

Returning to standard surgical practice during the COVID-19 pandemic

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After the first confirmed case of coronavirus disease 2019 (COVID-19) in Hong Kong in January 2020,¹ rapid implementation of border restrictions, isolation, quarantine, and community measures such as social distancing, closure of schools, and use of face masks, facilitated the initial containment of the disease.² Urgent and emergency surgeries have continued uninterrupted throughout the COVID-19 pandemic. However, during subsequent peaks in the spread of COVID-19, elective surgeries have been disrupted, even for asymptomatic patients with a negative history of fever, travel, occupational exposure, contacts, or clusters. This interruption of elective surgeries has had a significant and lasting impact on many patients' quality of life, in addition to lost training opportunities for anaesthetic and surgical trainees.

As a result of the many aerosol-generating procedures undertaken by our specialty, anaesthetic practice has been significantly impacted by COVID-19. In many centres, supraglottic airway devices have been abandoned and modified rapid sequence induction with tracheal intubation using videolaryngoscopy is the standard for every patient. The wearing of high-level personal protective equipment (PPE)—including N95 respirators, eye protection, gowns, gloves and caps—by the anaesthetist and the assistant(s) has been adopted during all aerosol-generating procedures. It is recommended that airborne precautions should continue to be worn by all in the room until air exchange has sufficiently reduced the airborne viral load, estimated to take 12 minutes in a well-ventilated operating room. In practice, many members of the operating team return to the room wearing lower-level PPE (surgical mask only) before this time.³

While we recognise the challenges in forward planning during a global pandemic, it is important to consider approaches to resume elective surgical services in the safest possible way. There are several barriers to resumption of full elective services in Hong Kong, including consumption of limited stocks of PPE, availability of in-patient bed space, patient reluctance for elective hospital admission, and the potential need for anaesthetic

staff redeployment. A major concern for staff and patients alike is the inadvertent elective admission of a COVID-19 positive patient, with the potential for transmission to staff and other vulnerable patients. In order to minimise this risk, effective and reliable preadmission screening should be introduced. This has proven a significant challenge as a result of the highly variable incubation period, and the low sensitivity of testing early in the disease course.⁴

As different countries move towards the recovery phase, a number of approaches have been proposed, which vary according to the perceived risk of community transmission. The approaches can be divided into: pre-admission history and examination without laboratory investigation (as recommended by the Australian Commission on Safety and Quality in Health Care⁵); pre-admission with reverse transcription-polymerase chain reaction (RT-PCR) testing for COVID-19 (as recommended by American Society of Anesthesiologists⁶), or a combination of pre-admission quarantine and RT-PCR testing prior to admission (as introduced in England⁷ and Ireland⁸). Although the latter is the safest and most cautious approach, it presents a number of further problems, including limited testing availability, patients' reluctance to self-isolate for social or economic reasons, and the difficulty of healthcare institutions in governing such instructions.

Advantages of pre-admission RT-PCR testing include the ability to identify asymptomatic carriers—estimated to be 43% of infected patients—and the potential to reduce community spread.⁹ A recent case at a public hospital in Hong Kong involved a patient admitted to a surgical ward with acute appendicitis, who was not confirmed to have COVID-19 until the sixth day of admission. Although no staff were considered close contacts, patients who had shared the same bay were traced and tested, and one other patient was subsequently diagnosed.¹⁰ Although this was an emergency case, COVID-19 testing on admission could have led to an earlier diagnosis of one or both patients, so that appropriate perioperative measures could have been arranged and staff members who had contact with the patients could have been spared significant anxiety.

Clear guidance regarding the perioperative investigation and care of all surgical patients will bring greater clarity and reassurance to hospital staff involved in their care. The implementation of a perioperative pathway will require collaboration between all relevant stakeholders, updated regularly as the situation evolves.

Author contributions

All authors contributed to the concept or design of the study, acquisition of the data, analysis or interpretation of the data, drafting of the manuscript, and critical revision of the manuscript for important intellectual content. All authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

Conflicts of interest

The authors have disclosed no conflicts of interest.

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