

Title: Appropriateness Checklist for Knee MRI

Applicable to: Ordering clinicians requesting Knee MRI imaging from Shared Health facilities

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1.0. Purpose

This practice guideline is established to improve appropriate use of knee MRI within non-specialist ordering clinicians.

MRI Knee Appropriate Checklist benefits include:

- Provides a decision support tool that clinicians can review with patients to make partnered decisions on their care
- Promote resource stewardship of scarce diagnostic imaging resources
- Ensure patients receive the correct required test in the workup of osteoarthritis
- Provide detailed clinical information for radiologists
- Reduce wait times for patients who require diagnostic MRI imaging

2.0. Background

In a 2024 internal audit, 1264 Manitoba Knee MRI requests were reviewed and 77% did not meet the criteria for appropriate MRI Imaging. With increasing demand for these services and increasing wait times, we are working to reduce low value testing, to improve outcomes and wait times for those most in need.

Patients are often referred for an MRI that is considered unnecessary by orthopedic specialists. MRIs often detect incidental findings, such as degenerative meniscal tears that are common among middle-aged individuals with or without knee symptoms, likely do not contribute to pain and should not change management. Moreover, previous retrospective studies have shown that few patients with knee pain have a weight-bearing radiograph before receiving an MRI.

While it is true that MRI can also detect osteoarthritis with high specificity, it has moderate sensitivity compared with various reference standards. Therefore, it has utility

in ruling osteoarthritis out rather than ruling it in. The sensitivity is below current clinical diagnostic standards.

The use of MRI in this setting offers little added diagnostic value and has the potential of increasing wait time to diagnosis for a patient, unnecessary anxiety while waiting for specialist consultation, and can delay MRI imaging for appropriately indicated exams on other patients. Along the same lines, current evidence indicates that imaging features (X-ray, US, MRI) do not predict non-surgical treatment response.

3.0. Definitions

- 3.1. Radiograph = X-ray
- 3.2. MRI = Magnetic Resonance Imaging
- 3.3. US = Ultrasound

4.0. Guideline

- 4.1. The diagnosis of knee osteoarthritis can be made using the patient's clinical history, physical examination, and plain radiographs (X-ray).
- 4.2. **Plain radiograph workup should consist of weight bearing posterior-anterior, lateral and skyline views.**
- 4.3. Simple, knee osteoarthritis diagnosed via x-ray does not require follow up MRI unless:
 - 4.3.1 Recommended by radiologist in x-ray report
 - 4.3.2 Requested by surgeon/ specialist upon referral (section 3.0)
- 4.4. Orthopedic referrals for knee pain due to osteoarthritis do not require knee MRI imaging and should not be ordered by primary care providers.
- 4.5. Diagnostic Imaging Central Intake and MRI scheduling departments will require a Knee MRI Appropriateness Checklist to be included with all Knee MRI requests. from non-specialist provider.
 - 4.5.1 The following clinical specialists are exempt from requiring the Appropriateness Checklist:
 - Orthopedic surgeons
 - Oncologists
 - Infectious Disease physicians
 - Rheumatologists
- 4.6. If requests are received without the Knee MRI Appropriateness Checklist, the request will be rejected

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- 4.6.1 Providers will be notified via fax and / or email that a Knee MRI Appropriateness Checklist is required
- 4.7. If requests are received with the Knee MRI Appropriateness Checklist and patients do not meet the minimum diagnostic criteria, the request will be rejected.
 - 4.7.1 Providers will be notified via fax and / or email
- 4.8. If a provider feels that there are extraneous circumstances and a Knee MRI is required, they will contact their local radiologist
- 4.9. Patient facing materials have been developed and are available on the diagnostic imaging website. This will assist primary care providers in educating patients about their condition and why a Knee MRI is not indicated and will not be accepted by diagnostic imaging.

5.0. Resources

[Clinical Practice Changes - Diagnostic - Health Providers](#)
[Choosing Wisely Canada Orthopaedics](#)

6.0. References

- 6.1. Menashe L, et al. The diagnostic performance of MRI in osteoarthritis: a systematic review and meta-analysis. *Osteoarthritis Cartilage*. 2012 Jan;20(1):13-21.

Marsh JD, Degen R, Birmingham TB, Giffin JR, Getgood A, Litchfield R, Willits K, McClure JA, Welk B. The rate of unnecessary interventions for the management of knee osteoarthritis: a population-based cohort study. *Can J Surg*. 2022 Feb 18;65(1):E114-E120. doi: 10.1503/cjs.002221.

Sakellariou G, Conaghan PG, Zhang W, et al. EULAR recommendations for the use of imaging in the clinical management of peripheral joint osteoarthritis. *Ann Rheum Dis* 2017;76:1484–1494.

7.0. Contacts

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