Combined ACL/MCL injuries
Fix the MCL!
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Biomechanical stress on ACL with valgus instability

- Biomechanical study on Cadavers
- MCL partial injury and complete injury
- “Partial and complete MCL tears significantly increased the load on the anterior cruciate ligament”

Biomechanical stress on ACL with valgus instability

- Biomechanical study
- MCL partial resection in rabbits
- 6 weeks, 12 weeks, 24 weeks
- “Decreased biomechanical properties including tensile strength in ACL in those knees with MCL injury/instability”

Tibial Sided MCL Injuries

Complete tibial-sided MCL injuries (even isolated Grade III Injuries) are less likely to heal with non-operative management
Wilson TC, Satterfield WH, Johnson DL Orthopedics 2004

Treatment of Combined ACL/MCL tears

- Systematic review – Level IV
- 17 Studies (three level I studies, most level IV)
- “MCL repair or reconstruction may be required if valgus instability remains after an appropriate rehabilitation period”

Combined ACL-MCL Treatment

“My approach to combined ACL-MCL damage is to decide intraoperatively whether the MCL rupture requires primary repair. After the ACL reconstruction is complete, the medial laxity is reassessed. If the knee continues to be unstable in full extension or slight flexion (grade II or III), the MCL and the posterior oblique ligament are exposed, and a primary repair is performed.”
**Acute & Chronic**

**Surgical MCL repair Indications**

<table>
<thead>
<tr>
<th>Operations</th>
<th>Surgical Indications</th>
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<tbody>
<tr>
<td>Acute repair</td>
<td>Preservation of intact meniscus, ligamentous retension, and ligamentoplasty</td>
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<td>Preservation of joint line, ligamentous repair</td>
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<td></td>
<td>A large bony avulsion</td>
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<td>Associated lateral ligamentous injuries</td>
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<td>MRI finding of complete or partial avulsion in athletes</td>
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<td>Preservation of ligament instability in 0–5 degrees of flexion that are not reduced</td>
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<td>Delayed repair</td>
<td>Combined with anterior cruciate or posterior cruciate reconstruction if the extension</td>
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<td>or the knee is flexed beyond 0–5 degrees of flexion</td>
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Some MCL Injuries don’t Heal... Late Reconstruction May be required!

MCL Injuries of the Knee: Current Concepts Review
Phinit Phisitkul, MD, Stan L James, MD, Brian R Wolf, MD, and Annunziato Amendola, MD

**MCL Approach—Acute**

- The approach “makes itself”
- Medial incision
- Bluntly dissect and then identify anatomy
- Suture anchors to repair tissue

**MCL repair w/ multiple suture anchors**

Multiple Suture Anchors for MCL Repair

**ACL/MCL Summary**

- Avoid Problems later (ie stress on the ACL graft)
- Fix the MCL when faced with large tibia sided injuries and possibly some avulsions on femoral side