



Canadian Association of Radiologists
L'Association canadienne des radiologues

CAR Diagnostic Imaging Referral Guidelines

Choosing Wisely 2024

Tuesday April 16, 2024



Declarations

- Senior Epidemiologist, Canadian Association of Radiologists
- Epidemiologist, Public Health Agency of Canada
- Adjunct Professor, Department of Medicine, School of Epidemiology and Public Health, University of Ottawa
- Co-Convenor, Cochrane Rapid Review Methods Group
- Knowledge Synthesis Methodologist consultant for CADTH, ISSM
- Associate Editor, BMC Medical Research Methodologies

- **Conflicts of interest related to this presentation: None**



Diagnostic Imaging Referral Guidelines

- In 2020, the CAR was funded by the CMA to revise/redo the 2012 Diagnostic Imaging Referral Guidelines
- In collaboration with national medical bodies/ specialty societies
- Oversight Working Group: radiologists, emergency medicine physicians, family physicians, nurse practitioner, spine surgeon, and a patient and family advisor
- In March 2021, we began working with the first Expert Panel (Trauma)



Diagnostic Imaging Referral Guidelines

Project Mandate

Develop a comprehensive set of evidenced-based diagnostic imaging referral guidelines suited for integration into CDS systems

- a) Follow the GRADE methodology, ensuring all guidelines are context-specific to the Canadian healthcare system
- b) Produce guidelines as a public good that can be integrated into any referral CDS software system
- c) Develop a 'toolkit' for the rollout of a CDS system



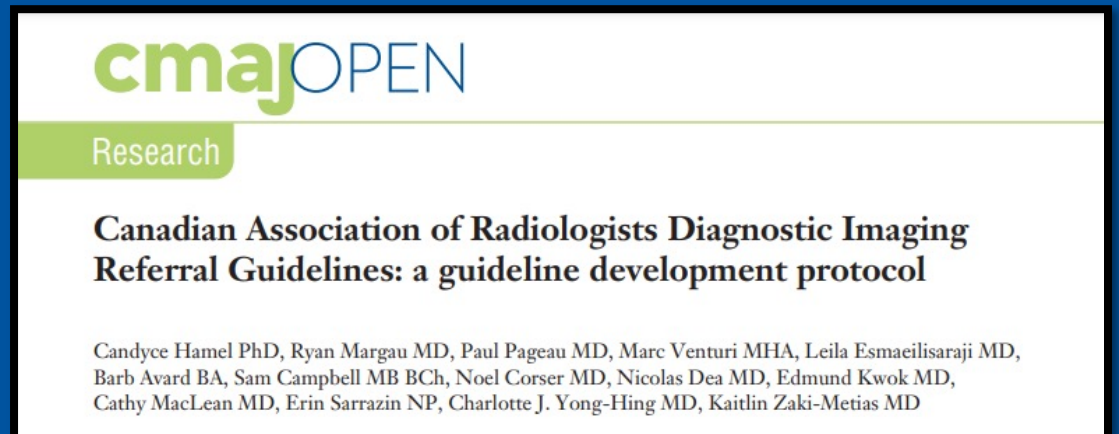
Best practice guidance

- **Protocol:** Protocol reported using items in PRISMA-P reporting¹
 - Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols
- **Scoping Review:** Joanna Briggs Institute²
- **Rapid Review:** Cochrane Rapid Review Methods Group guidance³
- **Guideline:** GIN-McMaster Guideline Development Checklist⁴ and guidance and concepts from GRADE for Guidelines^{5,6}



Our methodology⁷

- Working with an Expert Panel of radiologists, referring clinicians, a patient advisor, and a guideline methodologist:
 - Create a list of clinical/diagnostic scenarios
 - Perform a systematic scoping review to identify existing guidelines
 - Map existing recommendations to clinical/diagnostic scenarios
 - Contextualize to the Canadian healthcare system using concepts from GRADE for guidelines



Status: Diagnostic imaging referral guidelines

- 7 guidelines are complete and published in *CARJ* and on the CAR website
 - Covering 133 clinical/diagnostic scenarios
- Recommendations available in English and French (on CAR website)

CAR Section	# of clinical scenarios	Recommendation statements	Status (as of April 16, 2024)
Trauma	21	52	Published in CARJ and available on CAR website
Musculoskeletal system	25	124	Published in CARJ and available on CAR website
Obstetrics and gynecology	12	65	Published in CARJ and available on CAR website
Breast disease	20	66	Published in CARJ and available on CAR website
Head and neck	11	26	Published in CARJ and available on CAR website
Gastrointestinal system	20	85	Published in CARJ and available on CAR website
Thoracic	24	47	Published in CARJ and available on CAR website



