Welcome to the latest COVID-19 Update. Information with regards COVID-19 is emerging at a rapid pace, this evidence update will be produced weekly during the crisis. It will highlight a few sources of knowledge and appropriate documents – most websites are open access at the time of writing. Note at the moment most publishers are allowing free access to articles on COVID-19 that would normally be restricted to paid subscriptions. Please feel free to print and share.

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RWT Libraries are no longer physically staffed due to the COVID-19 pandemic, but we are all working from home and will continue to support your information and knowledge needs. Please contact us on the library generic e-mail above. Thank you.

New Databases and Resources

Health Service Journal Coronavirus. HSJ have made Covid-19 articles freely available. Freely available at: https://www.hsj.co.uk/coronavirus

HHE Knowledge for Healthcare. COVID-19 Search Bank. KfH have set up a central repository for literature search completed by expert searches across the country. HHE is helping to share these searches to save time and reduce duplication across NHS libraries. They are free to access. Freely available at: https://kfh.libraryservices.nhs.uk/covid-19-coronavirus/for-iks-staff/literature-searches/

NHS Electronic Staff Record. COVID-19 Resource Hub. ESR, 15th April 2020. The NHS Electronic Staff Record (ESR) team has developed the COVID-19 Resource Hub to help and support organisations with their use of ESR during the pandemic. Working with national organisations in relation to workforce challenges during this time, we have responded by delivering system solutions to support organisations in their plans to manage the impact of COVID-19. Freely available at: http://www.discover.esr.nhs.uk/interim-nhs-people-plan
April. CEBM, 21st April 2020. [Online]  In an outbreak, understanding the impact on overall rates of death can provide vital information about the effect in the population at large. Essential questions: are the number of deaths rising?; how do they compare with previous years/ and in this current outbreak and are respiratory deaths on the rise?. The article tracks the latest ONS data on deaths. Freely available at: https://www.cebm.net/covid-19/england-and-wales-mortality-during-the-covid-19-outbreak/.

Green, K. et al.  What tests could potentially be used for the screening, diagnosis and monitoring of COVID-19 and what are their advantages and disadvantages. CEBM, 20th April 2020. [Online].

Many diagnostic tests for coronavirus disease 2019 (COVID-19) are available so far, with more gaining emergency approval every day. These tests are largely based on four different techniques. 1) reverse transcription polymerase chain reduction (RT-PCR) – the current standard test for COVID-19. 2) loop-mediated isothermal amplification (LAMP) – a single, but less developed testing methods. 3) later flow – hand-held single-use assays providing results for an individual patient in as short as 15 minute, and 4) enzyme-linked immunosorbent assay (ELISA) – quick and technically simple assays that are easily read and offer relatively high throughout. Freely available at: https://www.cebm.net/covid-19/what-tests-could-potentially-be-used-for-the-screening-diagnosis-and-monitoring-of-covid-19-and-what-are-their-advantages-and-disadvantages/.


No reliable, applicable or usable scoring system currently exists to predict outcomes for patients with COVID-19. Patient characteristics including older age, male sex, smoking and co-morbidities may predict poorer outcomes but the evidence may be biased and may not be applicable to a UK primary care setting. Freely available at: https://www.cebm.net/covid-19/what-clinical-features-or-scoring-system-if-any-might-best-predict-a-benefit-from-hospital-admission-for-patients-with-covid-19/.


A 3% drop in pulse oximeter reading on exercise is cause for concern in Covid-19. The 1-minute sit-to-stand test (patient goes from sit to stand as many times as they can) has been validated; the unvalidated 40-step test (take 40 steps on a flat surface) is in widespread use. Neither should be attempted in the patient’s resting oximeter reading is less than 96%. Freely available at: https://www.cebm.net/covid-19/what-is-the-efficacy-and-safety-of-rapid-exercise-tests-for-exertional-desaturation-in-covid-19/.


This review focusses on interventions implemented in response to disasters and national emergencies and on their impacts on people with diabetes. The definition of disasters and national emergencies is broad but to be considered must impact systems for healthcare delivery, communication, physical activity, transportation, and/or food supply. This would include most natural disasters (e.g. large storms and floods, earthquakes) as well as new infectious disease epidemics/pandemics and civil and international conflict/unrest. Freely available at: https://www.cebm.net/covid-19/protocol-systematic-review-of-interventions-initiated-in-response-to-disasters-and-national-emergencies-and-their-impact-on-short-and-long-term-diabetes-outcomes/.


