



COVID-19 TIP SHEET FOR CANCER PROGRAMS

11 – Cancer Imaging – Considerations for CT and MRI Services during Recovery 2020-06-18

To:	Regional Vice Presidents, Directors and Regional Cancer Imaging Leads
From:	Cancer Imaging Program, Ontario Health (Cancer Care Ontario)
Re:	Guidance on the Management of CT and MRI for Recovery Planning

Preamble

The COVID-19 pandemic is a rapidly evolving situation. This tip sheet is intended as additional guidance specific to diagnostic imaging services for oncology, with a focus on CT and MRI. This document is intended to share advice; it is not intended to replace or supersede Ministry of Health directives, Public Health Ontario directives or hospital infection prevention and control practices that are implemented. Adapted approaches may be required to address unique, organizational or other exceptional circumstances and conditions.

Issue Summary

Regional Cancer Programs and other clinical partners have requested guidance for diagnostic imaging services and organization during the COVID-19 pandemic and for planning of recovery. This tip sheet is intended as additional guidance specific to diagnostic imaging services for oncology – mainly computed tomography (CT) and magnetic resonance imaging (MRI) – and provides practical considerations for organizations, radiologists, diagnostic imaging administration and referring physicians during COVID-19 recovery.

Recognizing the pre-existing pressures for CT and MRI resources, the role of these modalities in cancer patient care, and the impact of COVID-19 on hospital-based services, this document focuses on considerations for ramp-up of those imaging areas. However, the principles can be leveraged across other diagnostic imaging services and clinical areas, where applicable.

Stand-alone resources are included as Appendices, including:

- [Appendix I – Selection of Resources to Support Appropriate Ordering of Imaging for Oncology](#)
- [Appendix II – Oncology Imaging Requests, Clinical Information](#)
- [Appendix III – CT and MRI Priority Level Coding, with Pandemic-related Considerations](#)
- [Appendix IV – Patient Cohorts on Diagnostic Imaging Waitlists](#)

Background

On May 7th, 2020 Ontario Health released the [*A Measured Approach to Planning for Surgeries and Procedures During the COVID-19 Pandemic report*](#), which described several important components for increasing surgical and procedural work such as a hospital feasibility assessment and expectations, roles and responsibilities, and an ethical framework for case prioritization. The need to ensure there is a plan for related diagnostic testing was also highlighted, and subsequently covered in more depth in the June 8th, 2020, Ontario Health report

[*Recommendations for Regional Health Care Delivery During the COVID-19 Pandemic: Outpatient Care, Primary Care, and Home and Community Care.*](#)

The [*Canadian Association of Radiologists \(CAR\) Radiology Resumption of Clinical Services report*](#) adds diagnostic imaging specific considerations from a national perspective, including general guidelines and principles on safely returning to capacity for diagnostic imaging while maintaining the safety of patients, staff and public, and key discussion points to help reassure patients and set expectations for their visit.

The document was developed to complement recommendations contained in the reports above, as well as forthcoming Ontario Health (Cancer Care Ontario) Tip Sheets for the Ontario Breast Screening Program and High Risk Lung Cancer Screening Pilot for People at High Risk.

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

- Access to Care Diagnostic Imaging Program Team and the Diagnostic Imaging Advisory Committee
- Cancer Imaging Provincial Program, Regional Cancer Imaging Leads
- Disease Pathway Management Program and the Ontario Cancer Leads
- Program Design (including primary care expertise), Cancer Screening, Prevention & Cancer Control □ Survivorship Program
- Consultation with ethics expertise

Approach to Increasing Diagnostic Imaging Services

The resumption of diagnostic imaging services should follow an ethical framework, including efforts to:

- provide equitable access
- prioritize patients according to clinical urgency, using a disease-agnostic approach
- use a systems approach to coordination and sharing of scarce resources and access across the province, leveraging various hospital capacity

Active participation by radiology leaders and other clinical departments will be key to ensure successful implementation.

Implementation Considerations

Considerations may include:

Interdependency and Alignment – Departmental and Institutional:

1. Ensuring alignment of diagnostic imaging resumption of service provision with institutional priorities and those of other clinical services.

