Multi-Ligament Injuries
- Early treatment algorithm

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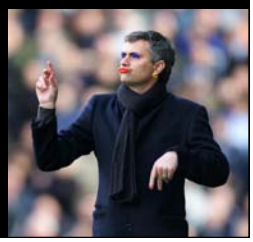
Multi-Ligament Injuries- Personal Series

Jan '00

Total: >300 knees

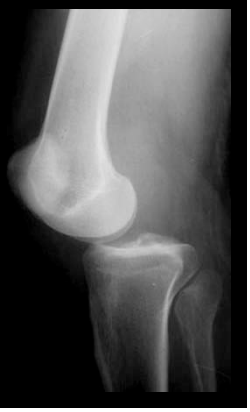
Likely dislocations: 200

1F : 4M
acute : chronic = 2 : 1



'First-Aid' Rx

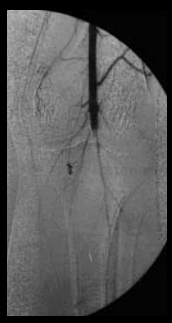
- Make the Diagnosis
  - XR- small #s = big injury
  - MRI
- Reduce- beware trapped MFC
- Splint
- Vascular imaging
- *Treat foot-drop*
- ? Refer to specialist centre



Neurovasular Injury- *BEWARE!*

- Old papers : 50%
- Reality (65 dislocations):
  - 15% C.P.Nerve
    - 60% recovery
  - 5% Popliteal A.

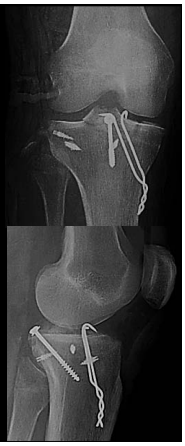
Angio or Doppler?



My Philosophy / Principles:

Early Surgery to:

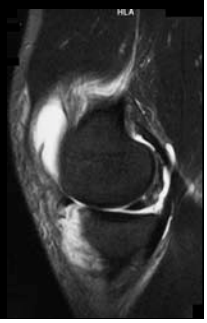
- Repair / Recon ALL ligaments
  - Gives best chance of reconstructions working
  - Repair possible ?cruciates
  - Fix Avulsion #s



My Philosophy / Principles:

Early Surgery to:

- Restore Joint Congruence
  - Minimises abnormal loading
  - Helps stability
  - Aids soft tissue envelope healing at correct tension



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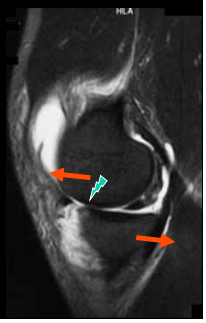
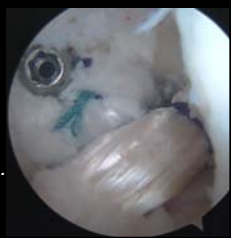


My Philosophy / Principles:

Early Surgery to:

- Allow early protected motion
  - ↓ stiffness
  - ↓ muscle wastage
  - ↑neuromuscular control
  - Chondral nourishment

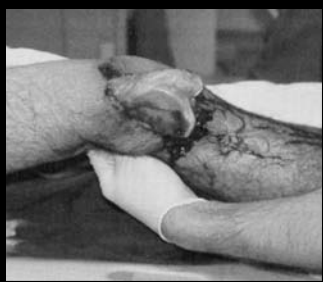
Fixation adequate to allow rehab.



Contra-indications to early surgery

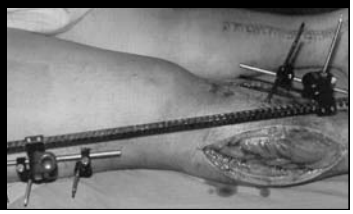
Early Surgery if possible, but not if…

- Open injury
- Soft tissues bad
- Sepsis
- Vascular injury
- Too sick
- Significant Intra- Artic #



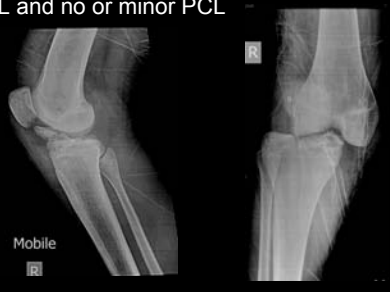
If early surgery not possible:

- Ensure congruent reduction
  - X-Ray
  - PCL-Brace
- Treat soft tissues
- Ex-Fix only after re-vascularisation