Data from the 15th show that 13.8% of positives are critical key workers in the NHS and other sectors. Data from the 16th April shows 16.2% are critical key workers. Freely available at: https://www.cebm.net/covid-19/covid-19-how-many-healthcare-workers-are-infected/.

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EUROMO currently reports mortality data from 24 countries listed on its front page. At the time of writing the latest data is from week 15 of 2020 (the week starting 6th of April). The text warns about the potential shortcoming of the data including “catch up” delay. Freely available at: https://www.cebm.net/covid-19/covid-19-tracking-european-mortality/


Jones, N. and Carver, C. Are interventions such as social distancing effective at reducing the risk of asymptomatic healthcare workers transmitting COVID-19 infection to other household members? CEBM, 21st April 2020. [Online].

Transmission of COVID-19 infection to family members is a key concern for healthcare workers. We found no evidence regarding self-isolation of asymptomatic healthcare workers from their household. In a high-quality review that included social distancing and respiratory viruses in various settings and using various methods, it was concluded that “The handful of studies (mostly conducted during the SARS epidemic) do not allow us to reach any firm conclusions regarding social distancing.” There may be some healthcare workers who might consider self-isolation if they work in a particularly high-risk setting or whose family are considered by the NHS to be at ‘increased risk’ or ‘extremely vulnerable’. Of course, heed must be paid to the possible harms of such an approach, such as the potential impact on mental wellbeing, as well as the fact this may not be practically possible depending on individual circumstances. The comparatively low rates of transmission to household members that were reported in previous coronavirus outbreaks should also provide some reassurance. Current evidence does support hand hygiene, facemasks (both at home and work) and adequate PPE as well as potentially efforts to reduce the number and spread of patient contacts at work to end the risk of onward COVID-19 transmission. Freely available at: https://www.cebm.net/covid-19/are-interventions-such-as-social-distancing-effective-at-reducing-the-risk-of-asymptomatic-healthcare-workers-transmitting-covid-19-infection-to-other-household-members/


Ramadan, a month of fasting for Muslims, begins on 23rd April. We found no specific studies looking at fasting in the context of Covid-19. There is no evidence to suggest an adverse effect from fasting on healthy individuals who have previously fasted safely. However, patients with fever and prolonged illness secondary to Covid-19 can become severely dehydrated and are at risk of sudden acute deterioration. Such patients should be advised to discontinue their fast and ensure adequate hydration. Prior to commencing fasting, any comorbidities need to be risk stratified and discussed with the patient’s clinician. In light of this, the CEBM have developed a risk matrix spanning a range of conditions with a view to help patient-centered shared decision making. Freely available at: https://www.cebm.net/covid-19/is-it-safe-for-patients-with-covid-19-to-fast-in-ramadan/


This page is updated daily as new information emerges. It sets out the current Case Fatality Rate (CFR) estimates, the country-specific issues affecting CFR and provides a current best estimate of the CFR, and more importantly, the Infection Fatality Rate (IFR). The IFR estimates the fatality rate in all those with infection: the detected disease (cases) and those with an undetected disease (asymptomatic and not tested group). Freely available at: https://www.cebm.net/covid-19/global-covid-19-case-fatality-rates/

Stravopoulou, C. et al. What conditions could be prioritise in the primary care setting to reduce non-covid-related admissions to hospital. CEBM, 22nd April 2020. [Online].

This rapid review has established that targeted interventions for influenza, COPD, CHF, diabetes, UTI and cellulitis should be identified to support increased management in primary care settings. This could result in keeping people well and reducing preventable hospital admissions where possible. Freely available at: https://www.cebm.net/covid-19/what-conditions-could-we-prioritise-in-the-primary-care-setting-to-reduce-non-covid-related-admissions-to-hospital/

Urwin, S.G., Kandola, G. and Grazziadio, S. **What prognostic clinical risk prediction scores for COVID-19 are currently available for use in the community setting?** CEBM, 22nd April 2020. [Online].

The specific focus in this rapid review was to provide a quick reference summary of prognostic clinical risk prediction scores that are currently available in an accessible format and methodologically suitable for use in the community.

