

# Hip & Knee Injuries Caused by Skiing

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**Specialist in Sports Injuries, Hip & Knee Surgery**

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LinkedIn



# Who Am I?

- 2007 – Academic Clinical Fellow/Trainee Stanmore Rotation
- 2007- 14 – Thesis on cartilage injury in knees – prizes & publications
- 2014 -15 – Joint Reconstruction and Sports injuries in Calgary, Canada
- 2015 – 16 - Hip Fellow, Frimley Park Hospital
- 2016 – 18 - Locum Consultant Guy's Hospital
- 2018 - Travelling Fellowship, Philippon-Steadman Clinic, Vail, Colorado
- 2019 - Hip & Knee Surgeon with special interest in Young Adult Hip Disorders and Sports Injuries



# Aims/Objectives

- Know the mechanisms of hip injuries when skiing/snowboarding
- Know how meniscal injuries present
- Know the key features in history
- Focused examination technique
- How to manage initially
- When to refer



# Why talk about meniscus **and** labrum?

Date: Wednesday 11 January 2023

Jaiswal , Parag (Mr)

12:30	Alexandra Ward	DP	[REDACTED]	G
60	Room 206	NP	W8230 - Arthroscopic meniscal repair Left, Knee Medial Arthroscopy [REDACTED]	
13:30	Alexandra Ward	IP	[REDACTED]	G
90	Room 205	NP	UNKNOWN - UNKNOWN Right hip arthroscopy + Lateral repair	



### A surgeon with excellent clien...

A surgeon with excellent client care. I felt very safe in his hands. He made smart decisions about my treatment plan and answered all my intricate concerns.

Patient seen for:

Hip Impingeme...

Labral Tear Sur...

Overall   
 ★ ★ ★ ★ ★ 5

Explanation   
 ★ ★ ★ ★ ★ 5

Bedside manner   
 ★ ★ ★ ★ ★ 5



### Kind, extremely knowledgeable ...

Kind, extremely knowledgeable and professional. I was warmly greeted at our first consultation. He listened attentively to what the issue was with my torn Meniscus. Before and after surgery Mr Jaiswal explained the procedure in an unrushed manner so that I fully understood what the surgery involved. I would highly recommend him to friends and family. In fact my whole experience at Highgate Hospital was thoroughly enjoyable and professional.

Patient seen for:

Knee Arthroscop...

Meniscus Tear ...

Overall   
 ★ ★ ★ ★ ★ 5

Explanation   
 ★ ★ ★ ★ ★ 5

Bedside manner   
 ★ ★ ★ ★ ★ 5



### 'Saw' the full patient: an eli...

'Saw' the full patient: an elite athlete, recognised their motivation alongside providing high-level clinical expertise: - Calm and thorough - Takes time to make sure his patient understands the procedure and can ask any questions - Dedicated to achieving the best outcomes for his patients. - Listens to what the patient wants to achieve and adapts his approach accordingly - Friendly and accessible Provided holistic care, respecting patient with empathy and honesty.

Patient seen for:

Hip Impingeme...

Labral Tear

Hip and Groin P...

Overall   
 ★ ★ ★ ★ ★ 5

Explanation   
 ★ ★ ★ ★ ★ 5

Bedside manner   
 ★ ★ ★ ★ ★ 5

# Introduction – Hip Injuries

- 2002-2003 Snowboard World Cup Season
  - 135 acute injuries
  - 122 overuse injuries
- 2012 World Cup Alpine Skiers (2 seasons)
  - 9.8 injuries per 1000 runs
- In 2121 athletes, 705 injuries were recorded amongst skiers/snowboarders, cross-country and Nordic skiers



# Mechanisms of Injury

## Mechanism

- High Speed Crash
  - Dislocation
- Overuse
  - Insidious onset
  - Poor conditioning prior to skiing

## Problems

- Intra-articular
  - Labral tear
  - Hip impingement
- Muscle and tendon
  - Hip flexor
  - Adductor tendon
  - Hip abductors
  - Quads



# Anterior Groin Pain suggestive of labral injury

- Sharp/pinching: Knee-like
- After period of increased/unaccustomed activity
  - Or begin insidiously
- Pain usually related to activity initially
  - Esp deep flexion (e.g. squats/lunges, getting out of low car)
- As symptoms progress standing, walking and **sitting** can be impaired
- Popping/locking/grinding or catching





