Return to Activity After Knee Arthroscopy

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Purpose: Although knee arthroscopy is described as minimally invasive, return to activity has been poorly quantitated. Our purpose is to test the hypothesis that most patients return to unrestricted activity within 4 weeks after knee arthroscopy. **Methods:** After prospective power analysis, 72 consecutive patients who underwent arthroscopic knee partial medial meniscectomy, partial lateral meniscectomy, chondroplasty, loose body removal, or synovectomy (or some combination thereof) by a single surgeon were included. Patients with Workers' Compensation claims were excluded. Postoperative instructions were standardized. Patients completed a diary preoperatively and at 1, 2, 3, 4, 8, 12, 16, 20, and 24 weeks postoperatively indicating their highest International Knee Documentation Committee (subjective) level of activity, as well as whether activity was restricted for knee-related reasons. **Results:** Preoperatively, 88% of patients described knee-related activity restriction. By 2 weeks postoperatively, only 74% described knee-related activity restriction, a significant difference ($P = .039$); this improved to 38% at 4 weeks and was only 4% at 20 weeks. In addition, 82% returned to light activity such as walking, housework, or yard work after 1 week, with 94% after 2 weeks and 100% after 4 weeks. **Conclusions:** Our results support the hypothesis: Most patients had no knee-related activity restriction 4 weeks after arthroscopy. **Level of Evidence:** Level IV, therapeutic case series. **Key Words:** Knee arthroscopy—Rehabilitation—Sports—Recovery—Activity.

Patients preparing to have knee arthroscopy want to know: "How soon after surgery can I return to activity? How soon can I walk?"

Unfortunately, return to activity after knee arthroscopy has not been well quantitated. Knee arthroscopy is considered a minimally invasive, low-morbidity surgery with a rapid recovery,[1] but few studies address the rate of return to activity. Review of the published literature reveals 2 studies quantitating knee arthroscopy recovery time in athletes. Lysholm and Gilquist[2] reported that 68% of athletes resumed full athletic training within 2 weeks of arthroscopic meniscectomy, and Stetson and Templin[3] reported that recreational athletes having 2-portal or 3-portal arthroscopy "return to work or normal activity" at a mean of 9 days or 19 days after knee arthroscopy. However, neither of these studies evaluated a diverse population including athletes and nonathletes, and neither of these studies evaluated whether study subjects had knee-related activity limitation despite return to full athletic training or return to work or normal activity.

The purpose of this investigation is to quantitate return to unrestricted activity (no knee-related activity limitation) after knee arthroscopy in a diverse population of knee arthroscopy patients. We hypothesize that most patients return to unrestricted activity within 4 weeks after knee arthroscopy.

METHODS

After sample size analysis and institutional review board approval, consecutive patients undergoing routine knee arthroscopy by a single surgeon were in-

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cluded in this prospective case series. Routine knee arthroscopy included the following procedures: partial medial meniscectomy, partial lateral meniscectomy, chondroplasty, loose body removal, or synovectomy. Excluded were patients having meniscus repair, lateral retinacular release, ligament reconstruction, or cartilage restoration procedures; patients unwilling to complete study informed consent or follow-up; and patients with Workers' Compensation insurance claims. All patients had 2-portal knee arthroscopy performed under general anesthesia in a hospital-based ambulatory surgery center.

Patients completed a diary preoperatively and at 1, 2, 3, 4, 8, 12, 16, 20, and 24 weeks postoperatively indicating their highest level of activity, as well as whether the level of activity was restricted for knee-related reasons. Patient age and gender were also recorded. Level of activity was defined according to the 2000 International Knee Documentation Committee Subjective Knee Evaluation Form as follows: "very strenuous activities like jumping or pivoting as in basketball or soccer," "strenuous activities like heavy physical work, skiing or tennis," "moderate activities like moderate physical work, running or jogging," "light activities like walking, housework or yard work," or "unable to perform any of the above activities due to knee pain." A study coordinator contacted each study subject by phone at the time of each follow-up to confirm with the patient that the diary had been completed (or to the patient to do so).

Postoperative instructions were standardized and provided to each patient in writing. In addition, they were provided with a "Patient Introduction to Knee Surgery Rehabilitation and Return to Activity" designed to minimize study bias by encouraging them to determine their own return to activity (Table 1, online only, available at www.arthroscopyjournal.org).

Patients were instructed to arrange their first follow-up evaluation 1.5 weeks postoperatively. Physical therapy was prescribed according to the following algorithm: if a patient showed a tense knee effusion, gross quadriceps muscle inhibition, flexion contracture, flexion less than 90°, or pain deemed out of proportion to the magnitude of the procedure or if a patient requested physical therapy, a written "Physical Therapy Prescription" was completed in a standardized manner designed to minimize study bias (Table 1, online only, available at *www.arthroscopyjournal.org*). If patients did not meet these criteria, formal physical therapy was not prescribed.

Statistical Methods

A priori power analysis was performed. A sample size of 70 was calculated to have greater than 90% power to test the hypothesis that most patients would have no knee-related activity limitations at 4 weeks postoperatively. The Fisher exact test was applied to detect a difference in the proportion of patients without knee-related activity limitation from preoperatively to postoperatively. $P < .05$ was considered statistically significant.

RESULTS

This study included 72 consecutive patients (36 male and 36 female; mean age, 44 years [range, 12 to 75 years]). No patients were lost to follow-up. No patients had infection, deep venous thrombosis, or other notable postoperative complications. Results are indicated in Fig 1 and Tables 2 and 3 (online only, available at www.arthroscopyjournal.org).

Preoperatively, 88% of patients indicated knee-related activity restriction. By 2 weeks postoperatively, only 74% of patients described knee-related activity restriction, a significant difference from preoperatively ($P = .039$); this improved to 38% at 4 weeks and 4% at 20 weeks (Fig 1). In addition, 82% of patients returned to (restricted or unrestricted) light activities like walking, housework, or yard work (or higher level of activity) after 1 week, with 94% after 2 weeks and 100% after 4 weeks (Table 2, online only, available at www.arthroscopyjournal.org).

DISCUSSION

Knee arthroscopy is described as minimally invasive surgery, and patients preparing to have knee arthroscopy are often told that the procedure has a rapid recovery.[1] Patients preparing to have knee arthroscopy may be so counseled: our results show that at 4 weeks postoperatively, most patients (62%) returned to activity with no restrictions for knee-related reasons. In addition, 82% of patients returned to walking by 1 week postoperatively, and all patients returned to walking by 4 weeks postoperatively.

Our results also show that knee arthroscopy is efficacious. Preoperatively, 88% of patients described knee-related activity restriction. At 20 weeks postoperatively (and at final follow-up of 24 weeks), only 4% of patients described knee-related activity restriction. We acknowledge as a limitation of our study, however, that a minimum of 24 months' follow-up