Cochrane Reviews


When new respiratory infectious diseases become widespread, such as during the COVID-19 pandemic, healthcare workers’ adherence to infection prevention and control (IPC) guidelines becomes even more important. Strategies in these guidelines include the use of personal protective equipment (PPE) such as masks, face shields, gloves and gowns; the separation of patients with respiratory infections from others; and stricter cleaning routines. These strategies can be difficult and time-consuming to adhere to in practice. Authorities and healthcare facilities therefore need to consider how best to support healthcare workers to implement them. Review. Freely available at: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD013582/full


Current evidence for COVID-19 is limited to modelling studies that make parameter assumptions based on the current, fragmented knowledge. Findings consistently indicate that quarantine is important in reducing incidence and mortality during the COVID-19 pandemic. Early implementation of quarantine and combining quarantine with other public health measures is important to ensure effectiveness. In order to maintain the best possible balance of measures, decision makers must constantly monitor the outbreak situation and the impact of the measures implemented. Testing in representative samples in different settings could help assess the true prevalence of infection, and would reduce uncertainty of modelling assumptions. This review was commissioned by WHO and supported by Danube-University-Krems. Freely available at: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD013574/full

Verbeek, JH et al. Personal protective equipment for preventing highly infectious diseases due to exposure to contaminated body fluids in healthcare setting. Cochrane, 15th April 2020. [online].

We found low- to very low-certainty evidence that covering more parts of the body leads to better protection but usually comes at the cost of more difficult donning or doffing and less user comfort, and may therefore even lead to more contamination. More breathable types of PPE may lead to similar contamination but may have greater user satisfaction. Modifications to PPE design, such as tabs to grab, may decrease the risk of contamination. For donning and doffing procedures, following CDC doffing guidance, a one-step glove and gown removal, double-gloving, spoken instructions during doffing, and using glove disinfection may reduce contamination and increase compliance. Face-to-face training in PPE use may reduce errors more than folder-based training. We still need RCTs of training with long-term follow-up. We need simulation studies with more participants to find out which combinations of PPE and which doffing procedure protects best. Consensus on simulation of exposure and assessment of outcome is urgently needed. We also need more real-life evidence. Therefore, the use of PPE of HCW exposed to highly infectious diseases should be registered and the HCW should be prospectively followed for their risk of infection. Freely available at: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD011621.pub4/full

Government Publications


**NICE Publications**

The available evidence suggests that, although the anti-inflammatory effects of NSAIDs reduce acute symptoms (such as fever), they may either have no effect on, or worsen, long-term outcomes, possibly by masking symptoms of worsening acute respiratory tract infection. Further evidence is needed to confirm this, and to determine whether these results also apply to infections such as COVID-19. **Freely available at:** https://www.nice.org.uk/advice/es23/chapter/Key-messages

NICE. **Covid-19 rapid guideline: acute myocardial injury.** Guideline NG171. 23rd April 2020. [Online].
The purpose of this guideline is to help healthcare professionals who are not cardiology specialists identify and treat acute myocardial injury and its cardiac complications in adults with known or suspected COVID-19 but without known pre-existing cardiovascular disease. **Freely available at:** [https://www.nice.org.uk/guidance/ng171](https://www.nice.org.uk/guidance/ng171)

NICE. **Covid-19 rapid guideline: gastrointestinal and liver conditions treated with drugs affecting the immune response.** Guideline NG 172. 23rd April 2020. [Online].
The purpose of this guideline is to maximise the safety of children and adults who have gastrointestinal or liver conditions treated with drugs affecting the immune response during the COVID 19 pandemic. It also aims to protect staff from infection and enable services to make the best use of NHS resources. **Freely available at:** [https://www.nice.org.uk/guidance/ng172](https://www.nice.org.uk/guidance/ng172)

The purpose of this guideline is to provide recommendations for managing COVID-19 symptoms for patients in the community, including at the end of life. It also includes recommendations about managing medicines for these patients, and protecting staff from infection. On 22 April 2020, we added ibuprofen as an option for managing fever and other symptoms that antipyretics would help treat. We also clarified the source of prescribing data in some tables. **Freely available at:** [https://www.nice.org.uk/guidance/ng163](https://www.nice.org.uk/guidance/ng163)

**UNCOVER Rapid Reviews (University of Edinburgh)**

McQuillan, R et al. **Does the use of face masks in the general population make a difference to spread of infection.** Uncover, 17th April 2020.

This review found mixed and low quality evidence on the use of face masks to prevent community transmission of respiratory illness, with much of the evidence generated in very different contexts from the UK. Key issues are the need for better quality research in community settings, which focuses not only on evaluating different types of mask but also on evaluating adherence (duration and frequency of mask use, correct procedure for putting on and removing masks) and the use of masks in conjunction with hand hygiene. **Freely available at:** [https://www.ed.ac.uk/files/atoms/files/rr-_face_masks_in_the_community_20200407.pdf](https://www.ed.ac.uk/files/atoms/files/rr-_face_masks_in_the_community_20200407.pdf)

McQuillan, R et al. **What is the evidence for the importance of outdoor transmission and of indoor transmission of COVID-19?** Uncover, 17th April 2020.

