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Summary

Background: In recently published studies, the question of return to sport after arthroscopic FAI surgery had been discussed most frequently. However, since most of the patients who had undergone FAI surgery are younger, the socioeconomic perspective is becoming increasingly important especially the return to work period. The aim of this work was to analyze the return to work after arthroscopic FAI surgery in patients younger than 30 years.

Material and methods: 43 patients (age between 18 and 30 years) who had undergone arthroscopic FAI surgery during April 2014 to April 2015 were analyzed prospectively. We built 3 groups depending on different workloads (sitting-, standing- and work with physical activitiy) and measured the time to 100% return to work. After a follow-up of an average of 24.4 months (18–32 months) the HOOS and WOMAC score were collected.

Results: In the comparison of the 3 groups, the average time of return to work was 4.8 weeks for sitting activity, 7.9 weeks for standing activity, and 24.3 weeks for physical activity. There was a significant difference between the groups ($p = 0.04$). The groups did not differ in age, body size, body weight and BMI.

Furthermore, PROs per group were compared. In the seated group, all subscores of HOOS and WOMAC showed a highly significant improvement postoperatively. Significant improvements were also seen in the standing group, but the subscore stiffness of WOMAC showed no significant improvement ($p = 0.067$). For the physically working group, a significant difference could only be found for HOOS symptoms ($p = 0.033$), HOOS-ADL ($p = 0.024$) and WOMAC function ($p = 0.024$).

Conclusion: The time of the full return to work was significantly dependent on the physical demandance of the job, sitting workers returned fastest. The postoperatively achieved changes in the HOOS and WOMAC also depended on the workload.

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Return to work after arthroscopic surgery for femoroacetabular impingement in patients younger than 30 years

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Introduction

Femoroacetabular Impingement (FAI) is a common cause of hip pain in young adults and has gained high attention over the last decade [7,16,18,26]. For these patients, arthroscopic treatment is an established surgical method and studies have shown reliable improvements in patient-related outcome scores (PROs) and improved performance of activities of daily living [10,11,29]. While recent studies demonstrated high rates of return to sport for professional and recreational athletes, there has not been a study regarding the return to work in a general population [1,2,5,9,19,20,22]. Regarding the dramatically increased rates of hip arthroscopy during the last decade, the return to work time is an important socioeconomic factor that needs to be considered [16,27].

The purpose of this study is to examine the return to work time and patient-reported outcomes within different groups of workload. We hypothesize that the workload has some effect on the time needed to return to full 100% workability.

Material and methods

Patient selection

Between April 2014 and April 2015, 256 hip arthroscopies were performed in a high-volume hip arthroscopy center. Out of these 256 patients we included patients older than 17 years and younger than 30 years that underwent arthroscopic treatment of (cam-, pincer- or combined) femoroacetabular Impingement. The lower limit was selected as most young adults begin work from this time onwards. Exclusion criteria included previous hip surgery, dysplasia, extra-articular pathologies, history of pediatric deformities or osteoarthritis (Tönnis grade >0) [30].

Operative technique

All hip arthroscopies were performed by the two senior authors. The surgical procedure was performed under general anesthesia in the supine position using a traction table and perineal post [3]. Two standard portals were used for each arthroscopy (midanterior and anterolateral portal). First a diagnostic arthroscopy was performed and the labrum, chondral damage and additional intra-articular injuries were

Level of evidence: Level IV.

Keywords
Arthroscopic Hip surgery– FAI– Outcome– Return to work

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„Return-to-Work'' nach arthroskopischer FAI-Chirurgie bei Patienten unter 30 Jahren