2. Coordinating with independent health facilities (IHF), recognizing that hospitals will see a portion of the patients imaged at an IHF for additional diagnostics or procedures; a consistent and coordinated approach will minimize the backlog of referrals.
3. Ensuring all training requirements are met and/or maintained, in order to sustain the future workforce for diagnostic imaging services.

Referring Physicians – Appropriate, Complete Requisitions:

4. Ensuring imaging is appropriate for patients and that the recommended tests are being used as outlined in Choosing Wisely, guidance documents and Ontario Health (Cancer Care Ontario) Disease Pathway Maps. Resources to support appropriate practice are provided in [Appendix I](#).
5. Ensuring all outstanding requisitions are complete, accurate and have been submitted to diagnostic imaging (e.g., if usual processes for submitting requisitions were disrupted during pandemic).
6. Providing complete, relevant clinical information on all requisitions to support appropriate prioritization, protocoling, and to help ensure radiology reporting addresses clinical need. eReferral systems may be helpful, where available. A resource that can be used as a guide for oncology-related requisitions is in [Appendix II](#)
7. Confirming whether the patient's status has changed and if imaging is still required where there have been long deferrals. Cancel outstanding referrals if imaging has been performed to avoid duplication.
8. Where imaging is now required more urgently than at the time of request due to changes in the patient's clinical situation, clearly communicating the change in urgency; verbal communication with radiology is recommended in addition to following other administrative processes.

Radiology – Wait Lists and Prioritization:

9. Understanding current wait-lists, ensuring no patients have been missed, and that the most-urgent have been identified. A resource that can be used as a guide for reviewing patient cohorts is in [Appendix III](#).
10. Developing processes to facilitate and support effective communication with referring physicians, including consideration of both within-hospital (e.g., local specialist) and external (e.g., primary care) stakeholders.
11. Developing processes to support consistent and transparent prioritization and scheduling practices. Ontario's prioritization system for CT and MRI, with pandemic related considerations is in [Appendix IV](#). Subprioritization within priority levels may be required, in particular a) cancer patients who often fall into the semi-urgent category, as well as b) patients in the non-urgent category who often make up much of the backlog and are more likely to have been deferred during pandemic. Identification of additional risk factors may be required to assist with prioritization to ensure the most urgent patients are addressed.
12. Aligning the date of imaging to the timing of planned interventions (e.g., surgery or initiation of radiation therapy), where provided.
13. For long deferrals, coordinating with referring physicians to determine validity of requisitions for patients that have been waiting a long time.
14. Considering how referrals where the clinical urgency has changed will be managed, and having consistent processes. For example, issuing a new referral to ensure the correct clinical prioritization and urgency is reflected, or amending the existing. In any scenario, the initial date of referral should be reflected in wait time information data.

Radiology – Scheduling:

15. Optimizing scanner operating hours in order to align with patient and staff safety measures and avoiding scanner idle time

16. Providing patient reminders to reduce no-shows, and consider developing strategies to communicate with and support patients in order to address concerns.
17. Taking into account reductions in efficiency and the make-up of the scheduling grid (e.g., how many spots are filled with Specified Date Procedures (SDP, timed) examinations, and how far out are SDP examinations being booked) to ensure there is the ability to accommodate Priority 1, 2, and 3 patients.
18. Considering mechanisms for maintaining efficiencies while making sure patients and diagnostic imaging departments are safe, from an infection, prevention and control perspective. An example of this is the use of water instead of positive contrast for CT examinations, where appropriate.

Reporting Tools Available to inform Recovery Plans Related to CT and MRI

Health Quality Ontario (now a part of Ontario Health): Wait Times for Diagnostic Imaging

- Public, patient-targeted [website](#) reporting hospital wait times

Wait Time Information System (WTIS)

Access to products available via institution Diagnostic Imaging WTIS Coordinators, including:

- Diagnostic Imaging Adult and Paediatric Wait Times Reports – monthly summaries of institutional level wait times data
- Diagnostic Imaging Efficiency Performance Dashboard – monthly reporting of hospital/site performance and efficiency indicators
- Wait Time Information System Portal – access to real-time, record-level waitlist and operating hours data
- Customizable Reports – ability to create custom reports from WTIS data using iPort Access MicroStrategy application

WTIS reports are produced and made available to institutions by the OH-CCO Access to Care program. Please contact ATC@cancercare.on.ca for further information.

