

# “Knee Injuries”

Ski Injuries - the season isn't  
over yet!

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# The LSO Team based approach to the Knee



**Paul  
Jairaj**

Hip & Knee  
Surgeon



**Henry  
Atkinson**

Lower Limb  
Surgeon



**Vipin  
Asopa**

Hip & Knee  
Surgeon



**Ian  
McDermott**

Knee  
Surgeon



**Peter Hill**

Knee Surgeon

# Knee Injuries

Sprains and bruises

ACL

MCL / LCL injuries

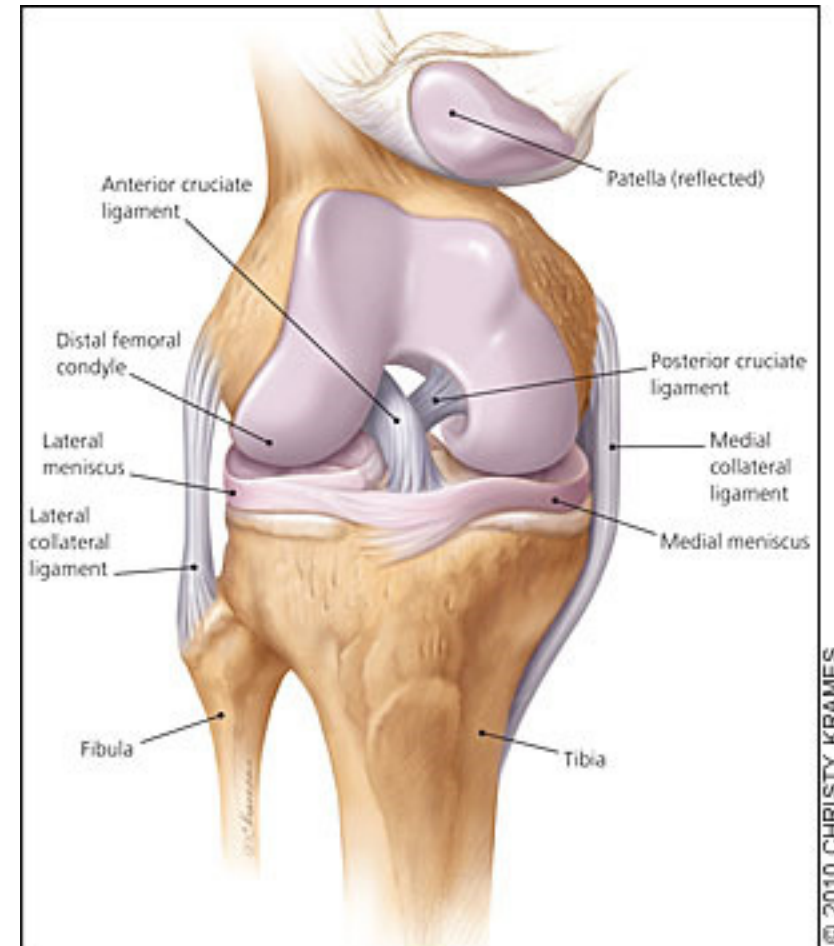
PCL

Meniscal tears

Fractures

Osteochondral injuries

Anterior knee pain



# Sprains & Bruises

- Able to weight bear
- No bone tenderness
- Good range of movement
- Rehabilitation
- Image if concerns

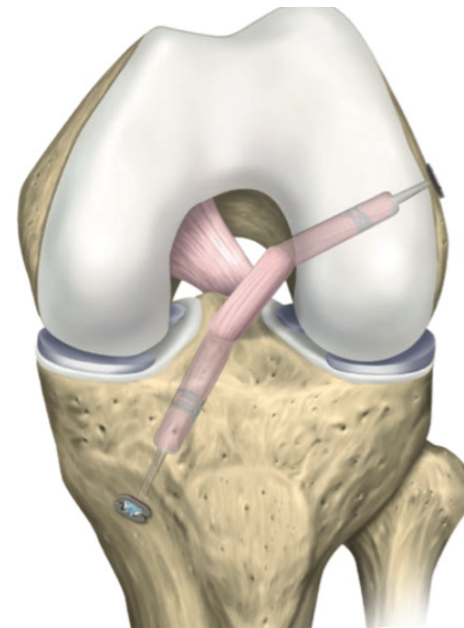
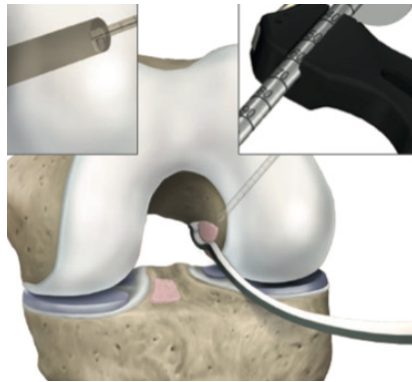


