



INTERNATIONAL SOCIETY  
FOR HIP ARTHROSCOPY

# Arthroscopic Hip Preservation Surgery Practice Patterns: An International Survey

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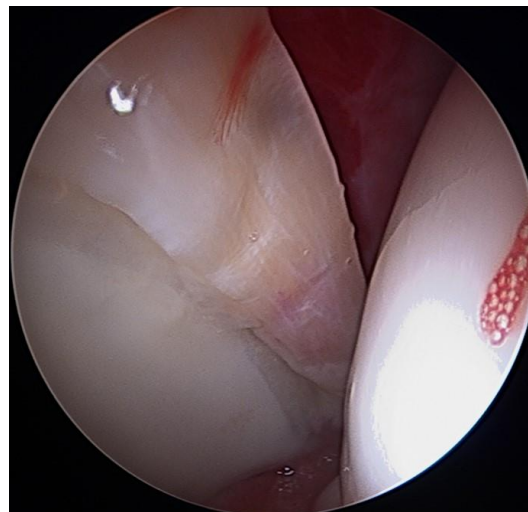
## Disclosures

- JDH: Editorial Board (Arthroscopy; Frontiers In Surgery); Paid consultant (Smith & Nephew); Royalties (SLACK Incorporated); Research support (Smith & Nephew, Depuy Synthes); Committees (AOSSM SAE, AANA Research, AAOS OAFP WG PM)  
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- **Arthroscopic hip preservation literature is most rapidly growing and rapidly evolving subspecialty in Orthopedic Surgery**
  - 18-fold increase in number of arthroscopic hip surgeries performed by surgeons in ABOS Part II (1999 – 2009)
  - Mostly level IV evidence
- **Lack of consensus, controversy regarding:**
  - Pre-operative evaluation
  - Surgical technique
  - Post-operative rehabilitation protocols
- **Expert opinion, recommendations from high-volume surgeons carries weight**

# Purpose

- To design and conduct a survey analyzing pre-, intra-, and post-hip arthroscopy practice patterns among hip arthroscopists across the world
  - Hypothesis: Lack of consensus among high volume hip arthroscopists on pre-, intra-, and post-operative evaluation and management



- **21-question, IRB-exempt, HIPAA-compliant survey**
  - SurveyMonkey®
- **Sent via:**
  1. ISHA members
  2. ANCHOR members
  3. MAHORN members
  4. Pubmed search of hip arthroscopy authors for first 200 citations, not previously identified

# Results - Demographics

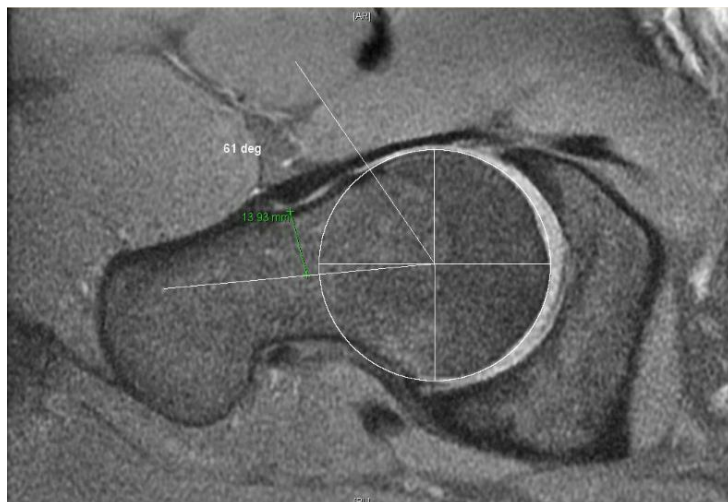
1. Approximately how many arthroscopic hip preservation surgeries did you perform for FAI and/or labral tears over the past 12 months?

2. Approximately how many open hip preservation surgeries did you perform for FAI and/or labral tears over the past 12 months?

