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#### DATA

**Background:** Hip arthroscopy has become an established procedure in adults with well published results. These techniques have been extended to the teenage population, but the literature remains limited in regards to indications, efficacy, outcomes and complications specific to the paediatric population.

**Hypothesis/Purpose:** The purpose of this study was to report the short-term outcome of the arthroscopic treatment of cam-type femoroacetabular impingement (FAI) in the adolescent population.

**Study Design:** multi-center prospective longitudinal case series.

**Methods:** From 2008-2009, 34 consecutive patients who were 18 years or younger at the date of operation (41 hips) had arthroscopic hip surgery for treatment of cam-type FAI and associated lesions by use of the lateral decubitus position by two surgeons.

Data was collected prospectively including the modified Harris Hip Score (MHHS), Nonarthritic Hip Score (NAHS), satisfaction survey and complications. Mean followup was 14 months (range 1-2 years).

**Results:** All hips were available for review. The mean age of patients was 15.7 years with the most common sport activity being AFL, netball and rugby. All patients had cam-type impingement, with the most common associated lesions being acetabular rim lesions (82.9%) and pincer impingement (22%). The labrum underwent debridement in 31.7% of cases, and was repaired in 17.1%. The MHHS and NAHS improved in all patients postoperatively, 77.39 to 94.15 and 76.34 to 93.18 respectively. 78.1% were able to return to full sporting activity and 88.2% were satisfied 30 with the operation.

There were no complications.

**Conclusions:** Using hip arthroscopy to treat cam-type impingement and associated lesions in the adolescent population, we observed high satisfaction levels, return to sports, and significant improvement in postoperative hip scores (MHHS and NAHS). There were no complications related to operating on the cam lesion in the presence of open proximal femoral growth plates.

**Paper 21: Non-operative Treatment of Femoroacetabular Impingement: Design of a Fair Comparator for a Multi-Center National Randomized Trial of Arthroscopic Surgery** DAMIAN GRIFFIN, MD, UNITED KINGDOM, PRESENTING AUTHOR  
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#### SUMMARY

Arthroscopic femoral osteochondroplasty was performed in 34 consecutive patients under the age of 18 years with excellent outcome and no significant complications.

#### DATA

**Introduction:** Femoroacetabular impingement (FAI) may be treated by arthroscopic surgery. Although observational studies have reported encouraging results, there is no experimental evidence that operative treatment provides better outcomes in the short or long term than non-operative care. This has become a very pressing question in many countries as healthcare purchasers seek to constrain costs and so sometimes decline to fund surgery for FAI. In the UK, we have been commissioned by the National Institute of Health Research to perform a feasibility and pilot study of a comparison with arthroscopic surgery and nonoperative treatment for FAI. In our preliminary work we explored the evidence to guide the design of a nonoperative treatment strategy and worked with an international group of surgeons and physiotherapists to design such a strategy by consensus. **Method:** We performed a systematic review of Pubmed, Medline, EMBASE, CINAHL, AMED and Cochrane Library databases. Any article that made reference to, described or provided evidence that related to a non-operative treatment for FAI was included. 45 articles met our criteria. We used the evidence from these articles to inform a consensus development process to design a non-operative strategy.

**Results:** 41 articles were review/discussion based. The detail of non-operative treatment in all articles could be grouped into the categories:

- A trial of conservative treatment - 28 (68%)
- Activity modification - 33 (80%)
- Avoiding excessive hip movement and or rest - 15 (37%)
- Physical therapy - 18 (44%)
- Detail on the type of physical therapy - 13 (72%).
- Non-steroidal anti-inflammatory medications - 29 (71%).
- Intra-articular steroid injections - 4 (10%).

Four articles were primary experiments involving non-operative treatment and were level 4 evidence or below. Two of these articles suggested a favourable outcome with non-operative treatment. One case-series reported poor outcomes for non operative management compared

to surgery, however, the groups were not similarly matched with more pre-existing degenerative disease present in those treated non-operatively.