Whilst there is evidence of community transmission across a range of (mainly indoor settings), precise transmission mechanisms remain unclear. There is an absence of evidence on transmission in outdoor settings; however given emerging evidence on the possibility of coughs and sneezes travelling much further than previously thought, caution
about the risk of outdoor transmission is warranted. Freely available at: https://www.ed.ac.uk/files/atoms/files/rr_outdoor_transmission_review_20200402.pdf

Theodoratou, E., Li, X and Xu, W. What is the evidence for transmission of COVID-19 children [or in schools]? Uncover, 17th April 2020.

There is very limited evidence of paediatric cases as a source of infection. In summary, there appears to be risk of transmission by infected children, especially when considering the evidence of faecal-oral transmission in asymptomatic paediatric cases. The presence of SARS-CoV-2 virus in nasal secretions and stools may have substantial implications for community spread in day-care centres, schools, and homes. Freely available at: https://www.ed.ac.uk/usher/uncover/completed-uncover-reviews

Anaesthetics


Paediatric anaesthetists have an important role to play in the management of patients suspected or confirmed to have COVID-19. In many institutions, the COVID-19 intubation teams are staffed with anaesthetists as the proceduralists working throughout the hospitals also in the ICU and Emergency Departments. As practitioners who perform aerosol generating procedures involving the airway, we are at high risk of exposure to the virus SARS-CoV-2 and need to ensure we are well-prepared and trained to manage such cases. This article reviews the relevant paediatric literature surrounding COVID-19 and summarises the key recommendations for anaesthetists involved in the care of children during this pandemic. Literature review. Freely available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/pan.13889

Biomedical and Biophysics


COVID-19 is a severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) infection, and real-time reverse transcription-PCR is currently the most reliable diagnostic method for COVID-19 around the world. Korean Society for Laboratory Medicine and the Korea Centers for Disease Prevention and Control propose guidelines for diagnosing COVID-19 in clinical laboratories in Korea. These guidelines are based on other related domestic and international guidelines, as well as expert opinions and include the selection of test subjects, selection of specimens, diagnostic methods, interpretation of test results, and biosafety. Evidence based guideline. Freely available at: http://www.annlabmed.org/journal/view.html?volume=40&number=5&spage=351

Cancer and Haematology

Giannis, D., Ziogas, I.A. and Gianni, P. Coagulation disorders in coronavirus infected patients: COVID-19, SARS-CoV-1, MERS-CoV and lessons from the past. Journal of Clinical Virology, 9th April 2020. [Epub ahead of print]. COVID-19 hospitalized patients, especially those suffering from severe respiratory or systemic manifestations, fall under the spectrum of the acutely ill medical population, which is at increased venous thromboembolism risk. Thrombotic complications seem to emerge as an important issue in patients infected with COVID-19. Preliminary reports on COVID-19 patients’ clinical and laboratory findings include thrombocytopenia, elevated D-dimer, prolonged prothrombin time, and disseminated intravascular coagulation. As the pandemic is spreading and the whole picture is yet unknown, we highlight the importance of coagulation disorders in COVID-19 infected patients and review relevant data of previous coronavirus epidemics caused by the severe acute respiratory syndrome coronavirus 1 (SARS-CoV-1) and the Middle East Respiratory Syndrome coronavirus (MERS-CoV). Review. Freely available at: https://www.sciencedirect.com/science/article/pii/S1386653220301049?via%3Dihub


The coronavirus-19 (COVID-19) pandemic poses a significant risk to patients undergoing hematopoietic stem cell
transplantation (HCT) or cellular therapy. The American Society for Transplantation and Cellular Therapy Pharmacy Special Interest Group Steering Committee aims to provide pharmacy practice management recommendations for how to transition clinical HCT or cellular therapy pharmacy services using telemedicine capabilities in the inpatient and outpatient settings to maintain an equivalent level of clinical practice while minimizing viral spread in a high-risk, immunocompromised population. In addition, the Steering Committee offers clinical management recommendations for COVID-19 in HCT and cellular therapy recipients based on the rapidly developing literature. As the therapeutic and supportive care interventions for COVID-19 expand, collaboration with clinical pharmacy providers is critical to ensure safe administration in HCT recipients. Attention to drug-drug interactions (DDIs) and toxicity, particularly QTc prolongation, warrants close cardiac monitoring and potential cessation of concomitant QTc-prolonging agents. Expanded indications for hydroxychloroquine and tocilizumab have already caused stress on the usual supply chain. Detailed prescribing algorithms, decision pathways, and specific patient population stock may be necessary. The COVID-19 pandemic has challenged all members of the healthcare team, and we must continue to remain vigilant in providing pharmacy clinical services to one of the most high-risk patient populations while also remaining committed to providing compassionate and safe care for patients undergoing HCT and cellular therapies. Evidence based guideline. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7162779/

