



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Contents lists available at ScienceDirect

The American Journal of Surgery

journal homepage: www.americanjournalofsurgery.com

My Thoughts/My Surgical Practice

Guidelines and recommendations during the COVID-19 pandemic: A word of caution



In the past, we have warned that the exponentially increasing number of systematic review and meta-analyses against a linearly increasing number of clinical trials would have been detrimental to the whole scientific world, as we would end up having more and more synthetic studies on less and less proper evidences.¹ Again, three years later we raised concerns against the possible biases of Guidelines-Based Medicine and advocated a prompt return to the basics of Evidence-Based Medicine, namely “evidences”, “experience” and “expectations” (the three Es of EBM).² Unfortunately, during this Covid-19 pandemic we have seen reviews, guidelines and recommendations flourishing, but we are yet to see the expected increase of clinical studies dealing with the surgical aspects of the current pandemic. The vast majority of those recommendations are not based on high level evidence but mostly on expert opinions (Level 5) and common sense or on extrapolation of old evidence which may not directly apply to the present situation.

To roughly estimate the extent of the problem, we have interrogated the most diffuse medical database (Pubmed) on April 25, 2020, with the query “(covid[Title] AND surgery[Title])”. The search returned 99 titles, whose abstracts or full texts were reviewed. Two articles were eliminated as their text was not accessible for us and another one was excluded as it reported a journal’s editorial line. Of the remaining 96, only 11 reported original works, whereas 76 were personal opinions/reviews/recommendations and 9 were published as guidelines or guidance. These sum up to the many guidelines published on surgical colleges and associations websites.³ Clearly, this quick and incomplete literature search should not be considered as a proper review and the numbers may not be comprehensive; however, the proportion is likely to be maintained also at a deeper and more systematic review.

The obvious reflection on these numbers is that our knowledge of the Covid-19 and its impact on our surgical activity is minimal and the current guidelines may be biased and may not be in the best interest of our patients.

In fact, some of the “recommendations” still appear quite bizarre and may raise some ethical dilemma. For instance, the suggestion to avoid laparoscopy as much as possible during the Covid-19 pandemic is based on the unproven assumption that active coronavirus-19 particles are present in the pneumoperitoneum and in the surgical smoke. This recommendation must be regarded as Grade D and should be challenged on the basis of the multiple well proven advantages of the laparoscopic approach (Grade A). Moreover, while the FFP3 PPE are supposed to give maximum protection against aerosolized viral particles in any case, in disagreement with other Authors^{4,5} we feel that laparotomy may be

riskier than laparoscopy, due to proximity of the surgeon to the source of smoke and to the absence of a unique point of escape of the smoke. On the contrary, in laparoscopy it is possible to guide the smoke and the pneumoperitoneum out from the abdominal cavity through a trocar valve into a closed system, thus reducing the risk of environmental contamination.⁶

Guidelines suggest also to try non-operative management whenever possible on the basis of a perceived high risk of Covid transmission in theatre. Again, this is not based on high level evidence and stands against the known benefits of early intervention in conditions like acute cholecystitis, appendicitis and complicated diverticulitis. As a consequence of the increase of non-operative management of acute abdominal conditions, we are now facing more challenging cases with an increased risk of negative outcome.⁷ Much more useful would be a proactive approach with rapid testing and decolonization before any kind of surgery, including emergencies.⁸

Last but not least, the current recommendations represent a serious ethical dilemma. As healthcare professionals, our first duty is with the patients, to whom we are bound to deliver the best possible healthcare.⁹ Gold standards in surgical specialties have been identified and worldwide shared well before the viral outbreak. While a lower level of healthcare provision may be acceptable in war times, with scarce resources and military pressure, we feel it is not acceptable to relinquish our duties of best practice in the current Covid-19 era when, although in a difficult situation, resources and medical expertise are fully available.

In conclusion, we believe that even during this challenging pandemic we cannot abdicate to the principles of evidence-based medicine and recommendations and guidelines must be based on high level evidence, bearing in mind our professional obligations and social role as healthcare providers.

References

1. Tebala GD. What is the future of biomedical research? *Med Hypotheses*. 2015;85:488–490.
2. Tebala GD. The Emperor’s new clothes: a critical appraisal of Evidence-Based Medicine. *Int J Med Sci*. 2018;15:1397–1405.
3. Updated Intercollegiate General Surgery Guidance on Covid-19. <https://www.rcseng.ac.uk/coronavirus/joint-guidance-for-surgeons-v2>. Accessed April 25, 2020.
4. Zheng MH, Boni L, Fingerhut A. Minimally invasive surgery and the novel coronavirus outbreak: lesson learned in China and in Italy. *Ann Surg*. 2020. <https://doi.org/10.1097/SLA.0000000000003924> [Epub ahead of print].
5. Al-Balas M, Al-Balas HI, Al-Balas H. Surgery during the Covid-19 pandemic: a comprehensive overview and perioperative care. *Am J Surg*. 2020. <https://doi.org/10.1016/j.amjsurg.2020.04.018> [Epub ahead of print].

6. Pata F, the MIS filtration group. How to manage smoke evacuation and filter pneumoperitoneum during laparoscopy to minimize potential viral spread: different methods from SoMe. *Colorectal Dis.* 2020. <https://doi.org/10.1111/codi.15086>.
7. Patriti A, Eugeni E, Guerra F. What happened to surgical emergencies in the era of COVID-19 outbreak? Considerations of surgeons working in an Italian COVID-19 red zone. *Upd Surg.* 2020. <https://doi.org/10.1007/s13304-020-00779-6>.
8. Morris M, Pierce A, Carlisle B, Vining B, Dobyms J. Pre-operative Covid-19 testing and decolonization. *Am J Surg.* 2020. <https://doi.org/10.1016/j.amjsurg.2020.05.027> [Epub ahead of print].
9. General Medical Council. *Good Medical Practice*. GMC; 2013. London https://www.gmc-uk.org/-/media/documents/good-medical-practice—english-20200128_pdf-51527435.pdf?la=en&hash=DA1263358CCA88F298785FE2BD7610EB4EE9A530. Accessed April 26, 2020.

Giovanni D. Tebala*, Giles Bond-Smith
Surgical Emergency Unit, Oxford University Hospitals NHS Foundation
Trust, United Kingdom

* Corresponding author. Surgical Emergency Unit, John Radcliffe
Hospital, Oxford University Hospitals NHS Foundation Trust,
Headley Way, Headington, Oxford, OX3 9DU, United Kingdom.
E-mail address: giovanni.tebala@ouh.nhs.uk (G.D. Tebala).

4 June 2020