# Medial Groin Pain

- Usually sports related pathology and overuse
- **Osteitis Pubis**
  - inflammation of pubic symphysis seen in kicking sports
- **Adductor injuries/tendinopathy**
  - Pain inner thigh +/-tenderness
- **Sportsman hernia/Gilmore's groin**
  - Injury to insertion of and muscles to pelvis
  - Worse on twisting movements and on coughing



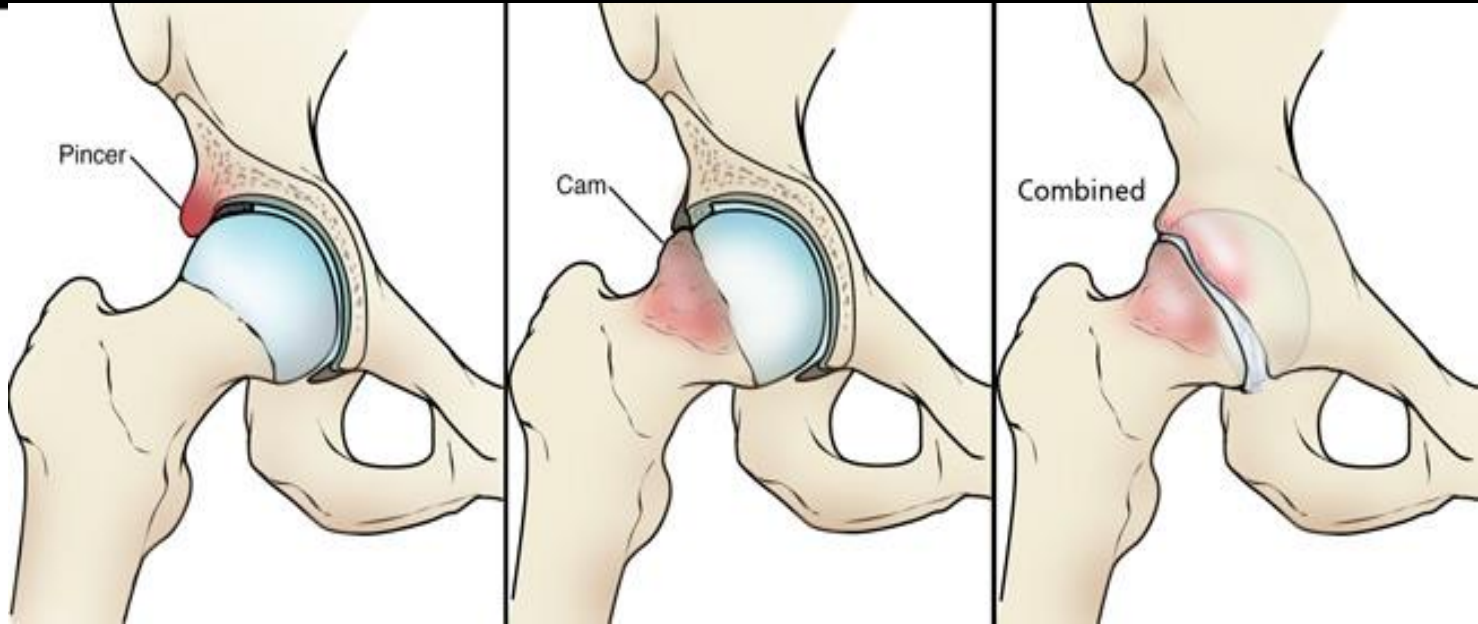
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**Mr P. K. Jaiswal**

The Young Adult Hip  
Examination

# Femoro-acetabular impingement (FAI)



## **Dutch GP Observational study (31451 patients):**

- Active patients aged 15-60 and suffering from groin pain
- 17% diagnosed with FAI
- In sporting individuals, incidence varies from 0.5-18%
- 'Creating awareness of FAI helps in identifying patients that might benefit from FAI treatment'

