



COVID 19 Tip Sheet for MRI and CT Facilities

1 - Access to Care – Practical Tips for MRI and CT Recovery

2020-08-10

To:	Wait Time Information System Coordinators, for Further Distribution to: Diagnostic Imaging Department Directors, Managers, and Supervisors, Radiology Chiefs, and Other Healthcare Providers Who Support Diagnostic Imaging Services
From:	Access to Care Diagnostic Imaging Advisory Committee, Ontario Health (Cancer Care Ontario)
Re:	Efficiency, safety, and patient focus for MRI and CT recovery following the first wave of the COVID-19 pandemic

Preamble

This document is being distributed to all Wait Times Information System (WTIS) Coordinators at facilities so that it can be shared with their local hospital administrators, including facility radiology chiefs, diagnostic imaging (DI) directors, DI managers, DI supervisors and any other healthcare providers who support DI services.

The COVID-19 pandemic is a rapidly evolving and complex situation. This tip sheet is intended as further guidance for DI specific to Magnetic Resonance Imaging (MRI) and Computed Tomography (CT). This document is intended to share tips and best practices; it is not intended to replace or superseded Ministry of Health (ministry) directives, Public Health Ontario directives, or hospital infection prevention and control practices. Modified approaches at the facility level may be required to address varying local conditions and circumstances.

The following strategies were validated by the Access to Care (ATC) DI Advisory Committee at Ontario Health and have been implemented in different facilities across Ontario; some or all of them may be relevant to your specific facility. There is no expectation for all the tips and strategies to be implemented. There may be tips and strategies that do not align with your facility's practices or direction. Please note that any departmental change should strongly reflect and account for patient and staff safety.

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Issue Summary

Prior to the COVID-19 pandemic, DI capacity was unable to meet demand in Ontario and wait times were increasing beyond provincial access targets. In response to the COVID-19 pandemic and the Chief Medical Officer of Health’s Directive #2 issued in March 2020, Ontario’s hospitals ramped down non-emergent procedures to preserve hospital capacity to care for patients with COVID-19.

As the pandemic stabilized, the ministry advised facilities to begin re-opening non-urgent services, including DI. As DI departments across Ontario continue to re-open, hospital and facility stakeholders have indicated a need for best practices to assist with recovery planning. The tip sheet aims to provide practical tips and considerations for improved patient experiences and patient and staff safety, while maintaining efficiencies and improving access as best possible.

Background

This tip sheet builds upon other recent planning references from Ontario Health and the Canadian Association of Radiologists, which are included under the References section at the end of this document.

This tip sheet was created in consultation with the following Ontario Health stakeholder groups, other agencies, and experts in the field:

- Patient and Family Advisors
- Hospital Radiologists
- Academic/Acute Teaching Radiology Clinicians
- Community Clinicians
- ATC DI Information Advisory Committee
- Ontario Health Cancer Imaging Program
- Ontario Health Regional Cancer Imaging Leads
- Ontario Health Transitional Regional Leads
- CorHealth
- Ministry of Health

Ethical Framework Summary

The following ethical framework is outlined in the COVID-19 Tip Sheet 11 document¹ and should continue to be followed. Further review and refinement of the framework should be conducted by facilities to ensure successful implementation.

Any planned changes to DI services, in response to the pandemic, should follow these ethical tenets:

1. Provide equitable access.
2. Prioritize patients according to the clinical urgency, using a disease-agnostic approach.
3. Use a systems approach to coordination and sharing of scarce resources and access across the province, leveraging various hospital capacity.

¹ Cancer Care Ontario at Ontario Health. (2020-06-18). COVID-19 Tip Sheet for Cancer Programs, 11 – Cancer Imaging – Considerations for CT and MRI Services during Recovery. Toronto, Ontario.

COVID-19 Pandemic Tips & Strategies for DI:

Preparing for Second Wave of COVID 19

In addition to the tips and best practices presented below, every facility should be documenting the processes that have been already put in place locally. In the event of a second wave, facilities should leverage their learnings to limit the disruption of key imaging services and, once safe, to efficiently resume services.

