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Review

COVID-19 and the tsunami of information

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Summary Coronavirus disease-2019 (COVID-19) is the infectious disease caused by the recently discovered coronavirus, SARS-CoV2. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019. The number of publications with regard to COVID-19-related information is exponentially increasing, but there are also some retracted papers appearing on PubMed, including those retracted from The Lancet Global Health and the New England Journal of Medicine. In a PubMed search for “COVID,” there were 1595 articles by April 1, 2020. As of June 30, the number of articles has now reached 25,913. In this editorial, 4 specific areas of information are looked at but the principles apply to many other areas of medicine. The specifics looked at are PPE for tracheostomy, testing for COVID-19, pregnancy and COVID-19, and surgical expectations during redeployment. We must make no mistake that we are seeing a disease that modern medicine has never encountered before. This article is not aimed at belittling or dismissing any of the advice of the Royal Colleges’ or PHE advice, but it demonstrates the tsunami of information and the ambiguity that surgeons are experiencing throughout the UK right now. This is unlikely to be the end of progression regarding healthcare planning and development for unencountered viruses. In the next few months and beyond, there are likely to be adaptations and revisions of more documents advising on various aspects of healthcare with regard to COVID-19 management and for possible future viruses not yet seen by the modern world before. © 2020 Published by Elsevier Ltd on behalf of British Association of Plastic, Reconstructive and Aesthetic Surgeons.

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Coronavirus disease-2019 (COVID-19) is the infectious disease caused by the recently discovered coronavirus, SARS-CoV2. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019. The world health organization (WHO) announced this disease on December 31, 2019 and declared it a pandemic on March 11, 2020. Since then, we have seen an unprecedented number of literary articles discussing various aspects and impacts of COVID-19 on health, economic climate, the rate at which countries are controlling the progression of the pandemic, the type of personal protective equipment (PPE) that should be worn, which types of patients are classed as high risk, who is classified as a key worker, the list goes on. The number of publications with regard to COVID-19-related information is exponentially increasing, but there are also some retracted papers appearing on PubMed, including those retracted from The Lancet Global Health and the New England Journal of Medicine.

In a PubMed search for “COVID,” there were 1595 articles by April 1, 2020. As of June 29, the number of articles has now reached 25,913. This creates a risk of information overload. There remains ambiguity about how, as surgeons, we should be protecting ourselves, our families, and our patients.

In this editorial, 4 specific areas of information are looked at, but the principles apply to many other areas of medicine. The specifics looked at are PPE for tracheostomy, testing for COVID-19, pregnancy and COVID-19, and surgical expectations during redeployment. Table 1 demonstrates the number of citable articles on these various topics with relation to COVID-19 as of June 29, 2020.

Personal protective equipment (PPE) and tracheostomy

Tracheostomy is accepted as a very high-risk aerosol-generating procedure (AGP). The ambiguity around PPE when performing tracheostomies has persisted throughout March, and there are still differences between Royal College’s views, views from different professional societies, and Public Health England’s advice in April. Different policies emerge because of perceived shortages in PPE and the lack of evidence about the true risk of infection to the healthcare professionals undertaking tracheostomies. We reviewed the Royal College of Anaesthetists (updated 4/11/2020) and the ENT guidance (updated 3/19/2020) on tracheostomy. Both state FFP3 masks should be worn for tracheostomies with known COVID/suspected/unknown cases. For negative/not suspected cases; the guidance is to wear a simple surgical mask, despite a tracheostomy being a named AGP. Despite the guidelines, most trusts recommend wearing an FFP3 for any aerosol general procedures such as a tracheostomy.

A combined document from The Royal College of Surgeons England/Edinburgh/ Ireland and the Association of Surgeons of Great Britain and Ireland (ASGBI) (published online 27.3.2020) all recommend for any AGP, surgeons wear “full” PPE. The “full” PPE is described in their documents as PPE is advised (for positive or suspected patients) and includes double layers of disposable gloves and gown, eye protection and FFP3 mask. Once again the ambiguity leads one to think “what does full PPE” mean when the patient is of unknown COVID status. Our local trust guidance at Nottingham University Hospitals trust specifies that all tracheostomy procedures require PPE in the form of an FFP3 mask as well as gowning and gloving. On April 2, 2020, The Health and Safety Executive conducted a rapid review of the guidance, which concluded that aprons offer a similar level of protection to gowns and that FFP2 respirators offer protection against COVID-19 and can therefore be used during high-risk procedures, if FFP3 respirators are not available. However, there is disparity in the advice regarding whether FFP2 masks should be fit tested or not.

