Knee Injuries: Indications For Radiography
See also Ottawa Rules

Background
1. Ottawa & Pittsburgh Knee Rules
   o Only 6% of pts w/knee trauma have an actual fracture
   o These rules are designed to reduce the use of unnecessary radiography
      ▪ Thus reducing health care costs
   o X-ray views should include:
      ▪ Axial sunrise or merchant
         • Flexed knee to 45°
      ▪ Posteroanterior wt bearing
      ▪ 90° lateral views
   o Possible findings include:
      ▪ Fx sites
         • Patella
         • Femoral condyles
         • Tibial plateau
      ▪ Significant fx
         • Bone fragment >5 mm OR
         • Avulsion fx associated w/disruption of tendons or ligaments
      ▪ Osteoarthritis, degenerative joint space
      ▪ Calcified meniscus or loose body
2. Comparison of Ottawa and Pittsburgh Rules
   o Pittsburgh Rules are more specific for finding a fracture, w/no loss of sensitivity

Ottawa Knee Rules
1. Plain x-ray should be obtained after acute injury if pt meets ONE of following
   o Age = 55 yrs
   o Isolated tenderness of patella (no other bony tenderness)
   o Tenderness at head of fibula
   o Inability to flex knee to 90°
   o Inability to bear wt for 4 steps both immediately and in ER/office
2. Sensitivity 97%, specificity 27%
3. See Ottawa Knee Rules

Pittsburgh Decision Rule
1. Plain x-ray should be obtained after acute injury if pt meets ONE of following
   o Blunt trauma or fall mechanism
   o <12 years old or >50 years old
   o Inability to bear wt for 4 steps immediately and in office/ER
2. Sensitivity 99%, specificity 60%

Other Recommendations
1. In pts w/hemarthrosis, consider stress radiographs
   o This may be inhibited by pain from traumatic injury

Knee Injuries Indications for Radiography       Page 1 of 2       6.21.07
Joint aspiration w/inj of local anesthetic may be necessary to perform stress radiography

2. Pts w/significant and/or displaced fractures should be referred immediately to orthopedics

References


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