Data and Reporting

Facilities should strive to ensure accurate and timely data DI submissions to the WTIS. Decisions and efforts from the ministry and Ontario health to sustain the health system are based on the best available data submitted from facilities. The ATC program at Ontario Health remains available to support facilities in maintaining data quality and can be contacted at atc@ontariohealth.ca or 1-866-681-9846. Hours of Operation are from Monday to Friday, 8 a.m. to 8 p.m.

Communications – Patient focused

Feedback provided by patient and family advisors highlighted the conflicting fears of delayed imaging procedures and of contracting COVID-19 during imaging appointments. A need for increased communication and information from referring physicians and imaging departments was identified to reduce patient anxieties and enable safe and effective navigation of the diagnostic imaging health care system.

- Connect with patients to inform them of imaging scheduling delays and when they might expect to receive their scheduled/rescheduled date.
- Connect with patients to inform them of COVID-19 related precautions in DI departments and ensure that they are aware of the expectations for the day. Use the opportunity to answer patient questions about the day of their scan (see Appendix A for examples of frequently asked questions).
- Collaborate with your facility's patient education campaigns to dispel patient anxieties and COVID-19 myths that could impact their decision to be scanned, and leverage patient-facing scripts (see Appendix A for examples).
- Collaborate with referring physicians and their respective office staff to ensure consistent messaging and expectations for the day of their scan.
- Consider implementing pre-registration for imaging and explore digital registration options that minimize physical contact.

Prioritizing Patients

- Some referrals have been pending long enough for the clinical urgency of the patient to have changed. Facilities should implement consistent processes to identify and manage these patients.
 - For example, issue a new referral to ensure the correct clinical urgency is reflected, or amend the existing. In any scenario, the initial date of referral should be reflected in wait time information data.
- Consider reviewing previously prioritized patients to determine whether re-prioritization is required as a result of lengthened wait times. Develop processes to ensure urgent patients are prioritized regardless of their original Priority Level.
- Where imaging is required more urgently, referring physicians should clearly communicate the change in clinical situation; verbal communication with radiology is recommended in addition to following other administrative processes.
- Consider local facility-specific sub-prioritization of priority levels to ensure consistent prioritization of some of the most urgent clinical indications.
 - Examples of Priority Level 3 (semi-urgent) examinations that could be prioritized: Cancer staging/re-staging with considerations for aggressiveness; biopsies; fetal abnormalities; pancreatic mass; deteriorating clinical developments etc.
 - Examples of Priority Level 4 (non-urgent) examinations that could be prioritized: Surgery/therapy planning; cancer surveillance; MS; hepatic mass; assess complex ovarian cyst etc.

Improving efficiencies

- Review protocols to assess whether they can be shortened in order to increase throughput (See Appendix B for resources regarding the implementation of rapid protocols).
- Reassess the need for oral and IV contrast for certain examinations in order to decrease the amount of time patients spend in the DI department (See Appendix B for resources regarding the use of water versus oral contrast).
- Consider block booking similar examinations to reduce the need to change the coil and increase throughput.
- In alignment with IPAC policies/advice block book similar ankle/foot/knee examinations that do not require the patient's head within the bore to reduce the amount of time spent cleaning the interior of the bore.

Patient and Staff Safety – Limiting patient risks while maintaining efficiencies

Infection control processes as per IPAC should continue to be followed, and the following considerations are specific to DI:

- Have regularly-scheduled engagement with hospital IPAC team to ensure alignment with facility safety initiatives and priorities.
- Consider designating certain DI sites (for multi site facilities) as COVID-19 negative sites to reduce the risk of exposure between negative and positive patients.
- Consider strategies to reduce the number of patients in the DI waiting areas. For example, could CT oral contrast be consumed in other areas of the hospital in alignment with facility care plan?
- Consider limiting the number of patients in the DI department:
 - Waiting in the atrium or parking lot and notified when they should proceed to the DI department.
 - Utilizing every second change room.
- Continue to install plastic/plexiglass to provide a physical barrier between DI reception staff and patients.
- Remove magazines and other communal materials from DI waiting areas.
- Consider implementing 3rd party digital solutions for patient CDs/images.
- Consider implementing digital touchless technology solution for booking scans.
- Consider streamlining and aligning patient schedules to reduce the number of visits to the hospital. This could involve grouping different MRI and CT examinations together, or grouping different hospital visits together if scheduling allows (e.g. unrelated specialist visit and imaging).
- Taking into consideration the varied human resources landscape and individual facility needs, take steps to protect the DI workforce:
 - Consider employee travel policies to mitigate the risk of too many staff being quarantined.
 - Create schedules that protect clinicians with very specialized skillsets (e.g. interventional radiology).
 - Consider limiting staff rotations and ensure the same colleagues are consistently working together.
 - In the event of an outbreak, consider limiting the number of institutions in which staff members provide services.
 - In the event of an outbreak, consider limiting the number of radiologists in a reporting suite to ensure adequate social distancing.
 - Plan for a rapid containment strategy in the event of staff exposure.

