	.749
Traumatic injury	0.118	0.027-0.511	.004 ^b
BMI >25	0.309	0.081-1.180	.086
Current smoker	0.257	0.054-1.233	.089
CM intraoperative	0.575	0.151-2.190	.417
CM grade I-II (vs 0)	0.565	0.125-2.552	.458
CM grade III-IV (vs 0)	0.588	0.120-2.887	.513
UCLA preoperative	2.534	1.396-4.597	.002 ^{b,c}
Secondary gain	0.063	0.011-0.379	.003 ^{b,c}

^aOdds ratios are stated in terms of likelihood of achieving good or excellent results with odds ratios under 1 indicating lower odds of returning to previous level of activity. BMI, body mass index; CM, chondromalacia; OA, osteoarthritis; UCLA, University of California, Los Angeles.

^bStatistically significant.

^cStatistically significant after Bonferroni adjustment for multiple tests (threshold $P = .003$).

cartilage lesions of the adjacent bony acetabulum or femoral head. Chondral defects can represent an elusive source of pain, and radiographic diagnosis may be difficult for subtle lesions. According to McCarthy et al,²³ the most common initiating site for such lesions occurs at the "watershed zone" of the labrochondral junction.

If labral tears are present for years, it has been posited that they may accelerate chondral degeneration through destabilization and subsequent delamination of the chondral interface.²² Although a biomechanical cadaveric study found that labral debridement does not result in increased pressure or load in the anterior and superior aspects of the acetabulum, this static model may not adequately represent the chronic forces predisposing the hip to premature osteoarthritis.¹⁹ Therefore, longer term data and a better understanding of the natural history of labral tears are necessary to answer this question.

Some have proposed hip arthroscopy and labral debridement be targeted to mild to moderate disease in those younger than 50 years.³⁴ In our series, older age, gender, and longer symptom duration were not found to be significant predictors of good or excellent outcome. Patients with gradually increasing degrees of chondromalacia trended toward being older, being heavier, and having longer symptom duration. Importantly, grade of intraoperative chondromalacia did not predict postoperative outcome. This does not support other studies proposing hip arthroscopy as a useful intermediate step before arthroplasty for degenerative joint disease. Farjo et al¹⁰ and Villar³⁴ reported

TABLE 3
Summary of Arthroscopic Studies for Labral Tears
With Minimum Follow-up of 18 Months,
Comparing Sample Size, Mean Age of Cohort, and
Mean Duration of Follow-Up

Study	Year	Total Procedures	Mean Age, y	Mean Follow-up, mo
Farjo et al ⁹	1999	28	41	34
Byrd and Jones ⁶	2000	44	29	26
Santori and Villar ³⁰	2000	58	37	42
McCarthy et al ²¹	2003	13	24	18
Potter et al ²⁷	2005	33	35	26
Philippon et al ²⁶	2007	45	31	20
Ilizaliturri et al ¹⁵	2007	14	31	30
Ilizaliturri et al ¹⁶	2008	19	34	24
Kamath et al	Present study	52	42	58

only 34% and 60% improvement rates, respectively, after labral debridement for patients with osteoarthritis.

Surgical treatment of isolated labral tears without evidence of articular wear may result in both symptomatic and functional improvement,^{6,9} but sample sizes and limited data in prior studies preclude definitive correlations. It is still not understood whether the extent of damage to the abutting cartilage correlates well with eventual surgical outcome. Recently, arthroscopically repaired acetabular-labral lesions in an ovine model were capable of healing via fibrovascular repair and/or direct reattachment.²⁶ However, the long-term results of labral repair in humans are unknown. Our study presents the longest mean clinical outcomes follow-up for labral tears addressed in the hip arthroscopy literature (Table 3). It should be mentioned, however, that even this study at best presents midterm results. In addition, the retrospective design of the study and the lack of available controls do not allow us to make inferences about the outcomes of hip arthroscopy compared with the natural history of labral tears.

Wenger et al³⁵ identified underlying bony abnormalities in 87% of patients with labral tears, and potential cofounders in other studies include underlying hip arthritis and dysplasia.¹³ Forty percent of our patients needed concomitant chondroplasty with either repair or debridement of the labral tear. Prior studies describe poorer results after labral debridement in patients with articular cartilage damage⁶ or radiographic evidence of osteoarthritis.⁹ This was not the case in our series. Radiographs have been shown to be an insensitive marker of osteoarthritic degenerative disease of the hip when compared with arthroscopy for early osteoarthritis.³¹ Furthermore, higher grades of intraoperative chondromalacia did not significantly affect outcome by MHHS in our series. This is in contrast to prior studies that have shown substantially higher postoperative rates of satisfaction in those patients with isolated labral tears when compared with patients with labral tears plus chondral damage.^{6,9}

Two of 15 (13%) patients with osteoarthritis went on to have total hip replacements, compared with 1 of 37 (2.7%) patients without osteoarthritis. In a study by Farjo et al,⁹ 6 of 14 patients with evidence of significant preoperative radiographic osteoarthritis underwent subsequent total hip arthroplasty, whereas 2 of 14 patients without osteoarthritis had arthroplasty. More data are needed to examine the effect of preexisting osteoarthritis on eventual clinical outcome and need for subsequent arthroplasty.

