

Adult and Adolescent Knee Pain Guideline Overview

This Guideline was adapted from and used with the permission of The UW Medical Foundation, UW Hospitals and Clinics, Meriter Hospital, University of Wisconsin Department of Family Medicine, Unity Health Insurance, Physicians Plus Insurance Corporation, and Group Health Cooperative, who created this guideline on May 18, 2007 as the result of a multidisciplinary work group comprised of health care practitioners from orthopedics, sports medicine, and rheumatology.

This Guideline was reviewed and approved by Aspirus Network's Medical Management Committee on May 7, 2013. The Knee Pain Work Group, a multidisciplinary work group comprised of health care practitioners from family practice, internal medicine, pediatric, and orthopedic surgery, participated in the development of this guideline. This guideline is intended to assist the patient-provider team to achieve the "Triple Aim": quality, cost-efficient care with improved patient experiences / outcomes (i.e. do what's best for the patient).

Adult and Adolescent Knee Pain Guideline Overview

Guidelines are designed to assist clinicians by providing a framework for the evaluation and treatment of patients. This guideline outlines the preferred approach for most patients. It is not intended to replace a clinician's judgment or to establish a protocol for all patients. It is understood that some patients will not fit the clinical condition contemplated by a guideline and that a guideline will rarely establish the only appropriate approach to a problem.

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1. Patient Presents with Knee Pain

Knee pain is a common presenting complaint in primary care – approximately 9.8 million office visits annually. In addition, 1.3 million patients annually present to emergency departments with the problem of acute knee trauma. Patellofemoral syndrome and osteoarthritis cause the majority of knee pain, which respond well to knee strengthening exercises and symptomatic care. Radiographs and MRIs are usually not useful for the evaluation of non-traumatic knee pain unless indicated by history and physical examination.

2. History and Physical Exam

The history and physical exam are the most important components of the evaluation and should focus on differentiating the causes of knee pain. If history is suggestive of an inflammatory disorder, a complete physical exam should be obtained, as should appropriate lab testing. Components of a knee exam include:

History

- Onset, history and location of pain
- Previous history of similar problems in knee or other joints
- Response to activity
- Factors that aggravate pain
- Factors that relieve pain
- Presence and location of swelling
- Stiffness
- Grinding, catching, locking or snapping
- Fever or chills
- Change in sensation or muscle strength

Physical Examination

- Visual inspection for dislocations and fractures
- Presence and location of swelling (intra-articular, prepatellar bursa, posterior (Baker's cyst))
- Presence and location of warmth
- Presence and location of crepitus
- Foot pulses
- Palpate for tenderness (peripatellar, patella, patella tendon, tibial tuberosity, medial and lateral joint lines, medial and lateral collateral ligaments, and pes anserine bursa)
- Apprehension and pain with lateral displacement of patella for indications of patella subluxation or dislocation
- Active range of motion (normal = 0 135)
- Passive range of motion
- Joint line pain or tenderness with extension or flexion is compatible with meniscus tear
- Meniscal compression tests (McMurray's) to evaluate for torn meniscus
- Varus/valgus instability at 30° of flexion for damage to collateral ligaments
- Evaluate hip range of motion for underlying hip pathology
- Survey other joints for signs of underlying rheumatologic disorder
- Consider indications for fluid analysis (a traumatic effusion and joint redness/warmth)

3. Clinical Parameters for Ordering Radiographs

Radiographs are <u>not indicated</u> in the following circumstances:

- 1. Patient is able to walk without a limp,
- 2. Patient had a twisting injury and there is no effusion, and
- 3. No bony tenderness.

Parameters used for ordering knee radiographs following trauma are as follows:

- 1. Joint effusion within 24 hours of direct blow or fall,
- 2. Palpable tenderness over fibular head or patella or other bony structures,
- 3. Inability to walk (four steps) or bear weight immediately or in the emergency room, or within a week of the trauma,
- 4. Inability to flex knee to 90 degrees,
- 5. History of patellar dislocation/relocation, and
- 6. Inability to actively and fully extend the knee (Quad/patellar tendon ruptures).

4. Orthopedic/Sports Medicine Consult

A referral to an orthopedic/sports medicine specialist <u>within one week</u> should be considered when radiographs and/or clinical exam show evidence of:

- 1. Limited range of motion (acutely locked knee).
- 2. Immediate large effusion (suspicious for ACL injury, loose bodies, locked knee, patellar dislocation, osteochondral fractures).

During the week prior to the orthopedic appointment, patients without fractures or a locked knee should be allowed weight bearing as tolerated. For these patients, knee motion should be encouraged and knee immobilizers discouraged. Crutches should be used for patients with partial weight bearing status or patients ambulating with a limp.

