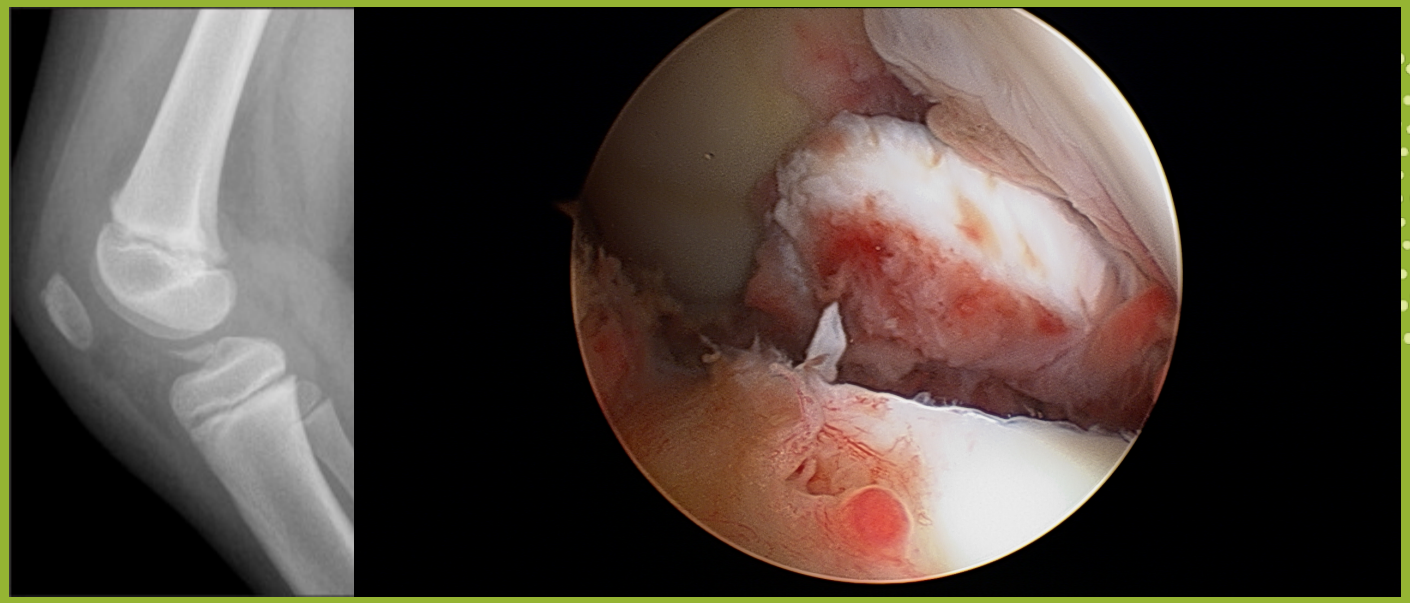
Tibial Eminence (Spine) Fractures



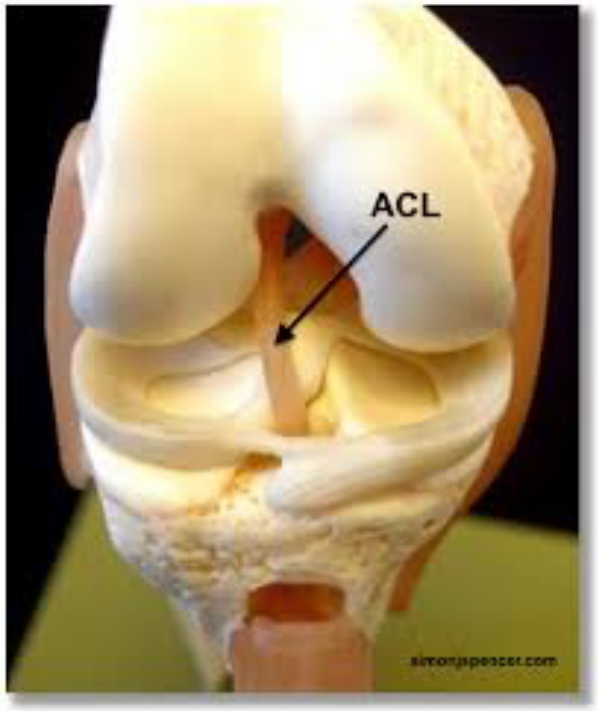
Michael Saper, DO, ATC, CSCS
Assistant Professor, Orthopedics and Sports Medicine

