

Combined Periacetabular Osteotomy and Hip Arthroscopy May Increase Return to Sport in Patients with Hip Dysplasia as Compared to Arthroscopy or Periacetabular Osteotomy Alone

Zachariah Whiting, Bhargavi Maheshwer, Marsalis Brown, Robert Joseph Wetzel, Michael J. Salata

INTRODUCTION: Prior studies of patients with hip dysplasia have documented approximately 75% return to sport (RTS) with arthroscopy alone, 75 to 92.5% RTS with periacetabular osteotomy (PAO) alone, and approximately 82% RTS with combined PAO and hip arthroscopy. Combined procedures may be the most successful in this population. The purpose of this study was to investigate the RTS rate in patients with hip dysplasia after combined PAO and hip arthroscopy.

METHODS: This was a retrospective single-institution review of all patients who underwent a combined PAO and hip arthroscopy between 2016 and 2023. One pair of surgeons performed all procedures. Inclusion criteria were hip dysplasia and documented participation in a sport or athletic activity undergoing a combined PAO and hip arthroscopy. Patients were excluded for not participating in a sport or activity or follow up less than 6 months. Demographic data was compiled from electronic medical record review to include age, body mass index (BMI), sex, sports or activities, and history of prior hip surgery. Modified Harris hip score (mHHS), RTS, and time to RTS were documented. Preoperative and postoperative radiographs were reviewed with documentation of lateral center edge angle (LCEA), extrusion index (EI), acetabular index (AI), and alpha angle.

RESULTS: A total of 103 athletic hips in 84 patients were included with a mean age and BMI of 20.3 ± 6.9 years and 23.9 ± 4.5 , respectively. Mean LCEA and AI were 20.8 ± 5.4 and 11.9 ± 4.8 , respectively. Average postoperative follow up was 514.9 ± 326.5 days. From this cohort, 89.3% of hips returned to sport at an average of 297.5 days. There was no significant association between RTS rates and any demographics, diagnoses, or preoperative and postoperative measurements. There was no significant association between RTS and mHHS. There was no significant association between degree of dysplasia and RTS. Contact athletes had an 82.5% RTS and non-contact athletes had an 93.7% RTS.

DISCUSSION AND CONCLUSION: This study showed that combination hip arthroscopy and PAO for the treatment of hip dysplasia exhibited high levels of RTS at 89.3%, higher than previously reported. Additionally, there were high rates of RTS in patients with severe dysplasia and those participating in contact sports, specifically. Combined procedures may be the most successful option for patients with hip dysplasia hoping to return to sport at a high level.

Table 1: Demographics

Postoperative follow up	514.9 +/- 326.5 days
Age	20.3 +/- 6.9 years
BMI	23.9 +/- 4.5
LCEA	20.8 +/- 5.4
AI	11.9 +/- 4.8

Table 2: Overall Return to Sport Rates

All athletes	92/103 (89.3%)	297.5 +/- 181.3 days
Contact athlete	33/40 (82.5%)	289.3 +/- 178.3 days
Non-contact athlete	59/63 (93.7%)	302.2 +/- 184.2 days
Male	9/11 (81.8%)	321.6 +/- 274.5
Female	83/92 (90.2%)	294.9 +/- 170.4

Table 3: Association Between Demographics and Return to Sport

	Return to Sport	No Return to Sport	P-value
Labral repair	84	11	0.595
No labral repair	8	0	
Contact	33	7	0.103
Non-contact	59	4	
Male	9	2	0.833
Female	83	9	
BMI <25	64	6	0.358
BMI 25-30	16	4	
BMI >30	8	1	
Prior hip surgery	24	1	0.279
No prior hip surgery	62	10	
LCEA <20 (dysplasia)	43	3	0.068
LCEA 20-25 (borderline)	34	3	
LCEA >25 (normal)	15	5	