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**COVID-19:**  
Guidance for  
management of  
cancer surgery

**Supplement**

# Lifesaving cancer surgeries need to be managed appropriately during the COVID-19 pandemic

The views expressed in this editorial are those of the authors and do not necessarily reflect the position of the Canadian Medical Association or its subsidiaries.

**D**uring the coronavirus disease 2019 (COVID-19) pandemic, the number of cases and deaths have been overwhelming. Health care leadership and practitioners are increasingly faced with ethical and practical challenges.

Even as we all face the threat of this pandemic, an estimated 225 800 Canadians will be diagnosed with cancer in 2020, and cancer is responsible for 30% of all deaths across the country. Modelling indicates that as many as 13 000 people could be affected by a delay in access to cancer surgery over the first 3 months of the pandemic, and delays in cancer surgeries beyond 6 weeks can affect long-term outcomes for these patients. For others, a delay beyond 14 days may tip the scale. Thus, extreme caution is required in delaying life-saving cancer surgeries. Postponed cancer surgery can also lead to conditions, such as bowel obstruction or spinal cord impingement, requiring emergent surgeries that otherwise could have been elective, often having a major impact on survival in these patients.

In Canada, many provinces have developed “cancer patient priority classification” systems to assist cancer programs in the management of patients. In addition to radiation and medical oncology, focused attention on the management of surgical oncology cases is required. To assist cancer surgeons and surgical administrative leaders in these difficult decisions and prioritization choices around the delivery of cancer surgeries among other competing pressures, the Canadian Partnership Against Cancer engaged the surgical oncology societies of Canada, cancer leaders and experts to provide their

collective advice, guidance and methodologies for evidence- and risk-based decision making.

We have examined leading practices being used in some parts of Canada and internationally, and the accompanying guidance references a list of evidence-based and risk prioritization models. The collective advice can be summarized as follows:

- Cancer surgery must remain “essential” and should be among the last type of surgeries to be delayed.
- Transferring cancer surgery patients to less overwhelmed institutions should be the first-line strategy, requiring planning at a regional or jurisdictional level.
- If delays are necessary, they should be based on transparent jurisdiction-level clinical prioritization criteria.
- Plans should be in place to carry out staggered or delayed cancer surgeries within a reasonable time period, even if the pandemic is not over.
- Once the pandemic is over, there will be a surge in cases that we must anticipate, mitigate and plan for now.

We encourage that this guidance document be shared widely with colleagues engaged in the front-line decisions within institutions and health authorities.

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# Guidance for management of cancer surgery during the COVID-19 pandemic

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## SUMMARY

During the coronavirus disease 2019 (COVID-19) pandemic, delaying lifesaving cancer surgeries must be done with extreme caution and thoughtfulness. Modelling indicates that delays in high-risk cancer surgeries beyond 6 weeks could affect long-term outcomes for thousands of Canadians. Consequently, it is possible that postponing cancer surgery without consideration of its implications could cost more lives than can be saved by diverting all surgical resources to COVID-19. This article provides general guidance on supporting curative surgical treatment where appropriate and with available resources.

**D**uring the coronavirus disease 2019 (COVID-19) pandemic, the number of cases and deaths may become overwhelming, causing health care leadership and practitioners to face ethical and practical challenges. Several jurisdictions have already started reprioritizing surgical procedures in order to free up health care resources, including ventilators and intensive care unit (ICU) beds, to manage potential COVID-19 cases.

Delaying lifesaving cancer surgeries must be done with extreme caution and thoughtfulness, as delays can have a major impact on long-term survival, patient morbidity and the efficient use of surgical human resources. Postponed cancer surgery can also lead to conditions, such as bowel obstruction or spinal cord impingement, requiring emergent surgeries that otherwise could have been elective. Modelling indicates that delays in high-risk cancer surgeries beyond 6 weeks could affect long-term outcomes for thousands of Canadians. Consequently, it is possible that postponing cancer surgery, if done without consideration of its implications, could cost more lives than can be saved by diverting all surgical resources to COVID-19.