Seattle Children's HOSPITAL • RESEARCH • FOUNDATION

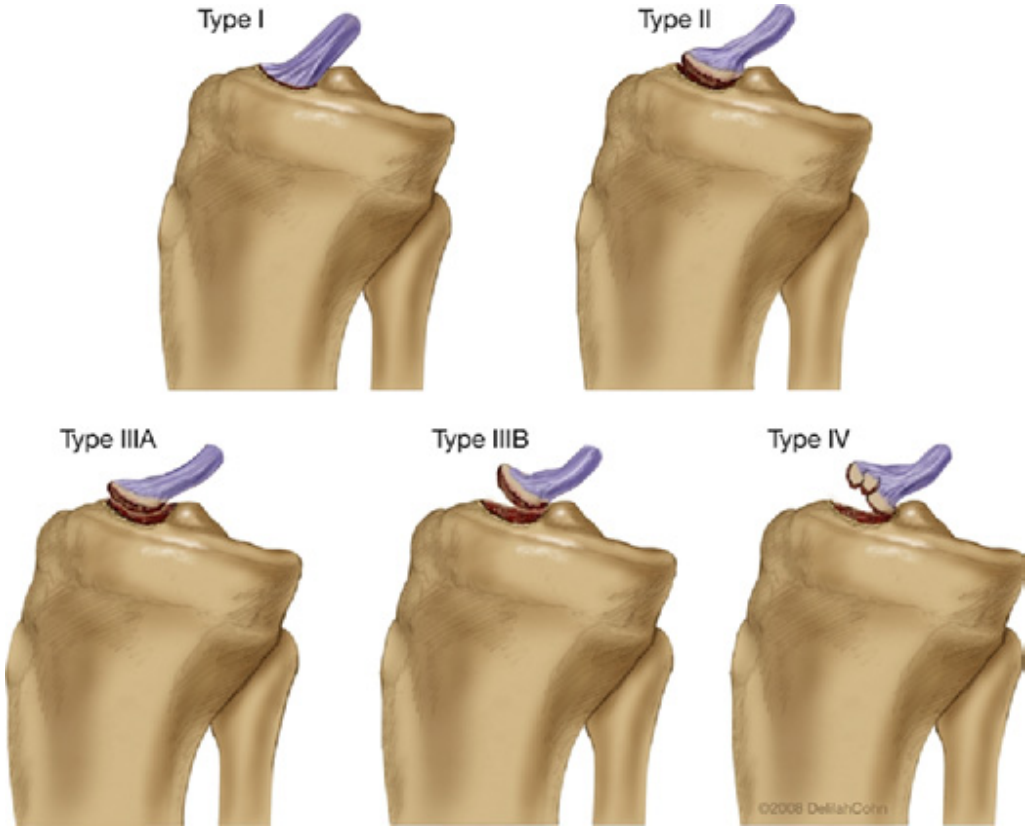
UW Medicine
UW SCHOOL OF MEDICINE

Tibial eminence (spine) fractures

- Most commonly seen in 8-14 y/o
- Failure of incompletely ossified tibial eminence prior to rupture of ACL
- Concomitant injury in 40%
  - Meniscus, Cartilage
- Elastic deformation of ACL prior to fracture
  - Residual laxity following fracture healing