Morbid obesity may be a relative contraindication based on difficulty with intraoperative instrumentation and complications related to distraction and management of soft tissues. Patients with a body mass index greater than 25 fared worse in this study. This effect however did not hold up in multivariate analysis. Some of the issues related to obesity may be a result of the increased technical difficulty that large patient size confers. In addition, obesity may confound long-term functional outcomes after arthroscopy, such as increased wear and tear on an already vulnerable joint.

The adverse effect of secondary gain has been well demonstrated in the outcomes literature of other orthopaedic subspecialties, including shoulder and upper extremity,^{14,20} spine,^{2,8} and total joint arthroplasty.²⁴ Byrd and Jones,⁶ however, did not find an effect of workers' compensation claims on outcomes of hip arthroscopy; indeed, this subgroup actually fared better but without any statistical significance. Likewise, Farjo et al⁹ described no significant difference in outcomes when considering potential secondary gain issues. Although they had relatively short follow-up, Potter et al²⁷ did find a correlation between disability and poorer outcomes after hip arthroscopy. This series reinforces the negative effect of workers' compensation or other litigation claims, as no patients with secondary gain issues experienced good or excellent outcomes. Furthermore, patients with secondary gain issues were significantly less likely to return to prior activity level, although this association was not significant on multivariate analysis.

Patients with traumatic injuries were significantly less likely to return to preoperative activity and were significantly less likely, on univariate analysis, to achieve good or excellent outcomes at final follow-up. These patients with traumatic lesions experience the abrupt and oftentimes disabling onset of hip symptoms and may therefore rate their postoperative symptoms worse. Conversely, those patients with nontraumatic or "degenerative" hip labral tears may be accustomed to chronic pain and the insidious onset of symptoms; in this study, duration of symptoms greater than 18 months was a significant positive predictor of outcome. As the MHHS is a subjective score, these patients may perceive a better postoperative outcome despite an equivalent amount of pain relief from the surgery. Only 1 of the nontraumatic or "degenerative" tears was treated with repair. This patient was a 29-year-old woman with a 48-month duration of symptoms before surgical intervention. Magnetic resonance arthrogram of the hip demonstrated a full-thickness tear of the labrum. All other patients with degenerative labral tears were managed with debridement at the time of intervention.

Patients with higher preoperative UCLA activity scores were more likely to return to preoperative sports or recreational activities. This includes traumatic and nontraumatic/degenerative labral tears. Caution must be made in interpreting the UCLA scoring system, as it is not a very stringent scale: those rated as highly “active” based on regular—but not necessarily high-intensity—activities such as jogging might not necessarily be high-level athletes but rather regular recreational participants. Although traumatic or sports-related injuries may result in worse subjective outcomes, it is the objective activity level that better dictates return to play or activity.

Complication rates reported have been as high as 6.4%.^{7,29} Experience, formal training, and case load tend to influence overall complication rates. Most complications are related to traction on the operative extremity and portal placement and include sciatic, femoral, or pudendal nerve palsy; avascular necrosis; and compartment syndrome. Of the 5 patients who experienced complications in this study, there were no permanent nerve palsies. All palsies or paresthesias resolved by final follow-up. Extraction of the broken guide wire required more extensive dissection (2-cm extension of incision) but resulted in no wound or soft tissue complications. Meticulous patient positioning, attention to distraction time, and careful portal placement using the “nick and spread” technique can minimize risks.

Strengths of this study include a sizable cohort of patients operated on at a single institution by the same surgeon with midterm to long-term follow-up. The 40% improvement in MHHS at a mean of nearly 5 years postoperatively is comparable to a study by Byrd and Jones,⁶ who presented a 31% improvement in MHHS at 2-year follow-up. Limitations include potential recall bias in patient surveys, lack of controls, and retrospective design with prospective follow-up. Furthermore, there is a lack of radiographic follow-up and physical examination.

Neither evidence of preoperative radiographic osteoarthritis nor grade of intraoperative chondromalacia predicts postoperative outcome. Traumatic origin and secondary gain issues portend a worse outcome, and preoperative activity level is a positive predictor for both outcome and return to activity. Arthroscopy continues to be an important tool in the diagnosis and treatment of intra-articular hip tears, and judicious patient selection and diagnostic expertise remain crucial to successful outcomes. Patient expectations should be limited preoperatively, as one third of patients, even when excluding those with secondary gain issues, will not experience good or excellent outcomes. Preoperative activity level should guide both patient and physician expectations of postoperative results.

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