

## CORONAVIRUS (COVID-19): MANAGEMENT OF PATIENTS IN PERIOPERATIVE SETTINGS DURING PANDEMIC

### Search date

08/09/2021

### Author

Tania Marin BHSc MPH, Updated by Leaderlou Magtoto DMD

### Question

What is the best available evidence regarding changes to planning in perioperative settings, for the optimal care of patients, not infected with SARS-CoV-2, during the COVID-19 pandemic?

### Clinical Bottom Line

The outbreak of the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), known as coronavirus disease 2019 (COVID-19), has caused healthcare organizations to activate infection prevention and control protocols specific for use during pandemics.<sup>1,2,3,4</sup> Separate to those patients requiring care for COVID-19 infection, other patients still require surgical care.<sup>2</sup> Planning for optimal patient care has been shown to be more complex during the pandemic caused by COVID-19, and considerations for perioperative settings have needed to be amended.<sup>3</sup>

- An observational study assessed the use of active preventive measures (APMs) for essential surgeries during the peak of the pandemic, to diminish nosocomial transmission rates. The implementation of multiple APMs included social distancing, personal protective equipment (handwashing, gloves, goggles, face shields and masks), and screening (temperature measurement) had commenced immediately on the declaration of the COVID-19 pandemic; this study assessed two additional preoperative screening APMs: low-dose chest computed tomography (Id-CT) scan and reverse transcriptase polymerase chain reaction (RT-PCR) testing of nasopharyngeal swabs. Preoperative screening was found to lead to a 7.5% change in the way that patients were handled with regard to postponement of surgery, surgery in a dedicated operating room (OR), and treating ORs as high risk. Authors concluded that preoperative screening during the COVID-19 outbreak had led to identifying more suspected infection, and these additional patients were then able to be treated using the hospital's preventive measures. The additional measures (Id-CT chest scans) were found to be straightforward and provided rapid results.<sup>1</sup> (Level 4)
- A review of available guidelines and expert opinion, focusing on changes to perioperative settings during the rapid evolution of the COVID-19 pandemic, provided the following recommendations:<sup>2,3,4</sup> (Level 5)
  - Elective surgeries should be postponed.<sup>2,3,4</sup>
  - Principles of management for trauma and emergency surgical operations should remain the same as in non-pandemic circumstances.<sup>2</sup>
  - Triage procedures should be based on hospital resources availability and patient burden.<sup>3,4</sup>
  - A progressive restriction on surgical activity should follow a phased approach. Phase 1: elective surgery is restricted to patients with possible compromised survivorship possibly compromised if surgery not undertaken within three months. Phase II and III: only urgent or emergent operations should be performed.<sup>4</sup>
  - Patients without symptoms of COVID-19, have a negative RT-PCR test, or those who have no

radiologic findings, should proceed to the OR with standard OR precautions in place.<sup>2</sup>

- Anesthesiologists may use N-93/FFP3 masks for intubations, if available.<sup>2</sup>
- Patients with suspected or confirmed COVID-19 infection requiring surgery should undergo a chest X-ray and/or a chest ultrasound and/or a chest CT to look for bilateral interstitial pneumonitis (peripheral ground-glass consolidations).<sup>2</sup>
- Surgical staff may be mobilized to provide non-surgical, COVID-19-related patient care where needed.<sup>2</sup>
- Depending on organizational resources, surgical management of new evaluated invasive cancers should be decided on a case-by-case basis.<sup>2,4</sup>
- Primary surgery for invasive cancers must not be deferred when chemotherapy is not an option, or when pathological examination of small tumors can guide medical treatment.<sup>4</sup>
- Unnecessary movement of patients and healthcare workers should be limited within the perioperative environment in order to preserve patients' safety and to limit the viral spread.<sup>4</sup>
- A position paper from the World Society of Emergency Surgery recommends that COVID-19 negative patients should be in a separate surgical ward from COVID-19 positive patients to decrease the risk of virus transmission and limit the in-hospital exposure to the virus.<sup>5</sup> (Levels 1 and 5)
- A position statement from the Scottish Intercollegiate Guidelines Network identified the following recommendations for patients undergoing surgery during the COVID-19 pandemic:<sup>6</sup> (Level 5)
  - The risks of perioperative and postoperative COVID-19 infection should be discussed with patients, parents/carers, highlighting how risk may vary according to age, gender, comorbidities, and other factors.
  - All patients undergoing elective surgery should limit their social contacts for a 14-day period prior to the planned surgical procedure and to follow strict physical distancing and hand hygiene guidance.
  - Maintaining physical activity before surgery is beneficial and patients should be advised to be as active as possible, while limiting contacts or isolating.
  - If a patient declines to isolate preoperatively, a risk assessment should be performed and the risks and benefits of delaying or going ahead with the surgery discussed to the patient, parent/carer.
  - Screening of patients scheduled for elective treatment should include a patient history taken on day 11 (three days before the date of surgery) recording: (a) any new onset typical symptoms (fever, breathlessness, cough, loss of smell or taste) and (b) any new onset atypical symptoms (dizziness, fatigue, myalgia, gastrointestinal symptoms) OR any history of contact with person(s) with confirmed COVID-19 or unconfirmed symptoms suggestive of COVID-19. If either of these conditions apply, the planned surgery should be postponed for at least a 14-day period or from 10 days after any symptoms consistent with COVID-19.
  - A viral nose and throat swab should be taken no more than 48 hours before surgery. From the date of the swab, patients should be asked to self-isolate until their planned admission. If the COVID-19 test is NEGATIVE, the patient is admitted on the planned surgery date. The patient is advised to wear a face covering or mask to attend hospital and is admitted to a COVID-19-negative surgical ward. A patient history should be repeated to determine any new onset of typical symptoms and any history of contact with person(s) with confirmed COVID-19, or unconfirmed symptoms suggestive of COVID-19.
  - Patients or parents/carers should be offered advice on postsurgical precautions to minimize the risk from COVID infection while recovering from surgery.