Cancer patients are in risk for severe disease, including a higher risk of intensive care unit (ICU) admission, need for invasive ventilation or death. Management of patients with lymphoid malignancies can be challenging during the outbreak, due to need of multiple hospital visits and admissions, immunosuppression and need for chemotherapy, radiotherapy and stem cell transplantation. In this article, we will focus on the practical management of patients with lymphoid malignancies during the COVID-19 pandemic, focusing on minimizing the risk for patients. Evidence based guideline. Freely available at: https://www.sciencedirect.com/science/article/pii/S253113792030033X?via%3Dihub

Since December 2019, a novel type of coronavirus disease (COVID-19) in Wuhan led to an outbreak throughout China and the rest of the world. To date, there have been more than 1,260,000 COVID-19 patients, with a mortality rate of approximately 5.44%. Studies have shown that coagulation dysfunction is a major cause of death in patients with severe COVID-19. Therefore, the People’s Liberation Army Professional Committee of Critical Care Medicine and Chinese Society on Thrombosis and Hemostasis grouped experts from the frontline of the Wuhan epidemic to come together and develop an expert consensus on diagnosis and treatment of coagulation dysfunction associated with a severe COVID-19 infection. This consensus includes an overview of COVID-19-related coagulation dysfunction, tests for coagulation, anticoagulation therapy, replacement therapy, supportive therapy and prevention. The consensus produced 18 recommendations which are being used to guide clinical work. Evidence based guideline. Freely available at: https://mmrjournal.biomedcentral.com/articles/10.1186/s40779-020-00247-7

Cardiology and Cardiothoracic

Respiratory complications have been well remarked in the novel coronavirus disease (SARS-CoV-2/COVID-19), yet an emerging body of research indicates that cardiac involvement may be implicated in poor outcomes for these patients. While some information is available, further studies are imperative for a more cohesive understanding of the cardiac pathophysiology in COVID-19 patients to promote more informed treatment and, ultimately, better clinical outcomes. Review. Freely available at: https://onlinelibrary.wiley.com/doi/full/10.1111/jocs.14538

Coronavirus disease 2019 (COVID-19), a viral respiratory illness caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), may predispose patients to thrombotic disease, both in the venous and arterial circulations, due to excessive inflammation, platelet activation, endothelial dysfunction, and stasis. In addition, many

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patients receiving antithrombotic therapy for thrombotic disease may develop COVID-19, which can have implications for choice, dosing, and laboratory monitoring of antithrombotic therapy. Moreover, during a time with much focus on COVID-19, it is critical to consider how to optimize the available technology to care for patients without COVID-19 who have thrombotic disease. Herein, we review the current understanding of the pathogenesis, epidemiology, management and outcomes of patients with COVID-19 who develop venous or arterial thrombosis, and of those with preexisting thrombotic disease who develop COVID-19, or those who need prevention or care for their thrombotic disease during the COVID-19 pandemic. Evidence based guideline. Freely available at: https://www.sciencedirect.com/science/article/pii/S2452302X20301637?via%3Dihub

In the setting of the current novel coronavirus pandemic, this document has been generated to provide guiding statements for the adult cardiac surgeon to consider in a rapidly evolving national landscape. Acknowledging the risk for a potentially prolonged need for cardiac surgery procedure deferral, the authors have created this proposed template for physicians and interdisciplinary teams to consider in protecting their patients, institution and their highly specialized cardiac surgery team. In addition, recommendations on the transition from traditional in-person patient assessments and outpatient follow-up are provided. Lastly, we advocate that the cardiac surgeon must continue to serve as leaders, experts, and relevant members of our medical community, shifting our role as necessary in this time of need. Evidence based guideline. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7161520/