Appropriateness – Ensuring examination validity

- Collaborate with referring physicians to ensure imaging is appropriate and aligns with Choosing Wisely, guidance documents, Ontario Health (Cancer Care Ontario) Disease Pathway Maps etc. Additional resources can be found in Appendix.
- MSK and Spine requisitions have been identified by Choosing Wisely as areas of potential concern for inappropriate examinations. As such, consider implementing and leveraging available appropriate options: education letters to referring physicians, mandatory appropriateness checklist forms, patient centred referrals, and/or eReferrals. Additional information can be found in Appendix C.
- Consider reviewing previously booked examinations with a lens on appropriateness.
- Consider the use of decision support digital solutions.
- See Appendix C for examples of mandatory appropriateness checklists.

Scheduling – Waitlists and Wait Time Targets

- Due to inter and intra hospital interdependencies, ensure sufficient booking blocks and/or slots are available in the schedule to accommodate the pre-surgical planning examinations, screening examinations and all other services as the province begins to ramp up activities.
- Assess any changes in demand for timed (follow-up) procedures based on any observed reduction in surgical throughput. Ensure future timed scan schedule does not over allocate hours.
- Collaborate with referring physicians to consider whether there are any follow-up examinations that could be moved to accommodate high priority patients in the schedule.
- Leverage available wait time reporting products from your facility, region, and ATC to inform immediate capacity planning

Reporting Tools

The following reporting tools are available to the WITS Coordinator for each facility:

- WTIS provides record-level data.
- iPort Access (Microstrategy) provides aggregate trending and benchmarking for demand, volumes and wait times.
- Public Wait Times Website provides public and provider-friendly view of wait times for each facility in the province

- DI Adult and Paediatric Wait Times Reports – interactive monthly summaries of institutional level wait times data available through the ATC Information Site.
- Facility MRI and CT Wait List Estimation Tool (initial release scheduled for September 2020) - tool provided to facilities to estimate hospital/site wait list growth during COVID-19 pandemic and resources needed for recovery.
- Some facilities may also have their own local reporting products and/or business intelligence teams.
- Please contact your facility WTIS Coordinator or ATC@ontariohealth.ca for further information.

Next Steps

WTIS Coordinators at facilities should share this document with their local hospital administrators, including Radiology chiefs, DI directors, DI managers, DI supervisors and any other healthcare providers who support DI services.

If there are any questions, concerns or further best practices to share, feel free to contact the DI Information Program at Ontario Health (ATC) through Ryan Wood, ryan.wood@ontariohealth.ca.

References

Canadian Association of Radiologists. (2002-05-08). Radiology Resumption of Clinical Services. Release date May 8, 2020. Retrieved from: https://car.ca/wp-content/uploads/2020/05/CAR-Radiology-Resumption-of-Clinical-Services-Report_FINAL.pdf

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Ontario Health. (2020-06-15). A Measured Approach to Planning for Surgeries and Procedures During the COVID-19 Pandemic. Retrieved from: <https://www.ontariohealth.ca/sites/ontariohealth/files/2020-06/A%20Measured%20Approach%20to%20Planning%20for%20Surgeries%20and%20Procedures%20During%20the%20COVID-19%20Pandemic.pdf>

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Appendix A: Patient Communication

Sample script for hospital schedulers to help reduce patient anxiety

(Courtesy of the Learning Community for Improvement in Radiology)

“Dear Patient,

We are here to help you get your imaging test. Over the past weeks, we had to cancel or reschedule many imaging tests. We did this so everyone could stay home safely.