Status: Diagnostic imaging referral guidelines

- 6 guidelines are underway at various stages

CAR Section	# of clinical scenarios	Recommendation statements	Status (as of April 16, 2024)
Cardiovascular	28 (+2 pointing to Thoracic guideline)	125	<ul style="list-style-type: none"> • Approved in CARJ (March 2024) • Waiting for proofs
Genitourinary systems	20 (+2 pointing to OBGYN guideline)	65	<ul style="list-style-type: none"> • Presented at CAR Board meeting April 11, 2024 • Conditionally approved
Pediatrics	50	TBD	<ul style="list-style-type: none"> • Recommendations development underway: 48 of 50 scenarios drafted • Sending out for external peer-review in May 2024 • Anticipated date of completion in June/July 2024
Spine	~12	TBD	<ul style="list-style-type: none"> • Scoping review complete • Meeting to formulate recommendations in May/June
Central nervous system	~30	TBD	<ul style="list-style-type: none"> • Scoping review underway • Meeting to formulate recommendations in May/June
Cancer	TBD	TBD	<ul style="list-style-type: none"> • Drafted list of clinical/diagnostic scenarios • Scoping review to begin early May



Interprofessional collaboration

- Cardiologist
- Emergency medicine physician
- Family physician
- Gastroenterologist
- General practitioner in oncology
- General surgeon
- Gynecologist
- Laryngologist/Laryngeal Surgeon
- Maternal fetal medicine physician
- Medical oncologist
- Nephrologist
- Neurologist
- Neurosurgeon
- Otolaryngologist
- Patient and family advisor
- Psychiatrist
- Radiation oncologist
- Respiriologists
- Spine surgeon
- Sports medicine physicians
- Surgical oncologist
- Urologist
- Pediatric specialists:
 - Emergency physician
 - Endocrinologist
 - Gastroenterologist
 - General surgeons
 - Neurologist
 - Neurosurgeon
 - Orthopedic surgeon
 - Otolaryngologist
 - Respiriologist
 - Urologist



Challenges & Lessons learned

Challenges

- Identifying clinical experts (non-radiologists) for Expert Panel
- National representation of Expert Panel
- Booking meeting times that worked for the Expert Panel members
 - Time zones
 - Work
- Time to complete the recommendation statements
- Knowledge dissemination

Lessons learned

- Have “draft” recommendations to discuss at meetings rather than write from scratch
- Flexible meeting strategies
 - Meeting type: several virtual meetings, 1-day virtual meeting, 1-day hybrid meetings
 - Meeting times: evenings and weekend options
- Publishing on CAR website and Canadian Association of Radiologists Journal (CARJ)



Choosing Wisely recommendations

- Funded by Canadian Radiological Foundation
- 25 clinical/diagnostic scenarios in the Musculoskeletal System guideline⁸
- Working Group of academic radiologists, community radiologist, and representation from emergency medicine (urban/rural), family medicine (urban/rural), orthopaedic surgery, rheumatology, and sports medicine
- Project:
 - Conduct Delphi surveys to reduce the 25 scenarios to those with the biggest impact in imaging (3-5 scenarios)
 - Convert recommendations into Choosing Wisely format
 - Include environmental co-benefit statements



Example: Knee pain

1. In adults with knee joint pain, we recommend **XR** as the initial imaging modality (↑↑).
 - ↳ 1.1 If further investigation is required, we recommend **MRI** as the next imaging modality (↑↑).

For assessment of degenerative joint pathology, if XR demonstrates greater than mild osteoarthritis, MRI may not be indicated as it often will not advance diagnosis or management. Specialist consultation should be considered, to determine if MRI is required.

- ↳ 1.2 If MRI is unavailable or contraindicated, we suggest **CT arthrography** to evaluate for findings such as meniscal tear or chondral defects (↑).
2. In adults with knee pain suspected to be soft tissue related, such as extensor mechanism pathology, bursitis, joint effusion, and popliteal cyst/mass, we recommend **US** as the initial imaging modality (↑↑).
 - ↳ 2.1 As an alternative to US, we recommend **MRI** (↑↑).
 3. In adults with chronic knee joint pain, after XR, we suggest **CT** for evaluation of clinically relevant bone anatomy in scenarios such as patellofemoral maltracking, osteochondral defect, or intraarticular bodies (↑) OR in the context of pre-operative planning (EP consensus).



Thank you

For additional information visit us at:
car.ca or email: info@car.ca



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References

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