**Conclusion:** The literature on non-operative treatment for FAI is limited, lacks detail and has a poor evidence base. We have developed a non-operative strategy which takes account of this literature and represents a consensus of expert opinion. This strategy forms the non-operative arm for a major nationally-funded RCT of arthroscopic surgery for FAI.

**Paper 22: Hip Labral Regrowth After Resection: A Prospective Study** *GEOFF ABRAMS, MD, USA, PRESENTING AUTHOR*

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**SUMMARY**

Reconstitution of hip labrum was seen in all patients during second look arthroscopy following previous labral debridement as part of treatment for femoroacetabular impingement

**DATA**

**Introduction:** Femoroacetabular (FAI) impingement is becoming an increasingly recognized entity. In managing labral pathology, preference is given to labral repair rather than debridement in order to preserve the sealing function of the labrum. Tears at the labral-chondral junction are amenable to repair, however, tears within the labral substance are classically managed by debridement due to the labrum's relative hypovascularity at this location. Anecdotal evidence from second-look arthroscopies have suggested that some form of labral reconstitution occurs. No investigations to date have examined the presence of labral reconstitution following debridement in human hips.

**Methods:** From 1999-2000, 24 consecutive patients who previously had open hip surgical dislocation with labral debridement (and cheilectomy/acetabuloplasty as needed) for treatment of FAI underwent removal of symptomatic hardware. At the same time, patients also underwent hip arthroscopy for evaluation of labral reconstitution. No patients had any intra-articular symptoms at the time of arthroscopy. Data recorded included amount of labrum resected, amount of labral regrowth, quality of labral regrowth, labral width at time of second-look arthroscopy, and presence of any labral scarring or inflammation.

**Results:** Average age at the time of arthroscopy was 28.7 years (range 15 – 57) with average follow-up of 11.9 years. All patients had Tonnis grade 0 changes on hip

radiographs (no joint space narrowing) at the time of the index operation and the average amount of labral resection was 4.2 units (based on clock-face measurement). At follow-up arthroscopy, all patients showed labral regrowth with average reconstituted labral width of 6.2 mm (range 5 – 8 mm).

Homogeneous reconstitution of labral width was seen in 21 of 24 (87.5%) patients. Three of 24 (13.5%) patients showed irregular width of labral regrowth. Labral scarring was noted in 4 of 24 (16.7%) and labral inflammation recorded in 2 of 24 (8.3%). Average Western Ontario and McMaster Universities Arthritis Index (WOMAC) was 98 (range 90-100) at the time of arthroscopy.

**Discussion:** Labral regrowth after resection was seen in all patients. Good outcomes following labral resection can be expected when no initial joint space narrowing is seen on initial radiographs. This must be taken into account when decisions are made regarding whether to perform labral debridement, repair, or reconstruction.

**Paper 23: Relationship Between Tears Of The Ligamentum Teres And Acetabular Undercoverage: Does Micro-Instability Play A Role?** *ITAMAR BUSHERI BOTSER, MD, USA, PRESENTING AUTHOR*

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**SUMMARY**

This study examined the relationship between ligamentum teres tears and acetabular radiographic architecture on 360 hips. Ligamentum tears were more common in hips with lower lateral center edge angle, higher inclination, and in hips without acetabular retroversion. These results suggest that hips with lesser bony constraint may be more dependent on the ligamentum as a secondary stabilizer.

**DATA**

**Objective:** Although the function of the ligamentum teres remains a subject of research, it is thought to play a role in stability of the hip joint. We hypothesized that hips with less inherent bony stability would be more dependent on the ligamentum as a secondary stabilizer, and would be more likely to have ligamentum tears. The purpose of this study was to examine the relationship between ligamentum teres tears and acetabular radiographic architecture.

**Methods:** All patients less than 50 years old who underwent hip arthroscopy between June 2009 and February