The situation has changed. We now have patients coming in for imaging tests. At this time, we invite patients who need “essential” imaging tests. An “essential” imaging test is for patients who depend on it for treatment, a better life, or to return to work.

When you come to an imaging centre, you will be greeted at the door and screened. A member of our staff will check your temperature. We will ask you questions to see whether you can safely enter the building. Please bring your own mask for the visit. You will be expected to wear a mask while in the building. If you do not have a mask, we will give one to you.

In the radiology area, there will be a lot of space for you sit at least 6 feet away from other people. We are giving only a few appointments at this time. Patients are only allowed in the waiting area if they need to be there. The waiting area will therefore be relatively empty.

All our staff will be wearing masks and keep social distancing. Our equipment will be cleaned after each use. Hospital linens will be changed after each patient. There will be hand sanitizer for your use.

If you have any questions prior to your visit, please contact: _____”

Sample video to help reduce patient anxiety and inform on changes to the facility

(Courtesy of The Ottawa Hospital)

<https://youtu.be/6aDJUudfOwU>

Sample language to inform on changes to the facility

(Courtesy of the University Health Network)

“Please be aware that the hospital has limited entrances open and is screening patients for any symptoms of COVID-19 or any other infections and asking questions at the door.

Additionally, the hospital has moved to a No Visitor or Companion policy.

If you have any of the following symptoms:

- Fever
- Cough
- Shortness of breath, difficulty breathing
- Sore Throat
- Runny Nose or stuffy nose without another cause (e.g. allergies)
- Nausea/vomiting, diarrhea, stomach pain
- Have traveled in the last 14 days outside of Canada

You may not be allowed entry into the hospital. Please speak to your referring physician about the importance of the test.

Should you have general questions about COVID-19 (coronavirus), or worry that you may have been exposed and aren't sure what to do, please call the Telehealth Ontario at 1-866-797-0000 or visit their website. Information is available in other languages.

If you do not have these symptoms, please come to your appointment. If you feel unwell before your appointment, please give us a call.”

Sample Frequency Asked Questions

(Courtesy of The Ottawa Hospital)

It is safe to come to the hospital. Hospital staff are taking every necessary precaution to ensure the health and safety of our patients, caregivers, staff and community. Our staff are ready and able to care for you in the safest way possible. These precautions include:

- Increasing cleaning frequency throughout the hospital.
- Ensuring that physical distancing is being followed in all areas, including waiting rooms.
- Limiting the number of people coming in and out of the hospital by implementing a no visitor policy.

We appreciate that the public is taking the recommendations to stay home so seriously, but it should not come at the cost of your health or safety. It is best for you to come into the hospital in this case.

We understand that this is a scary and stressful time for everyone, so we have made some changes to make the hospital experience a little better, including:

- Screening everything who comes into the hospital – you will notice screeners when you first arrive at the hospital. It is important to answer their questions honestly, they are here to protect you and everyone who comes in.
- Scheduling appointments in such a way to limit the number of people in waiting rooms at one time – this will ensure physical distancing is easy in waiting rooms. You can also help us keep this up by keeping your originally scheduled appointment.

Questions:

- I am not comfortable coming into the hospital because of COVID-19. Can I reschedule my appointment?
 - It is safe to come to the hospital. Hospital staff are taking every necessary precaution to ensure the health and safety of our patients, caregivers, staff and community. Our staff are ready and able to care for you in the safest way possible.
- Will I be safe inside the hospital?
 - Absolutely you will be safe. We are taking all necessary precautions to protect patients, staff and our community. These precautions include:
 - Increasing cleaning frequency throughout the hospital.
 - Ensuring that physical distancing is being followed in all areas, including waiting rooms.
 - Limiting the number of people coming in and out of the hospital by implementing a no visitor policy.
- Are there a lot of patients with COVID-19 in the hospital right now?
 - While the number of patients are changing every day, our staff are caring for patients in need, including those with COVID-19. Rest assured, we are managing and ready for all patients who come into the hospital right now.
- How is it safer for me to come in now instead of later?
 - One of the many steps we are taking to protect patient safety is scheduling appointments in such a way to limit the number of people in waiting rooms at one time – this will ensure physical distancing is easy in waiting rooms. You can also help us keep this up by keeping your originally scheduled appointment.
- What is being done to protect people in the hospital?
 - Staff at the hospital are taking all necessary precautions to protect patients, staff and our community. These precautions include:
 - Increasing cleaning frequency throughout the hospital.
 - Ensuring that physical distancing is being followed in all areas, including waiting rooms.
 - Limiting the number of people coming in and out of the hospital by implementing a no visitor policy.
- Will I be able to get a mask when I'm there?
 - Yes, we will make sure you have access to them.