# ACL Injuries

- Most common injury
- Direct blow to knee / Non-contact injury, with foot planted / Landing on straight leg / Making abrupt stops. Feel “Pop”, can’t keep skiing
- Rehabilitation
- ACL reconstruction: All-inside technique:
- 40% re-occurrence

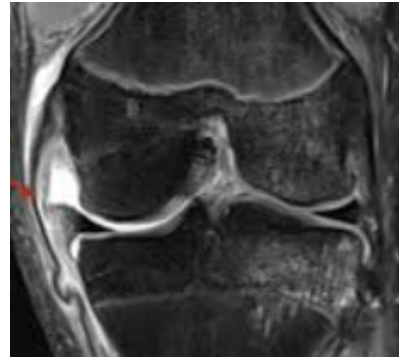
# All-inside ACL reconstruction

- Different: single hamstring (semitendinuous) / or allograft – avoid morbidity
- Small scars
- Anatomic placement of tunnels



# MCL Injury

- Often keep skiing
- Non-surgical treatment
- 3T MRI
- Brace, Rehabilitation
- Repair / Augmentation – Fibre tape
- Reconstruction hamstring



MCL Injury



Fibre tape  
augmentation



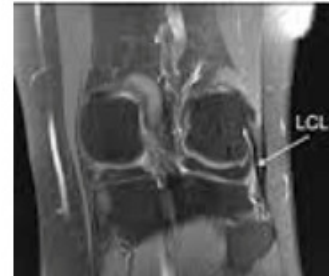
Hamstring  
reconstruction

Images illustrative

# LCL Injury

- Lateral sided pain. Associated with other ligament / meniscus / articular cartilage injuries.
- Sprain
- Rupture
- Rehabilitation / acute surgical repair / reconstruction

MRI image of normal LCL



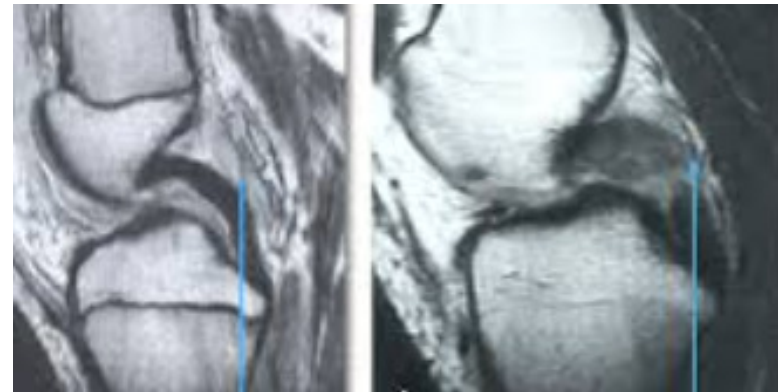
MRI image of LCL tear





# PCL Injury

- Isolated / or multi ligament
- 3T MRI
- Isolated - Rehabilitation
- Multi-ligament
  - Reconstruction using All inside technique



Intact PCL

Ruptured PCL

# Meniscal Tears

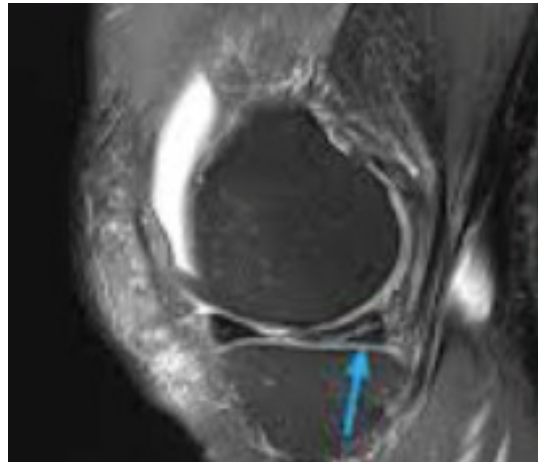
- Sudden, painful. Crunching.
  - Continuing sporting injury : further damage to meniscus
  - Locked knee is concerning
- 
- 3T MRI



Image illustrative

# Meniscal Tears

- 3T MRI scan



Undisplaced meniscal tear



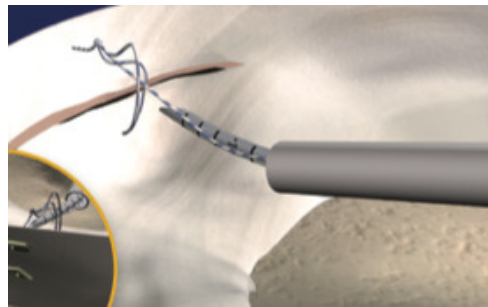
Bucket Handle Tear

- Peripheral tears, young patients
  - Ice, Rest & cessation of activities
  - Rehabilitation
  - Surgery