This article provides general guidance on supporting curative surgical treatment where appropriate and with available resources. It reflects the expertise and advice of the executive leadership of the Canadian Network of Surgical Associations for Cancer Care, the Canadian Association of Provincial Cancer Agencies, the Canadian Partnership Against Cancer and clinical cancer experts across the country. Recommendations from Canadian and international jurisdictions have been used to inform this guideline.

## GUIDANCE ON COMPETING NEEDS AND PRIORITIZATION CRITERIA

Within Canada, many provinces have developed “cancer patient priority classification” systems to assist cancer programs in the management of cancer patients (Box 1). This must be contextualized within the current load on the system and anticipated trajectory, not only of a COVID-19 caseload, but also a backlogged cancer caseload, both of which are populations with critical lifesaving surgical needs.

Contemporaneous decisions will be needed that are data driven where possible and that consider today's and tomorrow's needs with at least a medium timeframe; we recommend a 6-month view of management in the Canadian health care system. The following are common guiding principles that we believe should form the basis of a pan-Canadian approach to this problem.

### *Cancer surgery should be designated "essential"*

Most cancer surgeries are of high priority and curative. Cancer surgery should continue to be designated as "essential" and should be among the last types of surgery to be delayed.<sup>1</sup>

### *Transfer care of cancer patients to less overwhelmed institutions as a first-line strategy*

Once a hospital reaches a critical mass of patients receiving mechanical ventilation, nonemergency surgeries will not be able to be carried out. Under these circumstances, we recommend jurisdictional, then regional coordination among health authorities, institutions and surgeons to transfer care of cancer patients to less overwhelmed institutions as a first-line strategy, rather than delaying cancer surgery.<sup>2</sup>

### *High-level guidance around prioritization is needed if delaying cancer surgery becomes necessary*

If delaying cancer surgery becomes necessary, we recommend high-level pan-Canadian and jurisdictional guidance around prioritization, with explicit prioritization tiers, to bring transparency and consistency to the approach, recognizing that ultimate decision making will be need to be done locally.<sup>1</sup> Examples of resources for establishing evidence- and risk-based prioritization are shown in Box 1. Whichever tool is used, it will need to recognize that some cancer patients require more urgent care, while others can safely wait a longer period of time.

- Ideally, the prioritization tool used by a jurisdiction should be linked to the changing level of an institution's surgical resources to guide decision making regarding cancer surgery cases to be performed/delayed.
- Any triage of patients must be done equitably. Clinical triage for major surgery should be guided by ethical principles. Relevant ethical principles are utility, proportionality and fairness.<sup>3</sup>

### *There must be concrete plans in place to carry out delayed surgeries within a reasonable period of time*

Multidisciplinary care should be leveraged on a case-by-case basis to enable safer delays for some cancer surger-