Appendix B: Efficiencies

Rapid Protocol Development Steps

(Full Presentation Available, Courtesy of the Joint Department of Medical Imaging in Toronto)



MRI Rapid Protocol Development

	Activity	Rad	Tech	Clerical
Aug - Sep	Identify high impact protocols based on community P4 demand	X	X	X
	Determine current acquisition times and booking times	X	X	
Oct - Dec	Identify a subset of patients (inclusion/exclusion criteria) that require less complex scans	X	X	
	Revise MRI protocols, where relevant	X	X	
	Revise booking times		X	X
	Revise MRI booking template		X	X
	Revise MRI workflow		X	X
	Trial MRI Rapid Protocols	X	X	X

Trial Period 1: Jan 22-Mar 11, 2018

Appropriate use of Oral Contrast in CT Imaging

(Courtesy of the Joint Department of Medical Imaging, University Health Network)

https://docs.google.com/presentation/d/1ui2Wexq1Ctqr0Nc68ASDkDMrByMr5x_1/edit#slide=id.p2

(Courtesy of the University of Toronto, Baptist Health, University of Arizona, UNC School of Medicine)

<https://docs.google.com/presentation/d/1b9IjJngJfKhL2JF1ayN8u3mRVp2xMYYI/edit#slide=id.p1>

Few Delayed or Missed Diagnoses

- Multiple publications argue **against** the use of oral contrast in evaluating acute non-traumatic abdominal pain.
- Most concluded that **omitting oral contrast** for imaging patients with BMI >25 resulted in **few to no delayed or missed diagnoses**.

Author	Year	Number of Patients	Needed repeat CT study with oral contrast.	Change in diagnosis after oral contrast
Alabousi	2015	375	7	0
Kessner	2017	174	0	N/A
Uyeda	2015	1992	4	N/A
Razavi	2014	2668	1	1

Few Delayed/Missed Diagnoses - Decreased LOS in ED - Cost Savings - Reduced Radiation Dose - Improved Patient Satisfaction

Sites that have implemented or are in the process of shifting to avoid CT imaging with oral contrast except where clinically indicated:

- Sunnybrook Health Sciences Centre
- The Ottawa Hospital
- Niagara Health System
- University Health Network

Appendix C: Appropriateness

Sample letter from radiologists, orthopaedic surgeons and rheumatology

(Courtesy of Southlake Regional Health Centre)

Regarding Imaging for Knee Complaints in Patients 55 and Older

Dear colleagues,

In an effort to expedite and optimize patient care, and following the principles of “Choosing Wisely”, the departments of Diagnostic Imaging, Orthopaedics and Rheumatology would like to suggest an algorithm in the management of patients with knee pain.

1. In the absence of history of significant trauma, routine knee X-ray protocol should be standing AP, standing tunnel, standing lateral views and skyline patellar view.
2. Ultra sound is not a reliable test for meniscal tears, ligament tears or articular cartilage damage. It may be useful for extensor mechanism tears when clinical exam is equivocal.
3. If X-ray is normal and symptoms persist, then an MRI may be useful.
4. If X-ray shows mild OA and patient is symptomatic, then conservative treatment is indicated and a referral to The Arthritis Program (TAP) (905-895-4521 ext2345; Fax 905-952-2816) may be considered.
5. If X-ray shows moderate to severe arthritis, and the patient is symptomatic, an MRI is not particularly useful. A referral to Orthopaedic Surgery or Rheumatology is more appropriate. Please make sure that the actual X-ray (not just the report) is available to the consultant in order to avoid duplication. A CD should accompany the patient. Note: X-rays obtained through Southlake or Stevenson Memorial Hospital (Alliston) and X-ray Associates, are accessible on-line by Southlake Consultants.
6. It has been reported that, in patients with knee OA over the age of 55, MRI does not contribute to the diagnosis 78% of the time. Meniscal tears are usually degenerative and there is no evidence that arthroscopy will benefit the patient in most cases. Such MRI reports for patients over 55, without acute trauma, will not expedite your referral to a specialist (Orthopaedic surgeon or Rheumatologist).