Classification

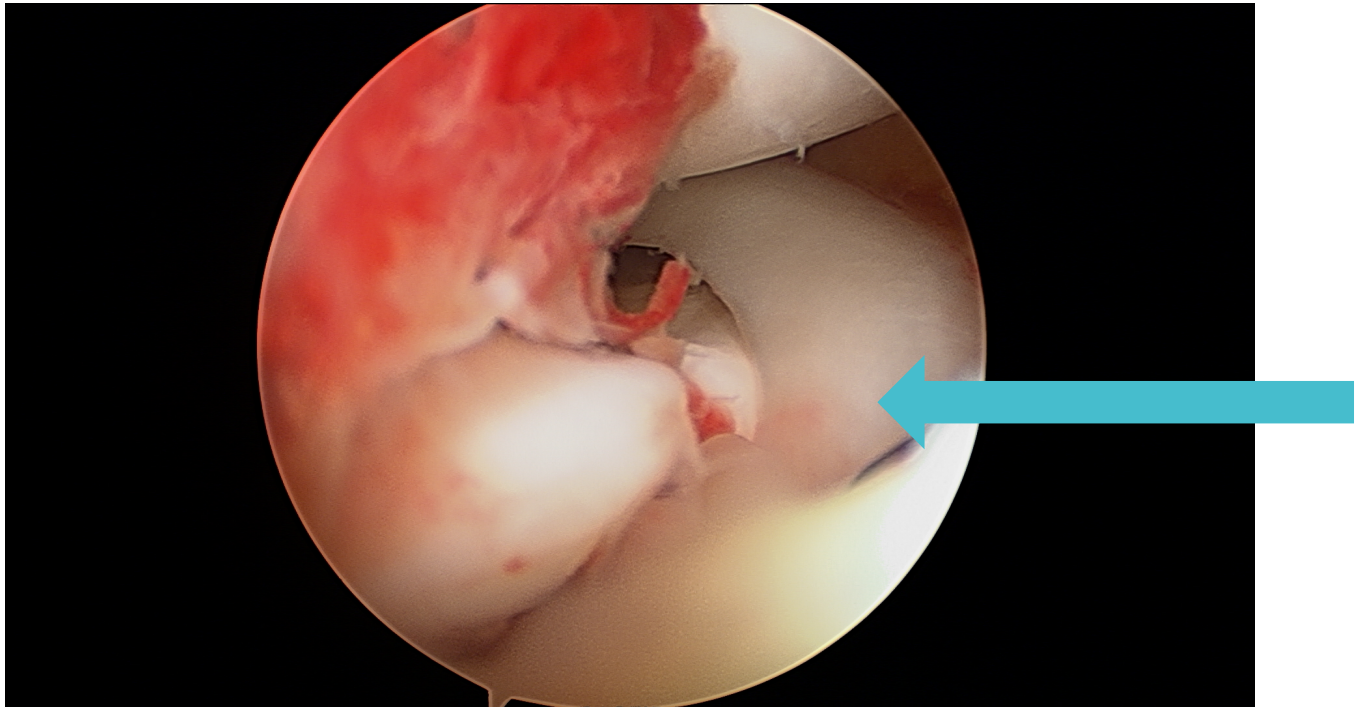


Seattle Children's
HOSPITAL • RESEARCH • FOUNDATION

UW Medicine
UW SCHOOL OF MEDICINE

Blocks to reduction

Interposition of meniscus can block reduction



Management

Type I

- No consensus on degree of flexion/ ranges in literature from 0-40°
- Generally immobilized for 2-6 weeks followed by protected weight bearing
- Monitor with serial radiographs (4-5 weeks after injury)
- Late displacement reported despite adequate immobilization
- Some advocate arthroscopic exam of even non-displaced fractures Ando 1996