Recommended Next Steps

Please share with document with administrators, including DI Chiefs, or healthcare providers who perform or support diagnostic imaging services.

Please connect with hospital WTIS Coordinators to fully leverage available reports and data from Access to Care and, contact Access to Care (ATC@cancercare.on.ca) if further support is needed with data, analytics and/or reporting.

Pandemic Resources

Ontario Health: *A Measured Approach to Planning for Surgeries and Procedures During the COVID-19 Pandemic*.

Release date May 7, 2020, updated June 15, 2020. 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>

Ontario Health: *Recommendations for Regional Health Care Delivery During the COVID-19 Pandemic: Outpatient Care, Primary Care, and Home and Community Care*. Release date June 8, 2020. Retrieved from: <https://www.ontariohealth.ca/sites/ontariohealth/files/2020-06/Recommendations%20for%20Regional%20Health%20Care%20Delivery%20During%20the%20COVID19%20Pandemic%20-%20Outpatient%20Care%2C%20Primary%20Care%2C%20and%20Home%20and%20Com.pdf>

Canadian Association of Radiologists: *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

Ontario Health (Cancer Care Ontario) Ontario Breast Screening Program Tip Sheet (*release pending*)

Ontario Health (Cancer Care Ontario) Tip Sheet: Guidance for Screening Services in the Lung Cancer Screening Pilot for People at High Risk (HR LCSP) (*release pending*)

For More Information

Should you have any questions regarding this document, feel free to contact the Cancer Imaging Program through Dr. Julian Dobranowski, Provincial Head, Cancer Imaging Program (Jdobrano@ontariohealth.ca) or Deanna Langer, Group Manager, Cancer Imaging Program (Deanna.Langer@ontariohealth.ca).

Appendix I – Selection of Resources to Support Appropriate Ordering of Imaging for Oncology

Pathway Maps for Cancer Patient Care:

Disease sites include: Bladder, Breast, Cervical, Colorectal, Endometrial, Esophageal, Lung, Oropharyngeal, Ovarian, Prostate, Soft Tissue Sarcoma, Thyroid.

(<https://www.cancercareontario.ca/en/pathway-maps>)

Choosing Wisely Canada, Oncology: (<https://choosingwiselycanada.org/oncology/>)

In particular, two on the list can be applied to imaging:

- Don't order tests to detect recurrent cancer in asymptomatic patients if there is not a realistic expectation that early detection of recurrence can improve survival or quality of life
- Don't perform routine cancer screening, or surveillance for a new primary cancer, in the majority of patients with metastatic disease.

Choosing Wisely, American Society of Clinical Oncology:

(<https://www.choosingwisely.org/societies/americansociety-of-clinical-oncology/>)

Four of the ten recommendations relate to imaging, with some overlap with Choosing Wisely Canada, Oncology.

In addition, the ASCO document recommends:

- Don't perform PET, CT, and radionuclide bone scans in the staging of 1) early breast or 2) early prostate cancers at low risk for metastasis.

Canadian Association of Radiologists *Appropriateness Criteria*: (<https://car.ca/patient-care/referral-guidelines/>)

- Section K provides guidance for Cancer, organized by disease-site and including whether a test is indicated, not routine, or not indicated, what the level of evidence is in support, and typical radiation effective dose: <https://car.ca/wp-content/uploads/Cancer.pdf>

Colorectal cancer:

Ontario Health (Cancer Care Ontario) Transitions in Care Program: "Ontario Colorectal Cancer Follow-Up Care Clinical Guidance Summary"

(<https://www.cancercareontario.ca/sites/ccocancercare/files/guidelines/summary/SurvivorshipClinicalGuidanceCRC.pdf>)

For adult patients who have completed primary treatment for stage II or III colorectal cancers and who are without evidence of disease, Recommended Tests are summarized for Years 1-3 and Years 3-5.