We hope, that with your help, we can improve wait times for both Imaging appointments and Consultant referrals.

Any additional comments or suggestions, are welcome.

Mandatory Appropriateness Checklist:

(Courtesy of Ontario Health (West) Region)

<https://www.swpca.ca/>




MRI SPINE APPROPRIATENESS CHECKLIST

Patient label placed here, or minimum information below required

This checklist is based on the Choosing Wisely criteria and the CORE Back Tool. It is required for all adult (18+) outpatient MRI spine referrals. Please include with MRI requisition.

Patient Name: _____
 Date: _____
 Date of Birth (YYYYMMDD): _____
 Gender: _____
 MRN/HCN: _____

Referring Physician Name: _____

A. Red Flags requiring Emergent Management (immediate MRI and consultation to Surgery)
(consider sending patient to Emergency Department)

Severe/Progressive Neurologic Deficit Cord Compression or Cauda Equina Syndrome

B. Red Flags requiring Urgent MRI

Suspected Cancer Suspected Spinal Infection Suspected Epidural Abscess or Hematoma

Suspected Fracture (recommend X-ray or CT first)

C. Mechanical Spine Pain Syndrome with no Red Flags requiring Non-Urgent MRI
(Check all that apply – there MUST be a check in sections 1, 2, and 3 below to meet imaging criteria)

1. Unbearable Arm or Leg Dominant Pain (and/or) Disabling Neurogenic Claudication (and/or) Functionally Significant Neurologic Deficit

2. Failure to Respond after 6 weeks of conservative care 3. Considering Surgery

D. Suspected or Known Conditions *(Check all that apply)*

Cancer (please specify) Intradural Tumour Bone Tumour or Metastases

Congenital Spine Anomaly Scoliosis Spinal Radiation

Demyelination or MS Inflammatory Disease Assessment for Vertebroplasty

Prior Spine Surgery (date) Arachnoiditis Post-operative Collections

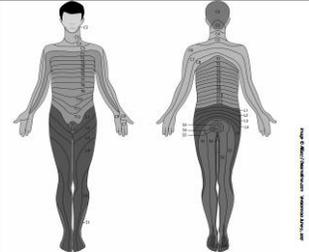
Follow-up for a Known Condition (please specify)

Condition Not Listed (please specify)

Prior CT or MRI Spine Imaging

When: _____ Where: _____

Additional Clinical Information
 Please provide any additional information below.
 Please also clearly indicate the affected area on the image to the right.



Referring Physician Signature _____ Date _____




MRI KNEE APPROPRIATENESS CHECKLIST

Patient label placed here, or minimum information below required

This checklist is required for all outpatient MRI knee referrals. Please include with MRI requisition.

Patient Name: _____
 Date: _____
 Date of Birth (YYYYMMDD): _____
 Gender: _____
 MRN/HCN: _____

Referring Physician Name: _____

CHECK ANY/ALL THAT APPLY:

A. Recent Knee X-rays Recommended For All Patients B. Other Knee Imaging

Required for: Patients ≥ 55 years old
 Suspected osteoarthritis (weight bearing views)
 History of trauma

What: _____
 When: _____
 Where: _____

C. MRI is recommended for:

Locked knee/Mechanical symptoms (unable to fully extend knee with relaxed muscles)

Suspected ligamentous injury

Which ligament(s): _____

Persistent swelling/effusion despite conservative therapy for 4-6 weeks

Suspected soft tissue or bone tumour

D. MRI is NOT recommended if there is:

Moderate or severe osteoarthritis without locking or extension block
MRI is unlikely to alter patient management

E. Consider MRI if all of the following are present:

Absent or mild osteoarthritis

Persistent unexplained pain > 3 months

Failed conservative therapy (physiotherapy and anti-inflammatories)

Patient is surgical/arthroscopy candidate

F. Additional Clinical Information
 Please provide any additional information relevant to this request.
 Include arthroscopic and surgical reports.

Referring Physician Signature _____ Date _____

Version 12.0, June 28, 2017