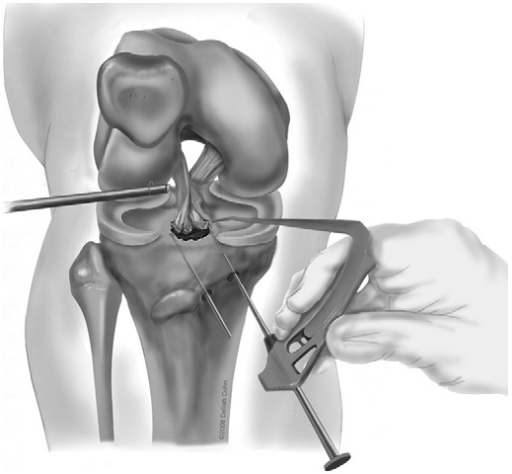
Management

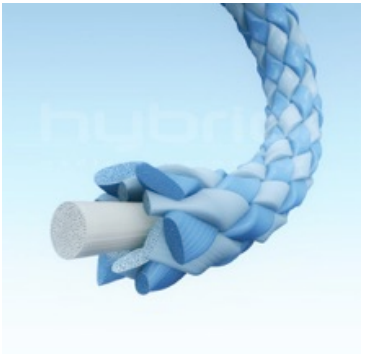
Types II-IV generally surgical

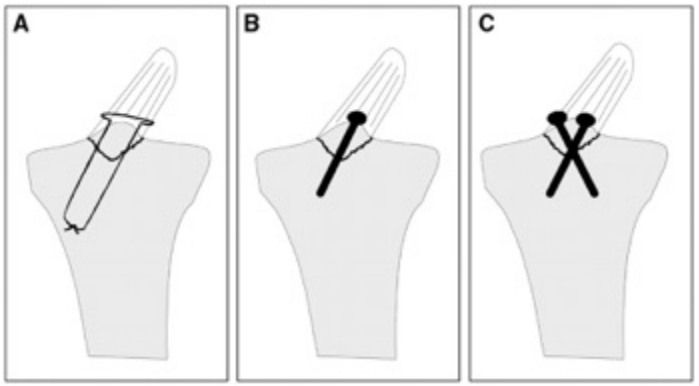
- May attempt closed reduction of Type II
- 50% success

Arthroscopic vs. open reduction

Screws vs. suture fixation described





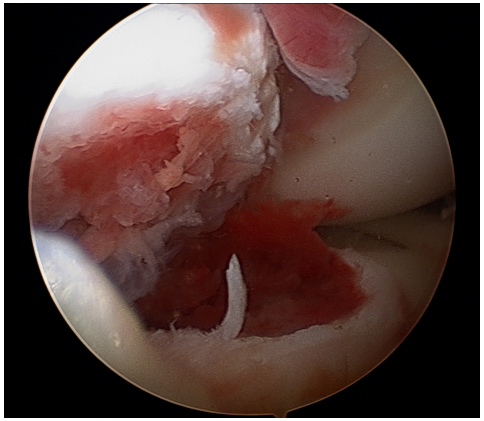


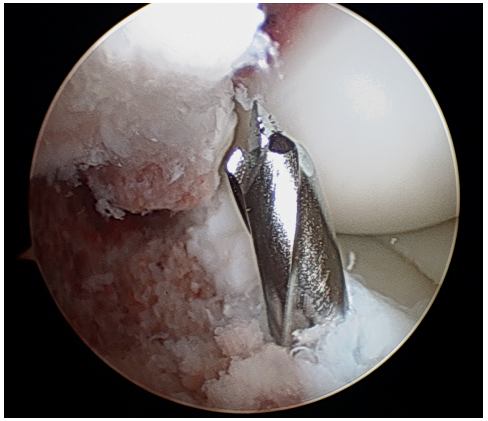
Seattle Children's HOSPITAL • RESEARCH • FOUNDATION

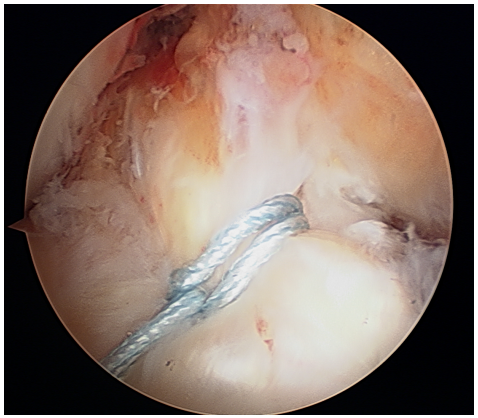
UW Medicine
UW SCHOOL OF MEDICINE

My Technique: Arthroscopic Suture Fixation

- **Arthroscopic** surgery with small incisions
- **Permanent sutures** placed in torn ligament
- Passed through small tunnels in tibia
- Secured over a metal button







Complications and Considerations

Anesthesia

Bleeding

Nerve Injury

Infection

Nonunion (60% completely displaced fractures w/ non-op)

Growth disturbance

ROM loss (I and II << III and IV)

Laxity (I and II << III and IV)

Arthrofibrosis (5%)

12x more likely if ROM started after 4 weeks

Gans et al 2014 AJSM

Rehabilitation

TTWB after surgery for 4 weeks

Knee brace for 6 weeks

Running at 3-4 months

Return to sport activities at 4-6 months

Thank you for your attention!

Contact:
Sapersportsmed.com
@DrMichaelSaper

Seattle Children's
HOSPITAL • RESEARCH • FOUNDATION

UW Medicine
UW SCHOOL OF MEDICINE