RICHMOND BONE & JOINT CLIN

KNEE INJURIES

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Common Injuries

- ACL tear (partial vs. complete)
- MCL tear
- Meniscal tears (normal variant vs. bucket-handle tears)
- Patellar subluxation vs. dislocation

ACL tears

- Mechanism: twisting injury with audible and palpable pop(s), often involves contact with lateral aspect of knee and valgus force
- Associated injuries: MCL tear, lateral meniscus tear, lateral bone bruise, chondral injuries

ACL tears

- Physical findings:
  - Swelling (more significant)
  - Pain (generalized)
  - Laxity
    - Lachman (most sensitive)
    - Anterior drawer
    - Pivot shift

    *always compare with other knee

ACL tears

- Management:
  - Ice, elevate, crutches, compression
  - Radiographic evaluation
    - X-rays
    - MRI

ACL tears

- Partial vs. complete: may be difficult to distinguish with physical findings- often need MRI/arthroscopy to determine extent of tear

ACL tears

- Timing of Treatment:
  - Often treating parents/coaches
  - Emergency diagnosis/treatment usually not necessary
  - Diagnosis typically made within the first 2-3 days after injury
  - Surgery typically done at 4-6 weeks after initial injury dependent upon progress with LAT/PT

ACL tears

- Treatment Options:
  - Operative vs. non-operative
    - Reconstruction with allograft or autograft
    - Various grafts available for reconstruction
    - Bracing/supportive care

ACL tears

- Return to Sports: expect return within 6-8 months of surgery, highly variable and based on patient progress and physical findings

MCL tears

- Mechanism: valgus force applied to knee, sometimes an audible or palpable pop
- Associated injuries: lateral bone bruise, ACL sprain, chondral injuries

MCL tears

- Physical findings:
  - Swelling (medially)
  - Point tenderness (medial)
  - Pain with valgus force
  - Possible medial laxity

MCL tears

- Management:
  - Ice, crutches, compression
  - Radiographic evaluation:
    - X-rays
    - MRI

MCL tears

- Timing of Treatment:
  - Non-emergent
  - Evaluation within 2-3 days of injury

MCL tears

- Treatment options:
  - Largely non-operative
  - Treated with bracing, protected activity, and gradual return to sport
  - Expect return to sports within 6 weeks of injury

Meniscal tears

- Mechanism: typically lower energy twisting injury
- Associated injuries: chondral injuries

Meniscal tears

- Physical findings:
  - Minor swelling
  - Joint line tenderness
  - Positive McMurray's

Meniscal tears

- Management:
  - Ice, crutches, compression
  - Radiographic evaluation:
    - X-rays
    - MRI

Meniscal tears

- Timing of treatment:
  - Non-emergent
  - Diagnosis and treatment can be completed within days of the inury

Meniscal tears

- Operative
  - Arthroscopy
  - Expect return to sport within 1-4 weeks of treatment
- Non- operative
  - ROM, strengthening
  - Return to sport as symptoms permit
  - Chance of re-injury or worsening of tear

Meniscal tears

- Meniscectomy
  - Excision of torn portion of meniscus due to lack of blood supply
  - Quicker return due to lack of weight-bearing restrictions
  - 1-4 weeks for return
- Meniscal repair
  - Various methods available to repair tear
  - Delayed return due to weight-bearing restrictions to protect repair
  - 6-12 weeks for return

Patellar Subluxation vs. Dislocation

- Mechanism: deep squat with twisting injury, may be an unimpressive event causing dislocation/subluxation episode
- Associated injuries: bone bruise, retinacular tear, osteochondral fragment

Patellar Subluxation vs. Dislocation

- Physical findings:
  - Swelling
  - Tenderness along medial patellar retinaculum
  - Mechanical symptoms possible secondary to chondral or ostochondral fragments

Patellar Subluxation vs. Dislocation

- Management:
  - Depends on whether patella remains dislocated or not
  - Ice, crutches, compression
  - Emergent if patella remains dislocated and unresponsive to reduction maneuver
  - Non-emergent with spontaneous reduction
  - Radiographic evaluation:
    - X-rays
    - MRI

Patellar Subluxation vs. Dislocation

- Operative
  - Arthroscopy with medial patellofemoral ligament repair and removal/fixation of osteochondral fragments
  - Return in 12 weeks
  - May require lateral release and medial plication with recurrence
- Non-operative
  - ROM
  - Strengthening (VMO)
  - Gradual return to sport
  - Patellar stabilizing brace or McConnell taping
  - Return in 4-8 weeks

Summary

- Most knee injuries do not require emergent diagnosis or treatment
- Ice, crutches/protected weight-bearing, compression are always a safe bet
- Semi-urgent diagnosis will allow quicker treatment and return to sports

Richmond Bone and Joint Clinic

- Richmond Bone and Joint Clinic prides itself on making rapid diagnosis and allowing rapid return to sports
- Most athletes will receive and MRI on the day of initial visit and LAT/patient will be made aware of the diagnosis and treatment options within 24-48 hours

Richmond Bone and Joint Clinic

- Employ 2 LAT's and retired head football coach to serve as liaisons between physician, patient, and LAT at athlete's school
- Instituting STARS network to provide comprehensive care of all athletic injuries (orthopedic or non-orthopedic)

Thank You
Please feel free to ask questions