An <u>immediate</u> (same day) appointment to an orthopedic specialist should be considered when radiographs show evidence of fractures or osteomyelitis.

5. Conservative Medical Treatment Plans

Non-traumatic Pain

- 1. Medications: NSAIDs, acetaminophen, capsaicin.
- 2. Weight loss program, if applicable.
- 3. Therapeutic exercises:
 - a. For most conditions, avoid high impact and full weight bearing activities such as jumping, twisting, and running on hard surfaces.
 - b. Quadricep strengthening (specifically the vastus medialis obliques by straight leg raises, quad sets, and leg presses as tolerated).
 - c. Hamstring and calf stretching.
 - d. Low impact aerobic activities such as cycling, swimming, walking, cross country skiing.
 - e. For most patients, home exercise programs prescribed by their provider are usually as effective as formal physical therapy.
 - f. Consider formal physical therapy for patients who need supervision, or who would benefit from a biomechanical assessment that could be done by a physical therapist.
- 4. Follow-up in 6-12 weeks if weight bearing and 3 weeks if not weight bearing.
- 5. If partial or no response to conservative treatment noted at follow-up visit, reevaluate initial diagnosis and/or refer to orthopedic specialist for evaluation and treatment.

Traumatic Injury

- 1. Rest and ice, 5-20 minutes every 3-4 hours for the first 24-48 hours.
- 2. Analgesics and NSAIDs may be useful to decrease swelling.
- 3. Immobilization for the first 3-5 days, pending further evaluation.
- 4. Crutches should be used if unable to bear full weight without pain or for specific conditions for which non-weight bearing is indicated (e.g., fractures, osteochondritis dessicans, locked knees). If partial weight bearing is acceptable, encourage range of motion and weight bearing as tolerated.
- Bracing is indicated only if injury is unstable and needs immobilization, or for specific support of an injured structure when the diagnosis has been established (e.g., collateral ligament sprains). Routine use of immobilizers is discouraged because the resulting stiffness and pain delays recovery.
- 6. Active range of motion exercises within 3-5 days, as pain allows.
- 7. Follow-up in 4-6 weeks if weight bearing or in 2 weeks if not weight bearing.
- 8. If partial or no response to conservative treatment is noted at follow-up visit, reevaluate initial diagnosis and/or refer to orthopedic specialist for evaluation and treatment.

6. Indications for Magnetic Resonance Imaging

- 1. MRIs may be considered for the following indications:
 - a. History of trauma or acute injury, with knee effusion or locked knee,
 - b. History of trauma or acute injury, with strong clinical suspicion of ACL or PCL tear, and
 - c. History of trauma or acute injury, and strongly suspicious for meniscal tear with limited range of motion.

Radiographs should always precede MRI. Strongly recommend orthopedic consult prior to ordering MRI. MRI is not indicated if the result is unlikely to change the treatment plan; if surgery is indicated, MRI may not be necessary. The patient-provider team is encouraged to discuss the cost of the MRI vs. benefit(s).

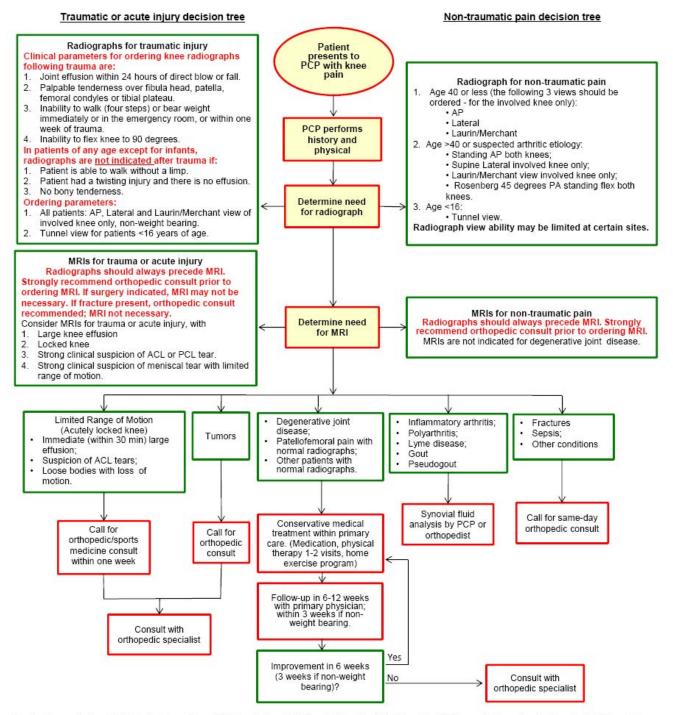
- 2. Degenerative joint disease:
 - a. MRIs are not indicated for degenerative joint disease.

7. References

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Approved by ANI Medical Management Committee June 2013

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