Cam

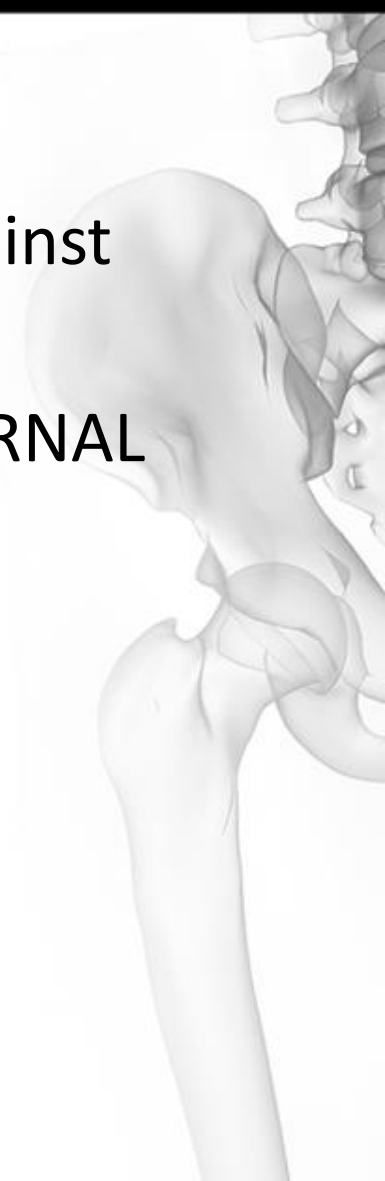


Pincer



# History & examination

- Groin pain
  - Sharp (knife like) if torn labrum
  - Activity related
- Worse deep flexion
  - Low car
  - Squats/lunges
- Rest pain a bad sign
- Antalgic gait
- Pain on SLR against resistance
- REDUCED INTERNAL ROTATION
- F. AD. IR. Test
- F. AB. ER. Test



# Investigations

- Radiographs
- MRI – 3T
- CT with 3D protocols
  - Slices through knee
  - Slices through malleoli



# Treatment

- Activity modification
  - NSAIDs
  - Physiotherapy
    - Mobilise hip and stretch tight structures
    - Improve soft tissue flexibility and length
    - Core and gluteal strengthening
    - Progress hip muscle, proprioception, joint position sense and functional control of hip
- 2 RCTS (FAIT and FASHIon)**
- Physio and Hip Arthroscopy improved functional scores
  - Hip arthroscopy cohort did better



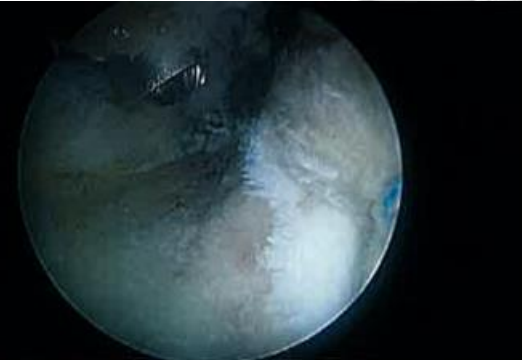
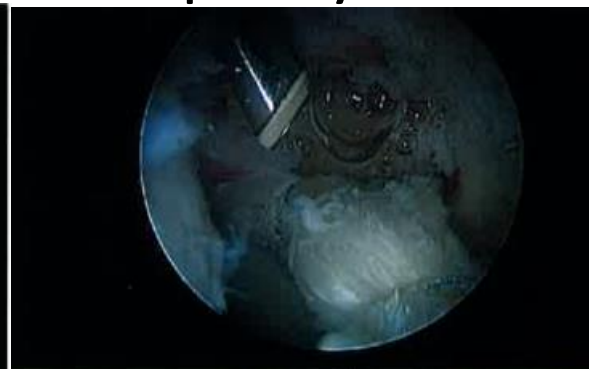
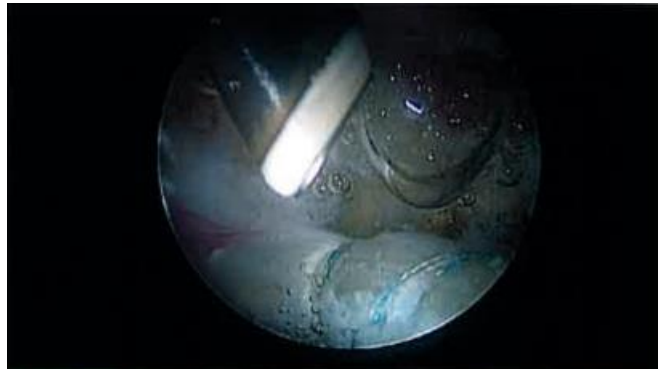


# Hip Arthroscopy

- Labral repair or debridement
- Acetabuloplasty and labral reattachment
- Femoral osteochondroplasty