3. How many years have you been performing hip preservation surgery?

- **75 surgeons**
  - 151 +/- 116 hip arthroscopy procedures per year (median 120 per year; interquartile range 60 to 250)
  - 8.6 +/- 7.1 years hip arthroscopy experience
  - 26 surgeons also performed open hip preservation surgery
    - 33.0 +/- 34.9 open cases per year

# Results – Pre-op



4. Do you utilize pre-operative intra-articular local anesthetic / steroid injection in a patient with a clear diagnosis of symptomatic femoroacetabular impingement (FAI) and labral injury?	<ul style="list-style-type: none"> <li>- Always (100% of the time) 8.5%</li> <li>- Frequently (67 - 99% of the time) 37%</li> <li>- Some of the time (33 - 66% of the time) 23%</li> <li>- Infrequently (1 - 32% of the time) 24%</li> <li>- Never (0% of the time) 8.5%</li> </ul>
5. Which radiographs do you routinely obtain in patients with hip pain?	<ul style="list-style-type: none"> <li>- Standing AP pelvis 69%</li> <li>- Supine AP pelvis 35%</li> <li>- Standing AP hip 4.2%</li> <li>- Supine AP hip 7.0%</li> <li>- Standing false profile 52%</li> <li>- Supine cross-table lateral 28%</li> <li>- Supine frog-leg lateral 24%</li> <li>- Supine Lauenstein lateral 4.2%</li> <li>- Supine Dunn 45 lateral 51%</li> <li>- Supine Dunn 90 lateral 14%</li> </ul>
6. How often do you perform CT scan on patients with symptomatic FAI and labral injury that are scheduled to undergo surgery?	<ul style="list-style-type: none"> <li>- Always (100% of the time) 17%</li> <li>- Frequently (67 - 99% of the time) 17%</li> <li>- Some of the time (33 - 66% of the time) 20%</li> <li>- Infrequently (1 - 32% of the time) 42%</li> <li>- Never (0% of the time) 4%</li> </ul>
7. On pre-operative MRI, which series do you routinely order?	<ul style="list-style-type: none"> <li>- Coronal 93%</li> <li>- Sagittal 93%</li> <li>- Axial 83%</li> <li>- Axial oblique (parallel to femoral neck) 72%</li> <li>- Radial 41%</li> <li>- Arthrogram (MRA) 56%</li> <li>- 3D (three-dimensional) reconstructions 7.0%</li> </ul>
8. What percentage (%) of your hip arthroscopy patients have Tonnis grade 2 or 3 osteoarthritis?	<ul style="list-style-type: none"> <li>- 0% 39%</li> <li>- 1-32% 58%</li> <li>- 33-66% 2.8%</li> <li>- 67-99% 0%</li> <li>- 100% 0%</li> </ul>
9. What percentage (%) of your hip arthroscopy patients have borderline dysplasia? Borderline dysplasia (lateral center edge angle 20 - 25 degrees; Tonnis angle 10 - 15 degrees; anterior center edge angle 20 - 25 degrees).	<ul style="list-style-type: none"> <li>- 0% 7.0%</li> <li>- 1-32% 80%</li> <li>- 33-66% 11%</li> <li>- 67-99% 1.4%</li> <li>- 100% 0%</li> </ul>
10. What percentage (%) of your hip arthroscopy patients have dysplasia? Dysplasia (lateral center edge angle less than 20 degrees; Tonnis angle greater than 15 degrees; anterior center edge angle less than 20 degrees).	<ul style="list-style-type: none"> <li>- 0% 51%</li> <li>- 1-32% 44%</li> <li>- 33-66% 4.2%</li> <li>- 67-99% 1.4%</li> <li>- 100% 0%</li> </ul>
11. Would you perform arthroscopic hip preservation surgery in a 20 year old athlete with clear radiographic FAI and a labral tear, but is completely asymptomatic (no pain, no loss of function, no limitations).	<ul style="list-style-type: none"> <li>- Yes; To prevent pain, loss of function, improve function 5.6%</li> <li>- Yes; To prevent osteoarthritis 2.8%</li> <li>- Yes; To improve sports activity level 1.4%</li> <li>- No; There is no evidence to support it. 94%</li> </ul>