## Characteristics of the Evidence

This summary is based on a structured search of the literature and selected evidence-based health care

databases. The evidence included in this summary is from:

- An observational study involving 120 patients, mean age 58 (SD=18) years.<sup>1</sup>
- Clinical practice guidelines.<sup>2,3</sup>
- A systematic review of 22 papers and statements (three Institutional guidelines, 10 Societies' guidelines and nine original articles).<sup>4</sup>
- A position paper informed by a systematic review and consensus process.<sup>5</sup>
- A position statement informed by expert opinion.<sup>6</sup>

### **Best Practice Recommendations**

- Cancellation or postponement of non-emergency surgeries may be considered, where safe to do so. (Grade B)
- Management of trauma and emergency patients should remain unchanged. (Grade B)
- Anesthesiologists may use N-93/FFP3 masks for intubations, if available. (Grade B)
- Patients who are negative for COVID-19 should be managed in a separate surgical ward from patients who are COVID (+) to minimize their exposure to the virus. (Grade B)
- Patients who are scheduled for surgery should limit their social contacts for a 14-day period prior to their surgery and should be advised to following strict physical distancing and hand hygiene protocols. (Grade B)
- A viral swab should be performed no more than 48 hours prior to surgery. (Grade B)
- Patients should be asked to self-isolate from the date of their swab until their planned admission. (Grade B)
- Patients who tested negative to the swab are admitted on the planned surgery date, in a COVID-19 negative surgical ward. (Grade B)

### **References**

1. Touati J, Rico G, Habert P, G rault M, Gaubert JY, Chagnaud C, et al. Prevention of nosocomial transmission of SARS-CoV-2 using pre-operative chest CT: a monocentric study during the outbreak. *J Hosp Infect.* 2020; 106(1): 186-88.
2. Coimbra R, Edwards S, Kurihara H, Bass GA, Balogh ZJ, Tilsed J, et al. European Society of Trauma and Emergency Surgery (ESTES) recommendations for trauma and emergency surgery preparation during times of COVID-19 infection. *Eur J Trauma Emerg Surg.* 2020; 46(3): 505-10.
3. Heffernan DS, Evans HL, Huston JM, Claridge JA, Blake DP, May AK, et al. Surgical Infection Society guidance for operative and peri-operative care of adult patients infected by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2). *Surg Infect.* 2020; 21(4): 301-08.
4. Moletta L, Pierobon ES, Capovilla G, Costantini M, Salvador R, Merigliano S, et al. International guidelines and recommendations for surgery during Covid-19 pandemic: a systematic review. *Int J Surg.* 2020; 79: 180-88.
5. De Simone B, Chouillard E, Sartelli M, Biffi WL, Di Saverio S, Moore EE, et al. The management of surgical patients in the emergency setting during COVID-19 pandemic: the WSES position paper. *World J Emerg Surg.* 2021; 16(1):14.
6. Scottish Intercollegiate Guidelines Network. COVID-19 position statement: Reducing the risk of postoperative mortality due to COVID-19 in patients undergoing elective surgery. Published 10/02/2021. Accessed 12/09/2021 at [https://www.sign.ac.uk/media/1822/elective-surgery\\_v2.pdf](https://www.sign.ac.uk/media/1822/elective-surgery_v2.pdf)

### **Archived Publications**

1. JBI-ES-61-1 (Published at 12 October 2021)

The author declares no conflicts of interest in accordance with International Committee of Medical Journal Editors (ICMJE) standards.

**How to cite:** Marin, T, Magtoto, L. Evidence Summary. Coronavirus (COVID-19): Management of Patients in Perioperative Settings During Pandemic. The JBI EBP Database. 2021; JBI-ES-61-2.

For details on the method for development see Munn Z, Lockwood C, Moola S. The development and use of evidence summaries for point of care information systems: A streamlined rapid review approach. Worldviews Evid Based Nurs. 2015;12(3):131-8.

**Note: The information contained in this Evidence Summary must only be used by people who have the appropriate expertise in the field to which the information relates. The applicability of any information must be established before relying on it. While care has been taken to ensure that this Evidence Summary summarizes available research and expert consensus, any loss, damage, cost or expense or liability suffered or incurred as a result of reliance on this information (whether arising in contract, negligence, or otherwise) is, to the extent permitted by law, excluded.**

Copyright © 2021 JBI Global licensed for use by the corporate member during the term of membership.