3



# The Meniscus

Medial  
meniscus

Lateral  
meniscus

Posterior

Posterior  
horn

PCL

Posterior  
horn

Body

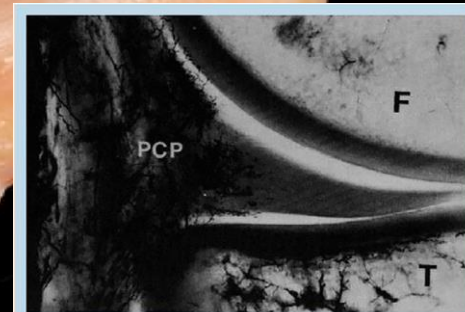
Body

ACL

Anterior  
horn

Anterior  
horn

Intermeniscal  
ligament



# Meniscus Function

- Force Transmission
  - transmits 50% weight-bearing load in extension, 90% in flexion
- Stability
  - the meniscus deepens tibial surface and acts as secondary stabilizer
- Proprioception



# Composition

- Made of fibroelastic cartilage
  - interlacing network of collagen, proteoglycan, glycoproteins, and cellular elements
  - composed of 65-75% water
- 90 % Type I collagen



# Composition

- Composed of two types of fibres which allow the meniscus to expand under compressive forces and increase contact area of the joint
  - radial
  - longitudinal (circumferential)
  - help dissipate hoop stresses



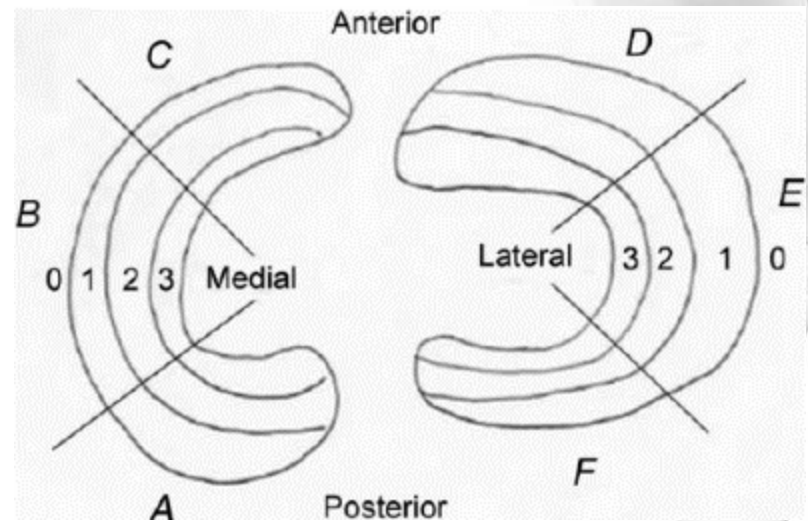
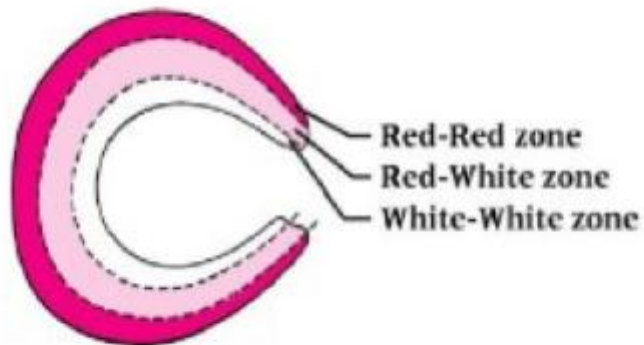
# Meniscal injuries