Zusammenfassung

Hintergrund: Die arthroskopische Therapie des femoroacetabulären Impingements hat sich in den letzten Jahren rasant weiterentwickelt. Bezüglich des Outcomes war in den meisten publizierten Studien die Frage nach dem Return-to-sports betrachtet worden. Da jedoch vorwiegend jüngere Patienten dieser Therapie zugängig sind, wird die sozioökonomische Sicht im Sinne des Return-to-work immer wichtiger. Ziel dieser Arbeit war es daher, das Return-to-work nach arthroskopischer FAI-Chirurgie bei Patienten unter 30 Jahren zu analysieren.
Material und methode: Es wurden 43 Patienten zwischen 18 und 30 Jahren prospektiv analysiert, die sich im Zeitraum von April 2014 bis April 2015 einer arthroskopischen Therapie des FAI unterzogen hatten. Es konnten 3 Gruppen (sitzende, stehende und körperliche Tätigkeit) gebildet und die Zeit bis zur 100%igen Arbeitsfähigkeit erhoben werden. Nach einem Follow-Up von durchschnittlich 20,4 Monaten (14-28 Monate) wurden zudem der HOOS und WOMAC Score erhoben.
Ergebnisse: Im Vergleich der Tätigkeitsgruppen lag der Zeitpunkt des Arbeitsbeginnes bei sitzender Tätigkeit bei durchschnittlich 4,8 Wochen, bei stehender Tätigkeit bei durchschnittlich 7,9 Wochen und bei körperlicher Tätigkeit bei durchschnittlich 24,3 Wochen. Es lag jeweils ein signifikanter Unterschied im Vergleich der Gruppen untereinander vor ($p = 0{,}04$).
In der sitzenden Gruppe zeigten alle Subscores des HOOS und WOMAC eine hoch signifikante Verbesserung postoperativ.

assessed. All patients included in this study showed cam and/or pincer-deformities. Therefore, cam impingement was treated with femoroplasty, and pincer impingement was treated with acetabuloplasty using a burr under the guidance of fluoroscopy. In patients with labral tears, the labrum was repaired whenever possible by using the loop-technique and knotless anchors [24]. If repair was not possible, the labrum was debrided until stable. None of the patients showed intrasubstance labral damage, so no labral-reconstruction was necessary. If there is intrasubstance labral damage the authors prefer labral-reconstruction using a gracilis graft [17]. Chondral damage was treated with debridement until a stable border was received and in the case of exposed bone a microfracture was performed. The capsule was not repaired routinely.

Rehabilitation

Postoperatively, weightbearing was restricted with toe-touch only for two weeks on crutches and afterwards was increased to full weightbearing over the next two weeks. Physical therapy was begun on postoperative day 1 to begin combined active/passive range of motion with an active motion splint (CAMO®ped) [21]. Additionally, the patients started a protocol of rehabilitation exercises for strength, balance, and coordination as tolerated by the patient. Patients were prescribed Indometacin 25 mg three times a day for six weeks postoperatively for heterotopic ossification prophylaxis.

Groups of workload

The patients were divided into three groups according to their workload: sitting activity such as an office job; standing activity such as an assembly-line job; physical activity such as craftsmen. Patients reported their workload as part of a questionnaire.

Patient-reported outcome scores

All patients were assessed prospectively before surgery and at the time of follow up thereafter with two patient-reported outcome scores (PROs): Hip disability and Osteoarthritis Outcome Score (HOOS) and the Western Ontario and McMaster Universities Arthritis Index (WOMAC). Both metrics haves been shown to have high clinometric and psychometric properties [12,14]. Especially the HOOS seems to be most appropriate current measure of outcome in patients undergoing hip arthroscopy [12]. Additionally, a return to work questionnaire was sent to patients by mail.

Statistical analysis

Statistical analyses were conducted using the SPSS version 21 (IBM, Armonk, USA). Descriptive statistics were used for patient demographics. Descriptive data were reported as the mean and range. Differences in PRO scores (HOOS and WOMAC) were calculated with 95% confidence intervals (CIs). Paired Student 2-tailed t test was used for parametric data. Significance was defined as $p < 0.05$.

Results

In the period between April 2014 and April 2015, a total of 256 hip arthroscopies were conducted in our clinic. Based on the inclusion and exclusion criteria, there were 53 patients that were eligible for this study. There was 81% follow-up of patients ($n = 43$, 31 males and 12 female), at a mean of 24.4 months (range, 18–32 months). The mean age of this group was 25 years (range, 19–30 years); mean height, 1.78 m (range, 1.60–1.96 m); mean weight, 76 kg (range, 49–130 kg); and mean body mass index, 21.3 kg/m^2 (range, 15–31.6 kg/m^2)