ALSO
Not all cases need early surgery:

Some best treated by initial bracing- esp if MCL and no or minor PCL



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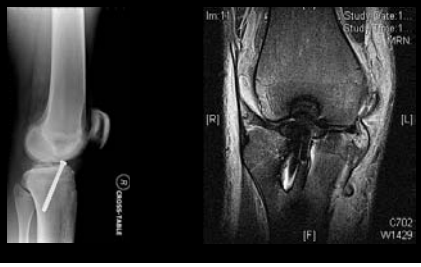

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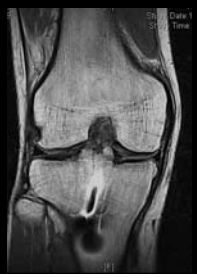

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Timing of Definitive Surgery

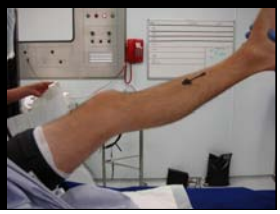
Early early – ideally 10-14 days (> 3 wks XS scar)
- If no Contra-Indication
- If Major PCL element
- If opportunity for repair / avulsion # fixation

Delayed Early Surgery – from 6-8 weeks
- If acute bracing an option eg MCL and minor PCL
- Allows more minor op
- *No chance of ligament repair*

THINK!- pre-op planning

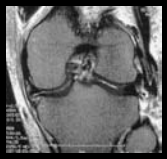
MAKE A PLAN:

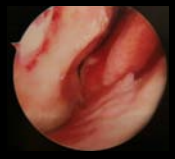
- Correct fixed flexion
- Address poor flexion in late cases

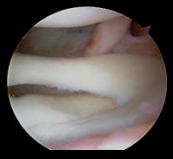


THINK!- pre-op planning

MAKE A PLAN:
- Establish Pattern of Injury
  - Hx / Ex / XR / MRI → What's torn
  - XR / MRI / Arthroscopy → Where torn

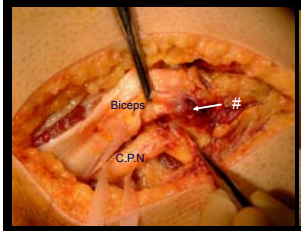


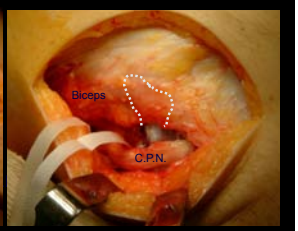




THERE IS NO PLACE FOR EUA / ARTHROSCOPY ALONE

Top Tip!





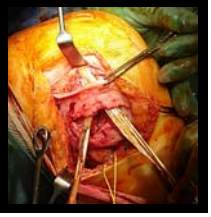
Course of Common Peroneal N.

Bottomley et al, JBJS[Br] Sept 05

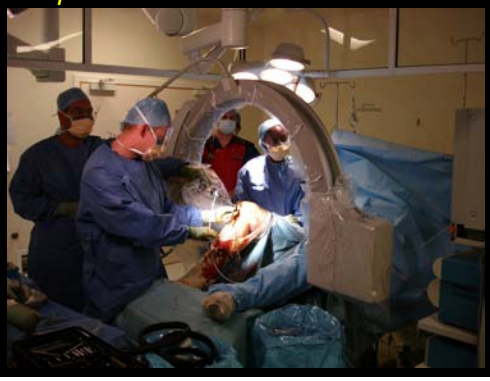
THINK!- pre-op planning

MAKE A PLAN:

- Operative Strategy
  - Graft choices- auto / allo / synthetic
  - Cruciates first – PCL priority- SB!
  - ? Repairs possible esp. PL corner
  - ? Reconstructions to splint repairs



Set Up!

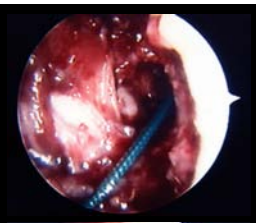


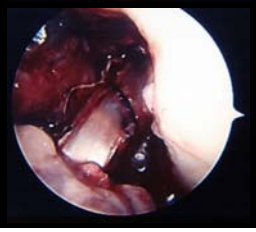
Acute Surgery

- Minimise Tourniquet
- Open surgery

Acute Surgery

- 'Dry' Arthroscopy
- Check calf regularly
  - If tight: release tourniquet





Plan Summary