

## Knee Injury

### Case Studies

A 15-year-old gymnast has noted knee pain that has become progressively worse during the past several months of intensive training for a statewide meet. Her physical examination indicated swelling in and around the left knee. She had some decreased range of motion and a clicking sound on flexion of the knee. The knee was otherwise stable.

Studies	Results
Routine laboratory values	Within normal limits (WNL)
Long bone (femur, fibula, and tibia) X-ray	No fracture
Arthrocentesis with synovial fluid analysis	
Appearance	Bloody (normal: clear and straw-colored)
Mucin clot	Good (normal: good)
Fibrin clot	Small (normal: none)
White blood cells (WBCs)	<200 WBC/mm <sup>3</sup> (normal: <200 WBC/mm <sup>3</sup> )
Neutrophils	<25% (WNL)
Glucose	100 mg/dL (normal: within 10 mg/dL of serum glucose level)
Magnetic resonance imaging (MRI) of the knee	Blood in the joint space. Tear in the posterior aspect of the medial meniscus. No cruciate or other ligament tears
Arthroscopy	Tear in posterior aspect of medial meniscus

### Diagnostic Analysis

The radiographic studies of the long bones eliminated any possibility of fracture. Arthrocentesis indicated a bloody effusion, which was probably a result of trauma. The fibrin clot was further evidence of bleeding within the joint. Arthrography indicated a tear of the medial meniscus of the knee, a common injury for gymnasts. Arthroscopy corroborated that finding. Transarthroscopic medial meniscectomy was performed. Her postoperative course was uneventful.

### Critical Thinking Questions

1. One of the potential complications of arthroscopy is infection. What signs and symptoms of joint infection would you emphasize in your patient teaching?
2. Why is glucose evaluated in the synovial fluid analysis?
3. What are special tests used to differentiate type of Tendon tears in the knee ? Explain how they are performed (Always on boards)