

Madigan Army Medical Center Referral Guidelines

Knee Pain (Traumatic)

Diagnosis/Definition

Knee pain, instability or loss of motion related to a specific traumatic event.

Initial Diagnosis and Management

- History (special attention to mechanism of injury) and physical examination.
- Radiographs to rule out fractures if they meet specified criteria such as the Ottawa Knee Rule or Pittsburg Knee Rule (see Appendix A below)
- Obvious fracture, instability, or motor disruption: refer (see below).
- Initial exam may be difficult due to pain and/or significant effusion. It is not inappropriate to provide pain management, immobilization, and instructions on icing/compression, and have patient return in no less than 72 hours to reassess condition.
- Early ROM and isometric strengthening exercises should be initiated immediately to facilitate recovery of motion and prevent muscle atrophy and inhibition. Consult PT for instruction and/or supervision of exercises.* ASAP or 72 hour consults to PT require provider to provider telephonic contact.

Ongoing Management and Objectives

- Repeat examination at 4 to 14 days for more definitive physical evaluation.
- Medial or lateral collateral ligament strains (w/o instability): treat with bracing, activity limitations and appropriate knee rehabilitation exercises. Consult PT for instruction and/or supervision of exercises*. 72 hour consults to PT require provider to provider telephonic contact.
- Treat for 6-8 weeks.
- If effusion is still present at 8 weeks, consider a systemic differential.

Indications for Specialty Care Referral

- Patients with the following should be referred to Orthopedics:
 - Any patient with obvious varus or valgus, or anterior or posterior drawer instability.
 - All fractures.
- Patients with the following should be referred to physical therapy:
 - Without fracture and...
 - Those that the pain has resulted in a significant impact on function (difficult performing their job) or...
 - Symptoms that have not improved (remained the same) for > 2 week period.

Criteria for Return to Primary Care

- Please also see the Madigan Knee Clinical Practice Guideline.

Appendix:

Ottawa Knee Rule

The rule states that a conventional x-ray is required for acute knee injury in the presence of any of the following findings:

- Age 55 years or older
- Isolated tenderness of patella
- Tenderness at head of fibula
- Inability to flex to 90 deg
- Inability to bear weight both immediately post-injury or in the emergency department (described as ‘unable to transfer weight twice onto each lower limb regardless of limping’).

This rule has been validated and found to be reliable in the absence of head injury, drug or alcohol intoxication, paraplegia and diminished limb sensation. It has a sensitivity of 97%, specificity of 27% and likelihood ratio of 1.3%.

Pittsburgh Knee Rule

For patients with acute knee pain and a history of a fall or blunt trauma, the following rules apply:

- All patients aged 11 or younger and those aged 51 and older are xrayed
- Of those remaining, only those who cannot walk four weight-bearing steps in the emergency department are xrayed. Weight-bearing ability is the ability to bear weight fully on the toe pads and heels for four full steps.

The Pittsburgh Knee Rule has the greatest predictive value of the three rules (sensitivity of 99%, specificity of 60% and a likelihood ratio of 2.5).

References:

Bauer, S.J., Hollander, J.E., Fuchs, S.H., & Thode, H.C. (1995). A clinical decision rule in the evaluation of acute knee injuries. *Journal of Emergency Medicine*, 13, 611-615.

Evidenced Based Management of Acute Musculoskeletal Conditions: A Guide for Clinicians. Australian Government National Health and Medical Research Council.

<http://www.nhmrc.gov.au/files/nhmrc/publications/attachments/cp95.pdf?q=publications/synopses/files/cp95.pdf>

Seaberg, D.C., & Jackson, R. (1994). Clinical decision rule for knee radiographs. *American Journal of Emergency Medicine*, 12, 541-543.

Stiell, I.G., Greenberg, G.H., Wells, G.A., McDowell, I., Cwinn, A.A., Smith, N.A., Cacciotti, T.F., & Sivilotti, M.L. (1996). Prospective validation of a decision rule for the use of radiography in acute knee injuries. *Journal of the American Medical Association*, 275, 611-615.

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Referral Guidelines require review every three years.

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