- Specifically, Diagnostic Imaging Abdominal / Pelvic / Chest CT is recommended annually for Years 1-3, and not routine for Years 3-5.

Lung cancer:

MacMahon, H., et al. (2017). Guidelines for management of incidental pulmonary nodules detected on CT images: from the Fleischner Society 2017. *Radiology*, 284(1), 228-243.

- The Fleischner Society recommends that solid nodules 6 mm or less in diameter in low-risk adults >35 years old generally need **no further follow-up**.
- In higher-risk patients, a follow-up CT scan should be considered optional. The recommendations apply even if multiple solid pulmonary nodules ≤6 mm are present.

Ung, Y. C., et al. (2014). *Follow-up and surveillance of curatively treated lung cancer patients*. Cancer Care Ontario. Retrieved from: (<https://www.cancercareontario.ca/en/guidelines-advice/types-of-cancer/261>)

- Following curative-intent treatment for 1) Non-Small-Cell Lung Carcinoma (NSCLC) or 2) Small-Cell Lung Carcinoma (SCLC), survivors should receive scheduled follow-up visits that include a medical history, physical examination and chest imaging. Clinical evaluations should be conducted every three months in years 1 and 2, every six months in year 3 and annually thereafter.

Lymphoma:

Sussman, J., et al. (2016). Follow-up Care for Survivors of Lymphoma who have Received Curative-Intent Treatment. Cancer Care Ontario.

Retrieved from: (<https://www.cancercareontario.ca/en/guidelines-advice/types-of-cancer/471>)

- There is known to be a wide variation in practice, especially in the frequency of imaging, and recent population studies have suggested significant over testing in asymptomatic patients may occur, and not result in improved outcomes. Currently there are no Canadian guidelines which summarize the evidence regarding the type and timing of surveillance testing for asymptomatic patients with Diffuse Large B-Cell Lymphoma and Hodgkin Lymphoma HL who have been treated for cure.

Appendix II – Oncology Imaging Requests, Clinical Information

Diagnostic imaging departments serve all patient populations, as well as managing referrals coming from within the institution, where local electronic medical records may be leveraged, or from outside including from primary care. Previous imaging, if performed, may be available through the Diagnostic Imaging Common Service, but – especially if performed at an IHF – may not be included in the central repository.

The information provided on the referral helps with patient prioritization, helps with protocoling for the exam (e.g., the technical specifications required for the CT or MRI exam), and also helps ensure the radiologist addresses the clinical concern.

Recognizing potential limitations in existing systems and supporting efficient communication between disciplines, where relevant and possible to do so, referrals for oncology-related imaging should include:

- The clinical reason for requested imaging, e.g.
 - diagnose/rule out cancer
 - staging
 - treatment planning
 - interval follow-up for a) active response assessment or b) surveillance
- Clinical factors impacting urgency;
- Information on relevant prior imaging;
- Information on relevant prior treatments;
- The date of any upcoming consults, procedures or treatments relevant to the study being requested (if known);
- Other potentially relevant information;
- Contact information for the patient (or family member/caregiver), including phone number

Appendix III – CT and MRI Priority Level Coding, with Pandemic-related Considerations

The table below includes Ontario's Diagnostic Imaging Priority Level Coding for CT and MRI, with considerations related to possible pandemic impact. The degree to which each of the scenarios apply is related to an institution's typical case-mix; considering each prioritization level may be helpful in recovery planning.

Active oncology patients are most-often in the semi-urgent Priority Level 3 category, initial screening participants as Priority Level 4, and follow-ups (active response to treatment assessment or guideline-concordant follow-up, including screening) as Specified Date Procedure (SDP) exams. All patients, regardless of clinical indication, should be prioritized according to clinical urgency which may include a need to sub-prioritize within categories.