The COVID-19 pandemic has resulted in a proliferation of clinical trials that are designed to slow the spread of SARS-CoV-2, the virus that causes COVID-19. The overwhelming majority of cardiovascular and cancer patients are at increased risk for SARS-CoV-2 infection; accordingly, the cardiovascular and cardio-oncology communities are playing a major role in caring for COVID-19 patients. Many of the therapeutic agents that are being used to treat patients with COVID-19 are repurposed treatments for influenza, drugs that were not effective in Ebola patients, or treatments for malaria that were developed decades ago, and are unlikely to be familiar to the cardiovascular and cardio-oncology communities. Here we have provided a foundation for cardiovascular and cardio-oncology physicians who are on the frontline providing care to COVID-19 patients, so that they can better understand the emerging cardiovascular epidemiology of COVID-19, as well as the biological rationale for the clinical trials that are ongoing for the treatment of COVID-19 patients. Review. Freely available at: https://www.sciencedirect.com/science/article/pii/S2452302X20301637?via%3Dihub

Cardiovascular manifestations of COVID-19 are complex with patients presenting with AMI, myocarditis simulating a ST-elevation MI presentation, stress cardiomyopathy, non-ischemic cardiomyopathy, coronary spasm, or nonspecific myocardial injury and the prevalence of COVID-19 disease in the US population remains unknown with risk of asymptomatic spread. This document addresses the care of these patients focusing on 1) the varied clinical presentations; 2) appropriate personal protection equipment (PPE) for health care workers; 3) role of the Emergency Department, Emergency Medical System and the Cardiac Catheterization Laboratory; and 4) Regional STEMI systems of care. During the COVID-19 pandemic, primary PCI remains the standard of care for STEMI patients at PCI capable hospitals when it can be provided in a timely fashion, with an expert team outfitted with PPE in a dedicated CCL room. A fibrinolysis-based strategy may be entertained at non-PCI capable referral hospitals or in specific situations where primary PCI cannot be executed or is not deemed the best option. Evidence based guideline. Freely available at: https://onlinelibrary.wiley.com/doi/abs/10.1002/ccd.28946

Nearly 20% of COVID-19 patients present severe coagulation abnormalities, which may occur in almost all of the severe and critical ill COVID-19 cases. Concomitant venous thromboembolism (VTE), a potential cause of unexplained deaths, has been frequently reported in COVID-19 cases, but its management is still challenging due to the complexity between antithrombotic therapy and coagulation disorders. Based on frontline practical experience and comprehensive literature review, here a panel of experts and physicians from China and Europe developed an
Clinical Characteristics, Diagnosis and Testing

Clinically effective infection prevention and control practice is an essential feature of protecting patients. Evidence Based Practice for Infection control (epic3) is a set of national evidence-based guidelines for preventing healthcare-associated infections in NHS patients, which are comprehensive recommendations for preventing infections in hospital and other acute care settings, including the prehospital setting. Paramedics should familiarise themselves with such guidelines in an attempt to mitigate against the current COVID-19 pandemic. A sound understanding of the differences between COVID-19 and influenza will also prove beneficial. Comment. Freely available at: https://www.magonlinelibrary.com/doi/pdf/10.12968/jpar.2020.12.4.136

It is important that, in these difficult times, nurses understand the symptoms of COVID-19, how to prevent its spread and are up-to-date on the guidance on critical care. Guidance. Freely available at: https://www.magonlinelibrary.com/doi/pdf/10.12968/bjn.2020.29.7.399


Coronavirus disease 2019 is a pandemic influencing the first half of the year 2020. The virus has rapidly spread to many countries. Studies are rapidly published to share information regarding epidemiology, clinical and diagnostic patterns, and prognosis. The following review condenses the surge of information into an organized format. Literature review. Freely available at: https://www.sciencedirect.com/science/article/pii/S1386653220300998?via%3Dihub

The antibodies against SARS-CoV-2 can be detected in the middle and later stage of the illness. Antibody detection may play an important role in the diagnosis of COVID-19 as complement approach for viral nucleic acid assays. Diagnosis. Freely available at: https://academic.oup.com/cid/article/doi/10.1093/cid/ciaa461/5822173

Based on the published data, this review systematically discusses the etiology, epidemiology, clinical characteristics, and current intervention measures related to COVID-19 in the hope that it may provide a reference for future studies and aid in the prevention and control of the COVID-19 epidemic. Review. Freely available at: https://www.journalinflection.com/article/S0163-4453(20)30222-X/pdf

Wuhan, China. We aimed to study the epidemiology, clinical features and short-term outcomes of patients with COVID-19 in Wuhan, China. Patients with elder age, chronic comorbidities, blood leukocyte/lymphocyte count, procalcitonin level, co-infection and severe complications might increase the risk of poor clinical outcomes.