- Tears
  - Traumatic
  - Degenerate
- Root avulsions
- Isolated vs combined



# Meniscus zones

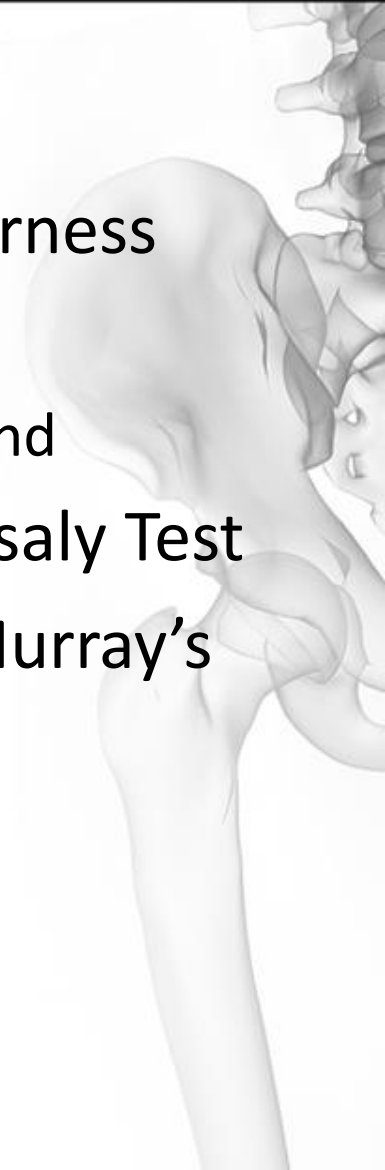
Meniscal Blood Supply



# How do patients present?



- Effusion
- Joint line tenderness
- Locked knee
  - unable to extend
- If FROM – Thessaly Test
- Do not do McMurray's





# Treatment

- **Rest**
- **Ice**
- **Medication**
- **PT**
- **Weight bearing XRs (including skyline views)**
- **MRI investigation of choice**
- **Referral**

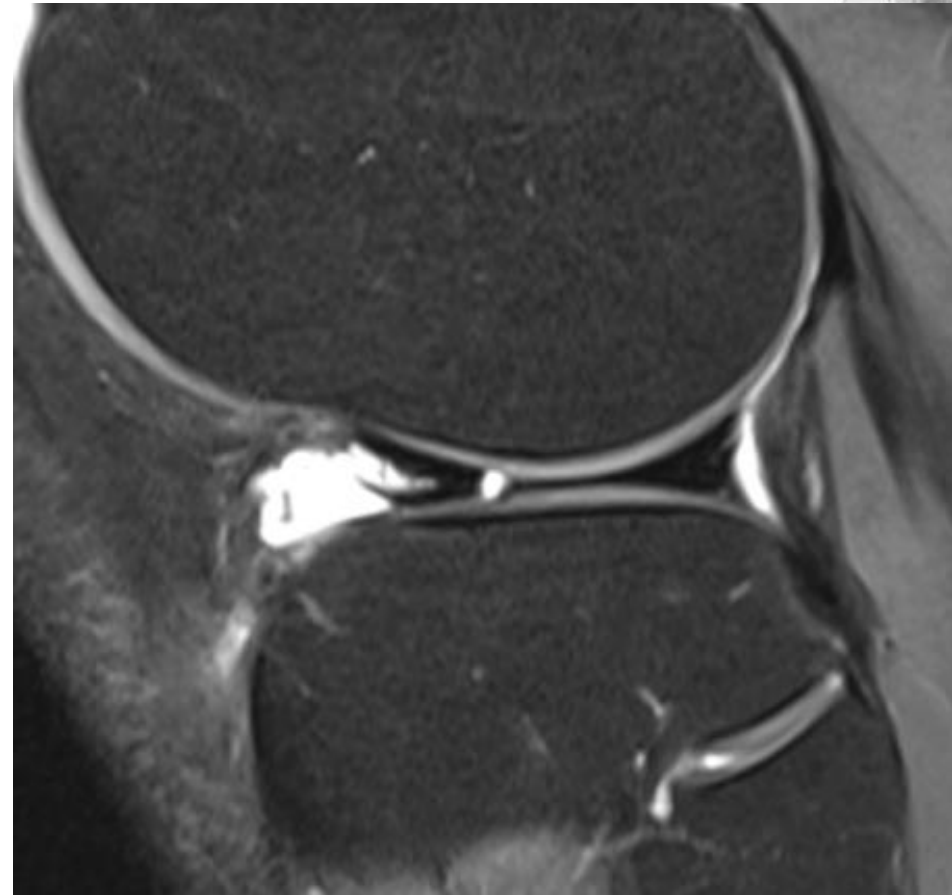
## **Knee assessment package at St. John & St. Elizabeth Hospital (£500):**

