The 2:1 Prone Hip Ratio: A Consistent Observation in the Prearthritic Hip

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- I have relationships with the following companies:

  Stock/Stock Options..................... Johnson & Johnson
  Consulting............................. Smith & Nephew Endoscopy
  Grant & Research........................ Bauerfeind
  Boards & Committees.................... ISHA, AOSSM, AANA, *Journal of Arthroscopy*
  Departmental......................... Smith & Nephew Endoscopy, Depuy Mitek
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• Report no conflicts of interest.
Objectives

• The purpose of this study was to document a consistent ratio of prone internal rotation in a large patient series undergoing hip arthroscopy. The hypothesis was that prone hip internal rotation has a consistent ratio of 2 to 1 between neutral and abducted positions.
The Prone Exam

Neutral
Measurement: 40°

Maximal Abduction
Measurement: 20°
Methods

- Retrospective review of physical exam findings for 1,352 hips (676 consecutive patients) who had undergone preoperative assessment for hip pain and subsequently underwent hip arthroscopy.
  - 898 female hips
  - 454 male hips
- All hips were examined prospectively by the senior surgeon.
- All patients were included as subjects in this study.
- All subjects had radiographic Tönnis grade 0 or 1.
Results (Ratio of 2:1)

• When comparing prone hip internal rotation in the neutral position to prone internal rotation when in maximal abduction;
  – 488 (72%) of these patients displayed a bilateral ratio of 2:1
  – 84 (12%) displayed a unilateral ratio of 2:1.

• The degree of prone internal rotation in neutral ranges
  – 8 degrees (three hips)
  – 80 degrees (seven hips)
  – Average of 28.3 degrees for all hips.
Results, $0^\circ$ in abduction

- 45 patients had $0^\circ$ degrees of internal rotation in abduction
  - 41 of these patients had bilateral measurements of $5^\circ$ in neutral and $0^\circ$ in abduction
  - 4 patients had bilateral measurements of $10^\circ$ in neutral and $0^\circ$ in abduction.
Conclusions

• This consecutive clinical series of hip arthroscopy patients supports the hypothesis that there is a consistent ratio of 2:1 of prone hip internal rotation between the neutral and abducted positions.
References


