

Perioperative considerations for elective surgical patients following the COVID-19 pandemic

COVID-19 has had a significant impact on patient health and the delivery of healthcare within the UK. This article highlights perioperative considerations as elective work moves back to pre-pandemic levels.

Patient deconditioning

During government-imposed lockdowns many patients have led more sedentary lifestyles, with limited access to exercise facilities, which increases the risk of accelerating sarcopenia and chronic lifestyle diseases (Kirwan et al, 2020). Access to healthcare has also proved challenging as a result of cancellation of services and patient avoidance of healthcare settings because of the risk of COVID-19 infection. Subsequent longer waiting times and late presentation with advanced disease can result in more complex surgical procedures being required. The overall risk of morbidity and mortality is thus increased for these patients (Kirwan et al, 2020).

The need for intensive care beds to manage such patients postoperatively is clear, but this resource is already stretched; focusing on prehabilitation may be more pragmatic (Centre for Perioperative Care, 2020). Correa et al (2016) showed that losses in muscle strength can quickly be regained on resumption of training, even after a year of inactivity, with similar findings seen relating to cardiovascular fitness. Early pre-assessment is vital to maximise time for prehabilitation and optimisation (Levy et al, 2021). Intraoperatively, use of enhanced recovery principles with an experienced team can collectively help reduce overall morbidity and mortality (Lau and Chamberlain, 2017).

Previous COVID-19 infection

The Centre for Perioperative Care (2020) recommend a 7-week period following resolution of COVID-19 infection before elective surgery is undertaken. Lopez-Leon et al (2021) have identified over 50 long-term effects of COVID-19 infection (Figure 1). Such patients warrant thorough pre-assessment and multidisciplinary team discussion, given that their risk of perioperative complications is significantly increased (Centre for Perioperative Care, 2020). Similarly, prolonged admission to critical care carries greater risk of developing complications. These patients may be considered to be immunosuppressed following the administration of dexamethasone and tocilizumab, so consideration of steroid supplementation and antibiotic prophylaxis is essential (Centre for Perioperative Care, 2020). Furthermore, the wider effect of medications prescribed should be considered as a result of the multisystem impact of COVID-19, such as anticoagulation and regional anaesthesia (Malhotra et al, 2021).

Avoiding COVID-19 exposure

This is essential for both patients and staff. To minimise patient exposure to healthcare settings, day case surgery and available technological developments, such as virtual clinics, remote patient monitoring and prehabilitation, should be used where possible (Centre for Perioperative Care, 2020). Up to 3 days before their elective surgery, patients should have a COVID-19 polymerase chain reaction test (Centre for Perioperative Care, 2020). Similarly all patients should be encouraged to be vaccinated and, if still outstanding, the vaccine should be given several weeks before surgery (Malhotra et al, 2021). Dedicated 'green' patient flow pathways, with staff adherence to local infection prevention policy, will also mitigate the risk of contracting COVID-19 during admission (Centre for Perioperative Care, 2020).

Jason Patel¹

Manpreet Singh¹

Author details can be found at the end of this article

Correspondence to:

Jason Patel;
jason.patel2@nhs.net

How to cite this article:

Patel J, Singh M. Perioperative considerations for elective surgical patients following the COVID-19 pandemic. *Br J Hosp Med*. 2022. <https://doi.org/10.12968/hmed.2022.0026>