Clinical Prediction and Mortality

The proposed nomogram accurately predict clinical outcomes of patients with COVID-19 based on individual characteristics. Earlier identification, more intensive surveillance and appropriate therapy should be considered in patients with high risk. Prognosis. Clinical prediction guide. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7158802/pdf/main.pdf

Containment, Transmission and Isolation

In the aftermath of the current pandemic the exact mode of transmission may still remain controversial as was the case with SARS-CoV-1 and influenza. Urgent further research is require to investigate SARS-CoV-2 transmission, risk factors and strategies to assume the safety of healthcare workers may choose to take a precautionary approach until robust evidence is available. Review. Freely available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/anae.15093

Critical and Intensive Care

The Surviving Sepsis Campaign COVID-19 panel issued 54 statements, of which four are best practice statements, nine are strong recommendations, and 35 are weak recommendations. No recommendation was provided for six questions. The topics were: 1) infection control, 2) laboratory diagnosis and specimens, 3) hemodynamic support, 4) ventilatory support, and 5) COVID-19 therapy. The Surviving Sepsis Campaign COVID-19 panel issued several recommendations to help support healthcare workers caring for critically ill ICU patients with COVID-19. When available, we will provide new evidence in further releases of these guidelines. Guidance. Freely available at: https://journals.lww.com/ccmjournal/Abstract/9000/Surviving_Sepsis_Campaign_Guidelines_on_the.95707.aspx

After the infusion workflow was optimized, average times for preparation drugs and intravenous admixture, and patients’ waiting time decreased from 4.84 min, 4.03 min, and 34.33 min to 3.50 min, 2.60 min, and 30.87 min, respectively, patients’ satisfaction increased from 66.7% to 93.3%, and the cost of personal protective equipment (PPE) decreased from 46.67 sets and 186.6 CNY per day to 36.17 sets and 144.6 CNY, with statistical significance. Quality Improvement. Freely available at: https://www.sciencedirect.com/science/article/pii/S2352013220300478?via%3Dihub
Endocrine and Diabetes

We have reemphasized the need for a simultaneous patient-centered approach in routine diabetes care that has to be coordinated by a multidisciplinary team amid the ongoing COVID-19 pandemic. *Review.* Freely available at: https://www.sciencedirect.com/science/article/pii/S1871402120300783?via%3Dihub

This study included 658 hospitalized patients with confirmed COVID-19. Forty-two (6.4%) out of 658 patients presented with ketosis on admission with no obvious fever or diarrhea. They had a median age of 47.0 years (IQR, 38.0-70.3), while 16 (38.1%) were men. Patients with ketosis were younger (median age: 47.0 vs 58.0 years, P = 0.003) and had greater prevalence of fatigue (31.0% vs 10.6%, P < 0.001), diabetes (35.7% vs 18.5%, P = 0.007), and digestive disorders (31.0% vs 12.0%, P < 0.001). However, they had longer length of hospital stay (19.0 [12.8-33.3] days vs 16.0 [10.0-24.0] days, P < 0.001) and higher mortality rate (21.4% vs 8.9%, P = 0.017). Three (20.0%) out of the 15 cases with diabetic ketosis developed acidosis, 5 cases (26.7%) with diabetic ketosis died, and one (25.0%) of the deaths presented with acidosis. This suggested that COVID-19 infection caused ketosis or ketoacidosis, and induced DKA for those patients with diabetes. Ketosis increased the length of hospital stay and mortality. Meanwhile, diabetes increased the length of hospital stay for patients with ketosis but had no effect on their mortality. *Prognosis.* Freely available at: https://dom-pubs.onlinelibrary.wiley.com/doi/epdf/10.1111/dom.14057

Gastroenterology

At a single center in Wuhan, China, 31% of patients with SARS-CoV-2 pneumonia had diarrhea. A significantly higher proportion of patients with diarrhea have virus RNA in stool than patients without diarrhea. Elimination of SARS-CoV-2 from stool takes longer than elimination from the nose and throat. *Retrospective Study.* Freely available at: https://www.cghjournal.org/article/S1542-3565(20)30526-7/pdf

General Interest on COVID-19

The unpredictable nature of the COVID-19 outbreak underlines the need for healthcare managers to maintain vigilance and to be flexible in responding to changing circumstances. Connection across countries and continents has never been so rapid. While this facilitates the international spread of COVID-19, it also allows faster and more effective strategies to contain and treat the virus to be implemented. Healthcare professionals and public health authorities must support evidence-based measures to address COVID-19 and draw on lessons from past outbreaks. *Comment.* Freely available at: https://www.magonlineibrary.com/doi/pdf/10.12968/bjcn.2020.25.4.184