- Initial consultation
- XRs
- MRI
- F/up consultation



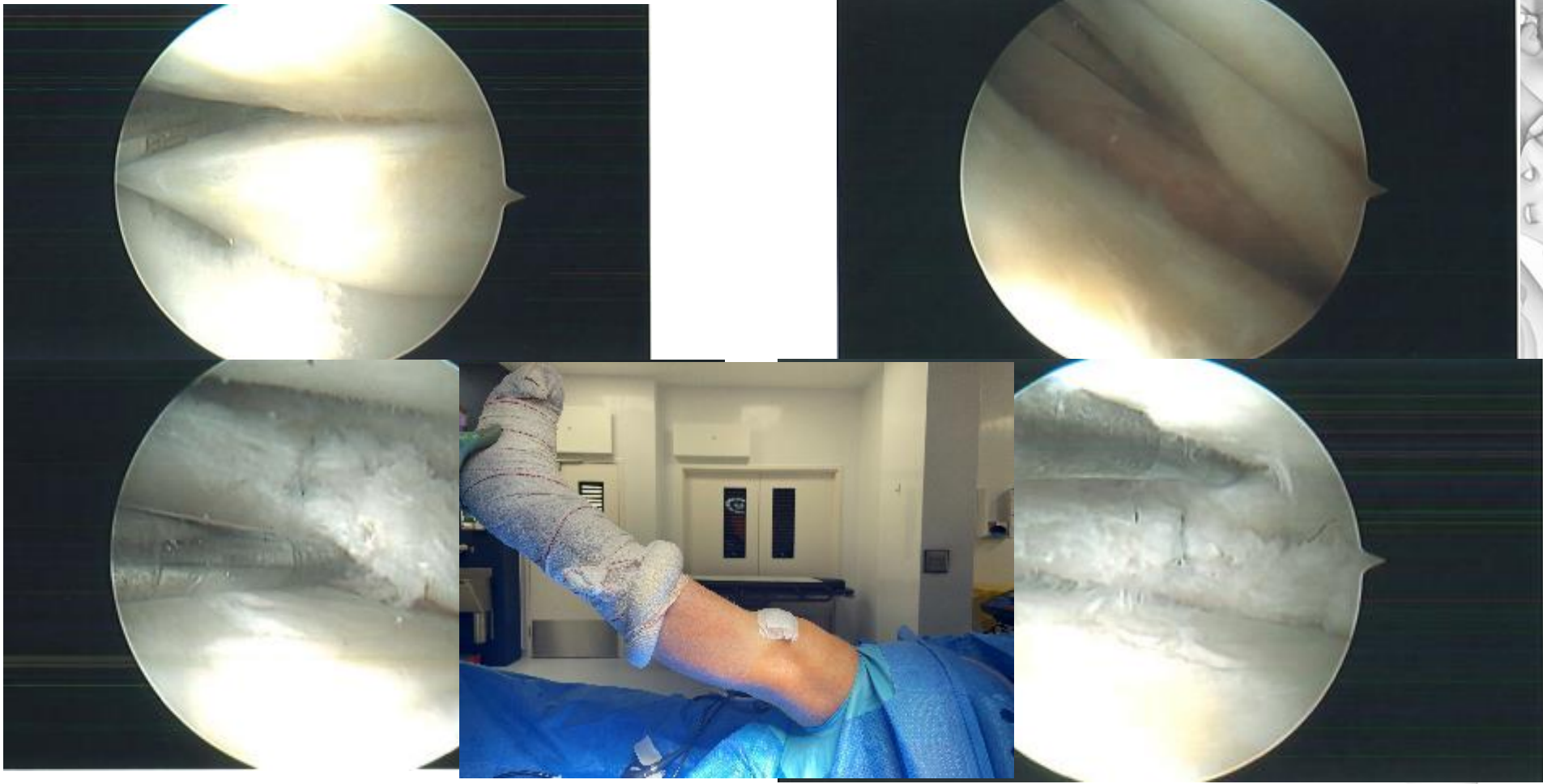
# Chronic meniscal injury

- 27 yr old female
- Ski injury 1 yr ago
- Got better with physio
- BUT
  - Swelling after activity
  - Fearful of twisting sports (tennis)
  - Giving way



# Surgery – repair vs meniscectomy

34 yr male. Previous. Left knee lateral meniscal repair aged 20. Played with daughter and knee got stuck in 60 degrees flexion



# Summary

## Your Patient's hips don't lie!

- Persistent groin pain following injury or insidious onset warrants further investigations
- Meniscal injuries can grumble on
  - (But not bucket handle tears)
- If no significant improvement after physiotherapy then please refer on
  - Hip and knee assessment package
  - Exceptional value



And Knees Speak the Truth!

[www.londonhipknee.co.uk](http://www.londonhipknee.co.uk)



**St. John & St. Elizabeth Hospital**

- Tues pm
- Fri pm
- Adhoc Wednesdays and Thursdays

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