What’s New in:
Hip Pain in Young Adults
& Hip Sports Injuries

Richard Willoughby
Orthopaedic Surgeon
New Diagnoses

New Surgical Techniques

Anything New in Arthroplasty
New Diagnoses

New Surgical Techniques

Anything New in Arthroplasty
Causes of hip pain

- **Childhood Conditions**
  - Perthes Disease
  - Hip dysplasia
  - SUFE
- **Bursitis**
  - Psoas
  - Greater Trochanteric
- **Infection**
- **Muscle injuries**
  - Hamstrings
  - Adductor sprain
- **Femoro-acetabular Impingement**
  - Cam lesions
  - Pincer lesions
- **Labral tears**
- **Osteoarthritis**
- **Non Orthopaedic**
  - Hernia
  - Lymphadenopathy
  - Aneurysms
New Diagnoses...

• Childhood Conditions
  • Perthes Disease
  • Hip dysplasia
  • SUFE

• Bursitis
  • Psoas
  • Greater Trochanteric

• Infection

• Muscle injuries
  • Hamstrings
  • Adductor sprain

• Femoro-acetabular Impingement
  • Cam lesions
  • Pincer lesions

• Labral tears

• Osteoarthritis

• Non Orthopaedic
  • Hernia
  • Lymphadenopathy
  • aneurysms
FAI
(Femoro-Acetabular Impingement)

- Refers to the situation where the femoral head/neck contacts the rim of the acetabulum
Where Did the FAI concept come from?

- **Ganz - Switzerland**
  - Hip pain with overcoverage after some Peri-acetabular osteotomies for dysplasia
FAI = Femoro-Acetabular Impingement

Classification for Causes

**Causes**

- Cam lesion
- Pincer lesion
  - Mixed
- Extreme Activities
How to Impinge a Normal Hip
Structural Causes of Hip Impingement

Cam

Pincer
How Do People Get FAI?

**CAM**

- Idiopathic
  - More common in Men
  - ?excessive sports as a child

- Deformity post SUFE

**PINCER**

- Idiopathic
  - More common in Women

- Anatomical Variant
  - Acetabular retroversion

- Iatrogenic
  - Post Acetabular Osteotomy
Pincer
How Do FAI/Labral tears Present?

• History
  • No specific incident
    – 1st noticed pain after an activity
    – gradually worsening
    – Present after 6-12 months symptoms

• Specific injury
  – High kick across their body

• Common Sports
  – Ballet/dancing
  – AFL
How Do FAI/Labral tears Present?

- Pain – localising?
  - Adductors
  - Greater Trochanter
  - C-sign

- Catching/Locking

- Clunking
How Do FAI/Labral tears Present?

- **Examination**
  - GT tenderness $\rightarrow$ Trochanteric bursitis
  - Resisted flexion $\rightarrow$ Psoas bursitis
  - Resisted abduction $\rightarrow$ Abductor tear/tendonitis
  - Resisted extension $\rightarrow$ Hamstring avulsion/strain
  - Buttock tenderness $\rightarrow$ Hamstring injury
  - Groin tenderness $\rightarrow$ Adductor tear/sprain
  - Resisted adduction $\rightarrow$ Adductor tear/sprain
  - Pubic ramus tenderness $\rightarrow$ stress fracture
How Do FAI/Labral tears Present?

• Examination
  – Impingement Sign
  – Quantify Internal rotation
How Do FAI/Labral tears Present?

- Examination
  - Flexion + Abduction + External Rotation (FABER)
How Do FAI/Labral tears Present?

• Imaging
  – AP Pelvis
How Do FAI/Labral tears Present?

- Imaging
  - Dunn lateral
  - 45 degrees flexion
  - 20 degrees Abd
How Do FAI/Labral tears Present?

- CT Scan
  - Assesses 3D anatomy for planning resections
How Do FAI/Labral tears Present?

• MRI Scan (standard)
  • Reliable for identifying other sources of pain
MR Arthrogram

More reliable for identifying Labral Pathology

- Requires an injection of gadolinium into the hip
- Usually also put in local anaesthetic
- Gives an idea whether the pain is from the joint
Management

• Labral Tears
  – Non-operative
    • Physiotherapy
    • Avoidance of impingement position
    • Labral tears can heal

  – Operative
    • Hip Arthroscopy
      – Debride or repair
    • Hip Arthrotomy
      – Debride or repair
Management

• Femoro-Acetabular Impingement

  – Non-Operative
    • Avoidance of impingement
    • Will not resolve

  – Operative
    • Hip Arthroscopy
    • Surgical Hip Dislocation
New Diagnoses

New Surgical Techniques

Anything New in Arthroplasty
Traditional Approaches to Hip surgery

Anterior
Smith-Peterson
Watson-Jones

Lateral
Hardinge

Posterior
Anterior Approach

• Smith-Peterson Interval
  – Paediatric operations
    • DDH
    • Washout sepsis
    • Preferred to protect Blood supply
  – THJR
    • (New interest)
Lateral Approach

- Hardinge
  - THJR
  - Pros
    - Lower dislocation Rate
  - Cons
    - Abductor dysfunction
    - Limp
Posterior Approach

- THJR
  - Pros
    - Less damage to Adbuctors
  - Cons
    - Higher dislocation rate
    - Femoral Epiphysis blood supply nearby

- Sepsis (Adults)

- Acetabular fractures
  - Posterior wall
New Surgical Approaches

Minimally Invasive
Hip Arthroscopy

Maximally Invasive
Surgical Hip Dislocation
Surgical hip dislocation

- **Indications**
  - SUFE
  - FAI

- **Pros**
  - Access to femoral head
  - Some labral access

- **Cons**
  - Large dissection
  - Labral access
  - ? Risk of AVN
Hip Arthroscopy

• Uses
  – FAI
  – Labral pathology
  – Removal loose bodies
  – More.....