The UK guidance has some marginal differences from WHO guidance, these are: the UK recommends FFP3 respirators for use during higher risk procedures; however, it does state that FFP2 can be used if FFP3 are not available, following a rapid HSE review. Overseas guidance also varies; the current Spanish guidance (2nd version) for PPE with regard to tracheostomies is that everyone should have PPE for surgical tracheostomies, including FFP2-FPP-N95, but for percutaneous tracheostomies, this is dependent upon the local hospital guidance.

Testing for COVID-19

This is another area of ambiguity; should we test? Who should we test? When should we test? What should we test for (virus or antibodies against it)? When should we retest?

We are already experiencing constantly changing criteria for what counts as COVID-19 positive, and a single positive swab no longer counts in most trusts. We previously thought that an individual was positive for COVID-19 if they had a positive reverse transcriptase-polymerase chain reaction result. As time has progressed, we now understand that some individuals despite having COVID-19 are tested negative due to no viral load detected on a throat swab but the swabs are positive when taken from a bronchoscopy. Some of the trusts are now recommending two or more of the criteria (a new cough, changes on x-ray/CT suspicious of COVID-19 and a positive swab) for a patient to be confirmed as “COVID positive.”
In early March, healthcare workers were being swabbed only if they presented as an inpatient with symptoms. As we entered April, more trusts were rolling out routine swabs for symptomatic frontline staff, starting with Critical Care staff. As April progressed, it included swabbing all symptomatic healthcare workers (HCWs) and any symptomatic family members of theirs, including children - initially only over 5s, at the end of May it included the under 5s as nurseries and primary schools started their plans for reopening. As of the end of April, any symptomatic key workers, not just HCWs, or their family members are being swabbed, aiming for key workers to be able to return to work as soon as possible if there is a negative result, rather than the 14 days asymptomatic isolation period. Now antibody testing is being rolled out for frontline HCWs. False-negative results are reportedly up to 30%, although little is published on this. This means that many asymptomatic people or those with mild symptoms may return to work earlier than the recommended 7 days isolation. Currently with a negative swab, being afebrile for 48h and feeling well enough to work means that one can return. Advice is given regarding the consideration of wearing surgical masks for all tasks (other than where FFP2/3 is indicated) if coughing is a symptom. After a positive result, one can return after 7 days if there has been no fever for 48h and the individual feels well enough to return. Our current practice at NUH, for any symptomatic healthcare workers who test negative for COVID-19, are still self-isolating for 7 days.

Expectation of surgeons during COVID-19 redeployment

There is no standard of who or when surgeons are expected to be redeployed, if at all. For some trusts, surgical SHOs (including FY2, CT grades, and staff grades) have been redeployed to cover COVID-19 positive wards to carry out the basic medical needs for these patients: prescribing oxygen, venepuncture, and drug and fluid prescriptions. In other units, the SPR grade has been made part of the primary on-call trauma team. Some consultants and whole specialties are being made into critical care “proning teams.” There is no wrong or right here, but it demonstrates a difference in expectations across units and trusts throughout the UK. This article is not aimed at belittling or dismissing any of the advice of the Royal Colleges’ or PHE advice, but it demonstrates the tsunami of information and the ambiguity that surgeons are experiencing throughout the UK right now. It is understandable that as we gain more information about this virus, the guidelines and recommendations will continue to be updated. Despite having this understanding, in practice, these constantly changing and differing guidelines create risks not only for the HCWs but also for the patients. This becomes even more relevant as the community infection transmission rates have started to go down, the main source of infection may be the asymptomatic HCWs. Ambiguity is unhelpful in these circumstances. Whilst there may be further changes to some of these documents, most local teams are being advised “wear what you feel safe in” until there is some clear guidance.

We must make no mistake that we are seeing a disease that modern medicine has never encountered before. We can only work off evidence and assumptions from previous diseases such as SARS-1, on a remotely similar scale to this. This is unlikely to be the end of progression regarding healthcare planning and development for unencountered viruses. In the next few months and beyond, there are likely to be adaptations and revisions of more documents advising on various aspects of healthcare with regard to COVID-19 management, and for possible future viruses not yet seen by the modern world before.
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Declaration of Competing Interest

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