

What Is the Impact of PAO Surgery on Patient Function and Activity Levels?

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Introduction: The Bernese periacetabular osteotomy (PAO) is becoming a widely utilized procedure. Patients are younger, highly active, and may desire return to sport activity. Counseling and managing expectations in these patients is challenging as there is limited information regarding activity level after PAO. The purpose of this study was to analyze physical activity levels after PAO in a large, prospective multicenter cohort.

Methods: Assessment of prospectively collected data from a multicenter group included 456 hips treated by PAO for hip dysplasia. After exclusions, 359 hips (80 male, 279 female) remained with a mean age of 25.9 years and mean BMI of 25. Demographics, radiographic measures, and clinical outcomes were evaluated preoperatively, at 1 year, and at minimum 2 years postoperatively (mean: 44.9 months). Activity level was assessed with the University of California Los Angeles (UCLA) activity score. Patients were stratified into low, moderate, and high activity groups based on preoperative function. Descriptive statistics and linear regressions were performed for the primary outcome of change in UCLA.

Results: UCLA scores were improved on average 0.6 points at final follow up ($p=0.001$). When stratified, the low activity and moderate activity groups had significant improvement in UCLA scores ($p<0.0001$ and $p=0.007$) while the high activity group saw a decrease in UCLA scores ($p<0.0001$). mHHS, HOOS Pain, and HOOS Sports and Recreation scores were significantly improved across all activity levels. Univariable linear regression analysis identified prior ipsilateral surgery, arthroscopy at time of PAO, and preoperative ACEA to be predictors of the change in UCLA score ($p<0.05$). With the multivariable model, the effect of prior ipsilateral surgery was maintained ($p=0.002$).

Conclusions: The data suggests that improvements in activity level and function can be expected following PAO surgery, with greater gains experienced by patients with lower preoperative level of activity.