• Pros
  – Minimal incision
  – Labral access
  – Joint assessment

• Cons
  – Traction
  – Gear intensive
  – Access to femoral head
Hip Arthroscopy

Potential Indications

– Labral Tear
– Labral repair
– Tumours
– Femoro-acetabular impingement
– Washout joint sepsis
– Diagnosis
– Biopsy
– Debride Trochanteric bursitis
– Ligamentum Teres reconstruction
Tumour (GCT/Nodular PVNS)
## Surgical Hip Dislocation

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
<td>• Better access to parts of femoral head</td>
<td>• Harder access to labrum</td>
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<tr>
<td>• Better for more extensive cam resections</td>
<td>• Much larger incision</td>
</tr>
<tr>
<td>• No traction required</td>
<td>• More muscle disruption</td>
</tr>
<tr>
<td>– Less risk of nerve injury</td>
<td>• ? Risk of AVN</td>
</tr>
<tr>
<td>• Less equipment</td>
<td>• Poorer view of central joint</td>
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What are the potential gains of the surgery?

• Reduction in pain.
• Improvement in function
• Delaying need for THJR
• Prevention of Arthritis
Arthroscopic Labral Base Repair in the Hip: Clinical Results of a Described Technique

Timothy J. Jackson, M.D., Bryan Hanypsiak, M.D., Christine E. Stake, M.A., Dror Lindner, M.D., Youssef F. El Bitar, M.D., and Benjamin G. Domb, M.D.

**Purpose:** The purpose of this study was to evaluate the clinical outcomes of a cohort of patients who underwent labral repair by use of a previously published labral base repair suture technique for the treatment of acetabular labral tears and pincer-type femoroacetabular impingement (FAI). **Methods:** Patients who received hip arthroscopy for symptomatic intra-articular hip disorders and underwent the previously described labral base repair technique were included in the study group. Patients who had Tönnis arthritis grade 2 or greater, had Legg-Calvé-Perthes disease, or underwent simple looped stitch repair were excluded. The patient-reported outcome scores included the modified Harris Hip Score, the Non-Arthritic Hip Score, the Hip Outcome Score—Activities of Daily Living, and the Hip Outcome Score—Sport-Specific Subscale obtained preoperatively and at 2 years’ and 3 years’ follow-up. Any complications, revision surgeries, and conversions to total hip arthroplasty were noted. **Results:** Of the patients, 54 (82%) were available for follow-up. The mean length of follow-up for this cohort was 2.4 years (range, 1.7 to 4.1 years). At final follow-up, there was significant improvement in all 4 patient-reported outcome scores (modified Harris Hip Score, 63.7 to 89.9; Non-Arthritic Hip Score, 60.9 to 87.9; Hip Outcome Score—Activities of Daily Living, 66.9 to 91.0; and Hip Outcome Score—Sport-Specific Subscale, 46.5 to 79.2) (P < .0001). A good or excellent result was achieved in 46 patients (85.2%). There was significant improvement in pain as measured by the change in visual analog scale score from 6.5 to 2.3 (P < .0001), and the patient satisfaction rating was 8.56 ± 2.01. There were no perioperative complications. Revision surgery was required in 3 patients (5.6%), and 2 patients (3.7%) required conversion to total hip arthroplasty. **Conclusions:** The clinical results of this labral base repair technique showed favorable clinical improvements based on 4 patient-reported outcome questionnaires, visual analog scale, and patient satisfaction. More clinical, biomechanical, and histologic studies are needed to determine the optimal repair technique. **Level of Evidence:** Level IV, therapeutic case series.
What Can we Achieve

• Improvement in Pain and function

Arthroscopic Labral Base Repair in the Hip: Clinical Results of a Described Technique

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• Non Arthritic hip Score (NAHS)
  • 60.9 to 87.9

• Modified Harris Hip Score
  • 63.7 to 89.9
What Can we Achieve?

• Preventing Osteoarthritis?
  – No Evidence

• Delay need for THJR?
  – No Evidence
  – If pain reduced then should but....
  – No long term studies to assess pain beyond 2-5 years
New Diagnoses

New Surgical Techniques

Anything New in Arthroplasty
Hip Joint Replacement

• Newer Options
  – Resurfacing

• Newer Approaches
  – Direct Anterior

• Newer Bearing surfaces
Newer Options

• Hip Resurfacing
  – Earlier failure rate
  – ?Can be more Natural feeling
  – Metal on metal only
  – Not done in Hamilton
Newer Approaches

• Minimally Invasive
  – Largely disappeared internationally

• Direct Anterior Approach
  – Supposed to avoid both:
    • Limp from abductor injury (Hardinge approach)
    • Higher rate of Dislocation (Posterior approach)
  – Early phase of popularity in US and Aus
    • ? Will go same way as Minimally Invasive techniques
Bearing Surfaces

- Metal on Polyethylene
  - Tried and true

- Metal on Metal
  - Notable recalls
  - Bad press

- Ceramic on Ceramic
  - Current favoured option for Hard bearing
Thank you

Questions?