Prioritization Level	Special Considerations
P1 - Emergent - An examination necessary to diagnose and/or treat disease or injury that is immediately threatening to life or limb.	There has been a decrease of patients in emergency rooms, expect a new wave when social distancing restrictions are lifted.
P2- Urgent - An examination necessary to diagnose and/or treat disease or injury and/or alter treatment plan that is not immediately threatening to life or limb. Includes all inpatients except where Imaging is unrelated to patient admission based on clinical indication.	Expect more inpatients as other hospital services resume.

P3 - Semi-Urgent - An examination necessary to diagnose and/or treat disease or injury and/or alter treatment plan, where provided clinical information requires that the examination be performed sooner than the P4 benchmark period.	Cancer population is primary coded as P3, and will expect to see a surge as deferred patients are accommodated, primary care and specialist clinics continue to resume, and re-initiation of screening programs identifies potential malignancy.
P4 - Non-Urgent - An examination necessary to diagnose/treat disease or injury, where the provided clinical information does not require the study to be performed within the Semi-Urgent time frame (P3 benchmark period of 10 days).	Non-urgent, but risk that they can change in clinical status. As surgical activity increases for elective procedures, there will be a need for P4 patients to have pre-operative imaging.
<p>SDP - Specified Date Procedure - An examination to be completed after a medically specified time (or future date) period.</p> <p>Priority levels for SDP also apply. Most relevant for cancer patients are:</p> <p>Priority 3 SDP – Active response to treatment</p> <p>Priority 4 SDP – Guideline-based surveillance without active treatment decision pending (routine follow-up for screening, or planned interval re-assessment after treatment)</p> <p>Note that High Risk OBSP MRI exams are considered as SDPs; participants have a specific interval to be imaged with respect to the mammogram and previous MRI.</p>	<p>Historically, a significant percentage of the scheduling grid has been occupied for future bookings. This is especially true for institutions providing cancer care, where rates are approximately double that of non-oncology centres.</p> <p>Schedules should be booked at a level that considers both the expected reduced efficiencies related to patient and staff safety and SDP scheduling</p>

Ontario Health's Access to Care prioritization scale for CT and MRI, definitions and examples available at: (<https://www.cancercareontario.ca/en/guidelines-advice/treatment-modality/imaging/toolkit>)

Information regarding prioritization for participants in the OBSP (all modalities) and the High Risk Lung Cancer Screening Pilots will be contained in the upcoming Ontario Health (Cancer Care Ontario) Tip Sheets for those programs areas.

In addition to high-level information to support prioritization for CT and MRI, the [CAR Radiology Resumption of Clinical Services report](#) also includes resources for prioritization of breast imaging, ultrasound, interventional radiology and paediatric radiology.

Appendix IV – Patient Cohorts on Diagnostic Imaging Waitlists

The resource below can be used as a guide to ensure all patient cohorts have been identified and uniquely considered during prioritization and booking

Did you consider...

Cohorts, with sub-scenarios	Proposed Actions
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<p>Patient not yet registered</p> <ul style="list-style-type: none"> • Referral not sent in by the referring physician; • Referral not received; • Referral received, but patient not yet captured in the system 	<p>Referring physicians are accountable for submission of referrals from their practices; radiology should ensure no patients have referrals received, but not registered, for extended periods of time</p> <p>Radiology should review referral date and date of clinic visit (versus submission), where available, to help mitigate the impact of delays in patients being registered and booked</p>
<p>Patients whose imaging has been deferred</p> <ul style="list-style-type: none"> • Deferred by patient • Deferred by referring physician • Deferred by diagnostic imaging department/institution <p>Patients in the pre-pandemic backlog/queue</p>	<p>Consider how long deferral was</p> <p>Consider whether the clinical situation has changed</p> <p>Consider if imaging has been performed elsewhere</p>
<p>New patients</p> <ul style="list-style-type: none"> • Untimed exams • Patients with upcoming planned treatment(s) or procedures 	<p>Schedule in alignment with institutional plan</p>
<p>Other</p> <ul style="list-style-type: none"> ☐ Requisitions that are received with no date 	<p>Uncertain when the patient was seen/when the 'start' is.</p> <p>Consider contacting the referring physician's office to determine the last visit date and/or date of referral.</p>