# Meniscal Tears - Surgery

Meniscectomy (may increase risk of arthritis)

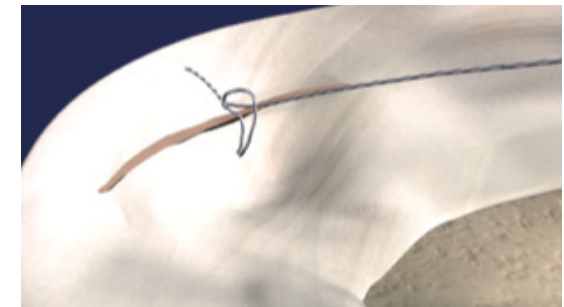
Meniscal repair



Meniscal suture technique



Fast-fix 360 meniscal repair



Suture in-situ

Others: Meniscal transplantation (Mr. Ian McDermott)

# Fractures

- Common in winter sports, particularly skiing.
- Difficulty weight bearing
- Tibial plateau
- Femoral condyle
- Fibula

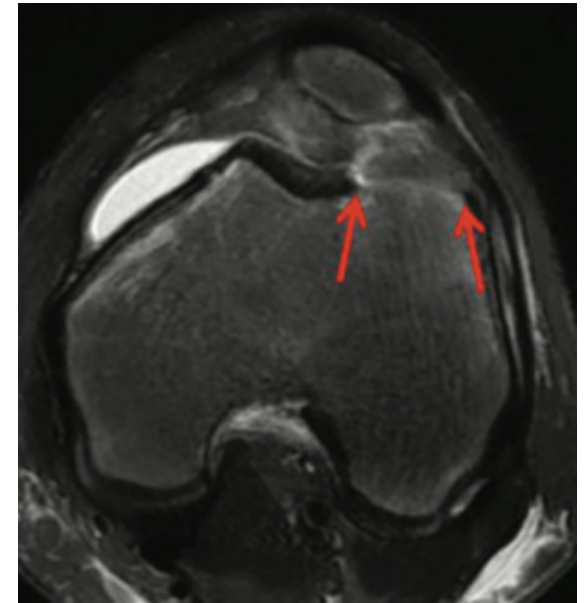


Tibial Plateau Fracture



# Osteochondral Fractures

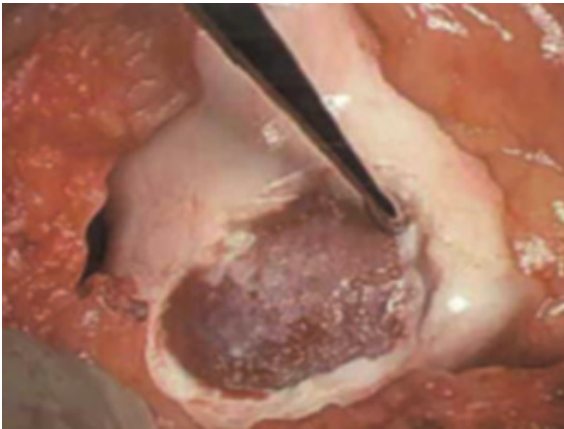
- Osteochondral
- "Skied into a turn"
- 3T MRI



Osteochondral fracture

- Un displaced: ? conservatively, monitor closely
- Displaced: Surgical fixation

# Osteochondral Fractures



Osteochondral fracture



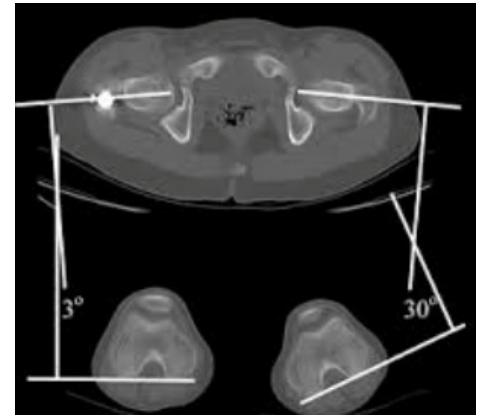
Fragment restored



Held in place with pegs.  
Monitored post-op.  
Rehabilitation

# Anterior Knee Pain

- Fat Pad
- Patella Tendon
- Articular cartilage injuries to the patella/trochlea
- 3T MRI
- Further imaging / patella maltracking
- CT rotational alignment
- Biomechanical gait analysis





# Summary

- Many different types of injury
- Most treated with rehabilitation
- Obtain specialist high resolution imaging early if concerned

# Acknowledgements

- Images from various online sources; for illustrative purposes only.