# Results – Intra-op



<p>12. What type of capsulotomy do you perform during hip arthroscopy?</p>	<ul style="list-style-type: none"> <li>- Limited interportal (anterolateral to mid-anterior, or smaller) 41%</li> <li>- Large interportal (extends beyond anterolateral to mid-anterior) 20%</li> <li>- Interportal plus "T" extension down anterolateral femoral neck to intertrochanteric line 25%</li> <li>- No capsulotomy; Only capsule incision large enough for portal / cannula / instrument 5.8%</li> <li>- Other (please specify) - Depends on patient / surgical variables 12%</li> </ul>
<p>13. Are you using straight or curved drill guides for suture anchor placement during labral repair?</p>	<ul style="list-style-type: none"> <li>- Straight 68%</li> <li>- Curved 7.2%</li> <li>- Both 25%</li> </ul>
<p>14. What is your typical treatment of a large full-thickness articular cartilage "wave sign" delamination injury (after appropriate acetabular osseous management)?</p>	<ul style="list-style-type: none"> <li>- Remove all unstable, loose articular cartilage to stable rims, and leave exposed bone, no microfracture or drilling 2.9%</li> <li>- Remove unstable, loose articular cartilage to stable rims and perform microfracture or drilling 39%</li> <li>- Do not remove articular cartilage, leave alone, do not integrate into labral repair suture 7.2%</li> <li>- Do not remove any articular cartilage, integrate articular cartilage with labral repair suture 42%</li> <li>- Do not remove any articular cartilage, inject fibrin glue under articular cartilage, with or without integration with labral repair suture 8.7%</li> <li>- Other (please specify)</li> </ul>
<p>15. How do you manage snapping iliopsoas, iliopsoas impingement, and a 3 o'clock position labral tear that has failed rest, activity modification, oral and injection anti-inflammatory medications, and physical therapy?</p>	<ul style="list-style-type: none"> <li>- Labral repair 16%</li> <li>- Labral repair, iliopsoas tenotomy 39%</li> <li>- Labral repair, anterior inferior iliac spine (AIIS) subspine decompression 22%</li> <li>- Labral repair, iliopsoas tenotomy, AIIS subspine decompression 23%</li> <li>- Other (please specify)</li> </ul>
<p>16. How do you close the capsule at the conclusion of hip arthroscopy?</p>	<ul style="list-style-type: none"> <li>- I do not routinely close the capsule 22%</li> <li>- I only close the capsule if patient at risk for post-operative instability (excessive soft tissue laxity, microinstability, dysplasia) 41%</li> <li>- Close the capsule using non-absorbable suture 26%</li> <li>- Close the capsule using absorbable suture 20%</li> <li>- Other (please specify)</li> </ul>



# Results – Post-op



17. Do you use a hip orthosis / brace following hip arthroscopy?	<ul style="list-style-type: none"> <li>- Always</li> <li>- Most of the time</li> <li>- Some of the time</li> <li>- Rarely</li> <li>- Never</li> </ul>	<ul style="list-style-type: none"> <li>12%</li> <li>14%</li> <li>6.1%</li> <li>17%</li> <li>52%</li> </ul>
18. Do you use a continuous passive motion (CPM) machine following hip arthroscopy?	<ul style="list-style-type: none"> <li>- Always</li> <li>- Most of the time</li> <li>- Some of the time</li> <li>- Rarely</li> <li>- Never</li> </ul>	<ul style="list-style-type: none"> <li>32%</li> <li>15%</li> <li>4.5%</li> <li>9.1%</li> <li>39%</li> </ul>
19. Do you use derotational boots following hip arthroscopy?	<ul style="list-style-type: none"> <li>- Always</li> <li>- Most of the time</li> <li>- Some of the time</li> <li>- Rarely</li> <li>- Never</li> </ul>	<ul style="list-style-type: none"> <li>14%</li> <li>7.6%</li> <li>3.0%</li> <li>6.1%</li> <li>70%</li> </ul>
20. Do you use heterotopic ossification prophylaxis following hip arthroscopy?	<ul style="list-style-type: none"> <li>- Always</li> <li>- Most of the time</li> <li>- Some of the time</li> <li>- Rarely</li> <li>- Never</li> </ul>	<ul style="list-style-type: none"> <li>62%</li> <li>17%</li> <li>6.1%</li> <li>4.5%</li> <li>11%</li> </ul>
21. After hip arthroscopy, which of the following thromboembolic disease (deep vein thrombosis [DVT]) prophylaxis do you use?	<ul style="list-style-type: none"> <li>- I do not use any mechanical or chemical Prophylaxis</li> <li>- Mechanical only (sequential compression devices [SCD], Ted hose, compression stockings, foot pumps)</li> <li>- Pharmacologic only (aspirin, enoxaparin, rivaroxaban, warfarin)</li> <li>- Both mechanical and pharmacologic</li> </ul>	<ul style="list-style-type: none"> <li>30%</li> <li>12%</li> <li>29%</li> <li>29%</li> </ul>

- **Among a large number of high-volume, experienced hip arthroscopists worldwide, pre-, intra-, and post-hip arthroscopy practice patterns have been established and reported**
- **Several areas of evaluation and management remain discordant and controversial without consensus**

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