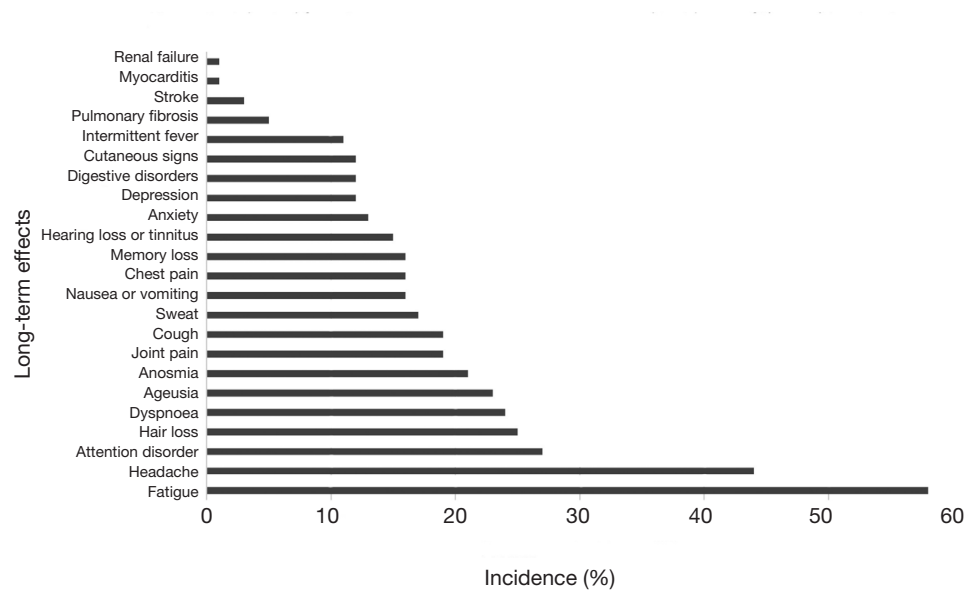


Figure 1. Examples and incidence of the multisystemic effects of long-term COVID-19 infection. Adapted from Lopez-Leon et al (2021).

Last, from a managerial perspective, there should be clear pathways for incidental positive COVID-19 tests, with the facility to reschedule cases and add replacements to theatre lists at short notice to maximise efficiency.

Conclusions

This article considers the perioperative impact of COVID-19 on elective patients, focusing on patient deconditioning, previous COVID-19 exposure and avoiding further exposure. Each presents its own set of challenges but strategies can be considered to mitigate the risk, with a view to improve overall morbidity and mortality, as well as use of services.

Author details

¹Department of Anaesthesia, University Hospitals North Midlands, Stoke-on-Trent, Staffordshire, UK

References

Centre for Perioperative Care. Delivering on opportunities for better health and perioperative care in the COVID-19 era. 2020. <https://cpoc.org.uk/sites/cpoc/files/documents/2020-08/Opportunitites%20in%20the%20COVID-19%20Era.pdf> (accessed 14 March 2022)

Correa CS, Cunha G, Marques N, Oliveira-Reischak A, Pinto R. Effects of strength training, detraining and retraining in muscle strength, hypertrophy and functional tasks in older female adults. *Clin Physiol Funct Imaging.* 2016;36(4):306–310. <https://doi.org/10.1111/cpf.12230>

Kirwan R, McCullough D, Butler T et al. Sarcopenia during COVID-19 lockdown restrictions: long-term health effects of short-term muscle loss. *Geroscience.* 2020;42(6):1547–1578. <https://doi.org/10.1007/s11357-020-00272-3>

Lau CSM, Chamberlain RS. Enhanced recovery after surgery programs improve patient outcomes and recovery: a meta-analysis. *World J Surg.* 2017;41: 899–913. <https://doi.org/10.1007/s00268-016-3807-4>

Levy N, Selwyn DA, Lobo DN. Turning ‘waiting lists’ for elective surgery into ‘preparation lists’. *BJA.* 2021;126(1):1–5. <https://doi.org/10.1016/j.bja.2020.08.021>

Lopez-Leon S, Wegman-Ostrosky T, Perelman C et al. More than 50 long-term effects of COVID-19: a systematic review and meta-analysis. *Sci Rep.* 2021;11(1):16144. <https://doi.org/10.1038/s41598-021-95565-8>

Malhotra N, Bajwa SJS, Joshi M et al. Perioperative management of post-COVID-19 surgical patients: Indian Society of Anaesthesiologists (ISA National) advisory and position statement. *Indian J Anaesth.* 2021;65(7):499–507. https://doi.org/10.4103/ija.ija_662_21