#### **Box 1: Resources providing directives around management of surgical oncology during the COVID-19 pandemic**

- Cancer Care Ontario. *Pandemic planning clinical guideline for patients with cancer*: [https://www.accc-cancer.org/docs/documents/cancer-program-fundamentals/oh-cco-pandemic-planning-clinical-guideline\\_final\\_2020-03-10.pdf](https://www.accc-cancer.org/docs/documents/cancer-program-fundamentals/oh-cco-pandemic-planning-clinical-guideline_final_2020-03-10.pdf)
- Ontario Health. *Clinical triage protocol for major surge in COVID pandemic*: <https://emergencymedicinencases.com/wp-content/uploads/2020/04/Clinical-Triage-Protocol-for-Major-Surge-in-COVID-Pandemic-March-28-2020.pdf>
- Ministère de la Santé et des Services sociaux. *COVID-19 pour les professionnels*: <https://www.msss.gouv.qc.ca/professionnels/>
- Cancer Control Alberta. *COVID-19 Planning Clinical Guidance for Patients with Cancer*.
- Nova Scotia Health Authority. *NSHA Perioperative and Interventional Radiology Services During COVID-19 Pandemic*: <https://www.cdha.nshealth.ca/system/files/sites/documents/perioperative-and-ir-services-during-covid3204pm.pdf>
- Anderson H, Tyldesley S, Pansegrau G, Chi K. (British Columbia, March 20 2020). *Criteria for Clinical Prioritization During the COVID-19 Pandemic*.
- Cancer Care Manitoba: Action Cancer Manitoba. (March 15, 2020). *Clinical Management Framework — Systemic Therapy and Radiotherapy for Cancer Patients and Those with Serious Blood Disorders in the Context of the COVID-19 Pandemic*.
- Australian Government — Cancer Australia. *Information about cancer and COVID-19 - Surgery*: <https://canceraustralia.gov.au/affected-cancer/information-about-cancer-and-covid-19/health-professionals/surgery>
- National Comprehensive Cancer Network: <https://nccn.org/view/journals/jnccn/18/4/article-p366.xml?rskey=vYDEql&result=1>
- American College of Surgeons. *COVID 19: elective case triage guidelines for surgical care*: [https://www.facs.org/-/media/files/covid19/guidance\\_for\\_triage\\_of\\_nonemergent\\_surgical\\_procedures.ashx](https://www.facs.org/-/media/files/covid19/guidance_for_triage_of_nonemergent_surgical_procedures.ashx)
- National Health Service. *Clinical guide for the management of non-coronavirus patients requiring acute treatment: Cancer*: <https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/specialty-guide-acute-treatment-cancer-23-march-2020.pdf>
- European Cancer Organization. *News: statement on COVID-19 from the European Cancer Organisation's board of directors*: <https://www.ecco-org.eu/Global/News/Latest-News/2020/03/NEWS-Statement-on-COVID-19-from-the-European-Cancer-Organisation-Board-of-Directors>
- *The Lancet Oncology*. The official French guidelines to protect patients with cancer against SARS-CoV-2 infection: [https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045\(20\)30204-7/fulltext](https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(20)30204-7/fulltext)

ies (e.g., when temporizing treatments, such as neoadjuvant chemotherapy and/or radiation, are available). However, it is likely that this pandemic will stretch over many months until herd immunity, an effective treatment and/or a vaccine stems the tide of new cases. There must be concrete plans in place to carry out delayed surgeries within a reasonable period of time, even if the pandemic is not over.

### *Recovery planning for resumption of surgical services after the pandemic should start now*

Eventually this pandemic will pass, and we will be faced with catching up on a backlog of surgical cancer cases. This means that the health system will need to operate at a surge well past the end of the COVID-19 crisis. Health system planners must account for this surge, as well as what care can continue to be provided during the

next period of time, in their future projections. Recovery planning for resumption of surgical services after the pandemic should start now and be communicated on a go-forward basis as the health system stabilizes; this planning should include an impact analysis of the projected long-term health care costs and human resource needs caused by delayed cancer treatment.

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## References

1. American College of Surgeons. *COVID 19: elective case triage guidelines for surgical care*. 2020 Mar. 27. Available: [https://www.facs.org/-/media/files/covid19/guidance\\_for\\_triage\\_of\\_nonemergent\\_surgical\\_procedures.ashx](https://www.facs.org/-/media/files/covid19/guidance_for_triage_of_nonemergent_surgical_procedures.ashx) (accessed 2020 Mar. 31).
2. Cancer Care Ontario. *Pandemic Planning Clinical Guideline for Patients with Cancer*. 2020 Mar. 10. Available: [https://www.cccc-cancer.org/docs/documents/cancer-program-fundamentals/oh-cco-pandemic-planning-clinical-guideline\\_final\\_2020-03-10.pdf](https://www.cccc-cancer.org/docs/documents/cancer-program-fundamentals/oh-cco-pandemic-planning-clinical-guideline_final_2020-03-10.pdf) (accessed 2020 Mar. 31).
3. Ontario Health. *Clinical Triage Protocol for Major Surge in COVID Pandemic*. 2020 Mar. 28. Available: <https://emergencymedicinescases.com/wp-content/uploads/2020/04/Clinical-Triage-Protocol-for-Major-Surge-in-COVID-Pandemic-March-28-2020.pdf> (accessed 2020 Mar. 31).