Head and Neck

Medical as well as non-medical practitioners specialized in oral health are at high risk of infection with the Covid-19 Evidence Update, Issue 5  24th April 2020
Coronavirus-19 (Covid-19) because of the proximity with potentially infected biological fluids. This risk is permanent, especially during examination, care and transfer of patients. Regarding the pandemic progression of Covid-19, efficient protocols of prevention are urgently needed. Based on our experience and on the recently reported guidelines from the French National Agency for Public Health (ARS, March 5, 2020), the French Society of Hospital Hygiene (SFHH, March 4, 2020) and the Department of Infectious Risk Prevention of the Hospitals of Paris-Public Assistance (APHP, March 6, 2020), we provide several recommendations for practitioners specialized in oral health, to protect themselves from nosocomial infections, especially Covid-19. Evidence based guideline. Freely available at: https://www.sciencedirect.com/science/article/pii/S2468785520300720?via%3Dihub


Ear, nose and throat (ENT) symptoms may precede the development of severe COVID-19. During COVID-19 pandemic, patients with cough, sore throat, dyspnea, hyposmia/anosmia and a history of travel to the region with confirmed COVID-19 patients, should be considered as potential COVID-19 cases. An otolaryngologist should wear FFP3/N95 mask, glasses, disposable and fluid resistant gloves and gown while examining such individuals. Not urgent ENT surgeries should be postponed. Additional studies analyzing why some patients develop ENT symptoms during COVID-19 and others do not are needed. Further research is needed to determine the mechanism leading to anosmia. Review. Freely available at: https://link.springer.com/article/10.1007/s00405-020-05968-y


In children, incidence of symptomatic COVID-19 (1-5%) is low and of good prognosis. The indications for nasal flexible endoscopy should be drastically limited. If undertaken, full Personal Protective Equipment (PPE) including FFP2 masks are required, as well as use of a sheath. Saline nose wash done by caregivers other than parents at home should require PPE. Unless foreign body tracheobronchial aspiration is clinically obvious, CT-scan should be performed to confirm indication of endoscopy. Surgical indications should be limited to emergencies and to cases that cannot be delayed beyond 2 months (especially endonasal, endopharyngeal laryngo-tracheobronchial procedures). Postponement should ideally be a group decision and recorded as such in the medical file. Surgical techniques should be adapted to limit the risk of viral dissemination in the air, avoiding the use of drills, microdebriders, monopolar cautery or lasers. Continuous suction should be placed near the operating field. In case of confirmed Covid-19 cases, or suspected cases (or in some centres systematically), PPE with FFP2 mask should be worn by all staff members present in the operating room. Evidence based guideline. Freely available at: https://www.sciencedirect.com/science/article/pii/S1879729620301009?via%3Dihub


The rapid rise in endotracheal intubations coupled with prolonged ventilation requirements will certainly lead to an increase in tracheostomy procedures in the coming weeks and months. Performing tracheostomy in the setting of active COV-SARS-CoV-2, when necessary, poses a unique situation, with unique risks and benefits for both the patient and the health care providers. The New York Head and Neck Society has collaborated on this document to provide guidance on the performance of tracheostomies during the SARS-CoV-2 pandemic. Evidence base guideline. Freely available at: https://onlinelibrary.wiley.com/doi/full/10.1002/hed.26166


Tracheostomy-post tracheostomy care are regarded as at high risk for contamination of health care professionals with the new coronavirus (SARS-CoV-2). Considering the rapid spread of the infection, all patients in France must be considered as potentially infected by the virus. Nevertheless, patients without clinical or radiological (CT scan) markers of COVID-19, and with negative nasopharyngeal sample within 24 h of surgery, are at low risk of being infected. Instructions for personal protection include specific wound dressings and decontamination of all material used. The operating room should be ventilated after each tracheostomy and the pressure of the room should be neutral or negative. Percutaneous tracheostomy is to be preferred over surgical cervicotomy in order to reduce aerosolization and to avoid moving patients from the intensive care unit to the operating room. Ventilation must be optimized during the procedure, to limit patient oxygen desaturation. Drug assisted neuromuscular blockade is
advised to reduce coughing during tracheostomy tube insertion. An experienced team is mandatory to secure and accelerate the procedure as well as to reduce risk of contamination. Evidence based guideline. Freely available at: https://www.sciencedirect.com/science/article/pii/S187972962030096X?via%3Dihub

Takhar, A. et al. Recommendations of a practical guideline for safe tracheostomy during the Covid-19 pandemic. European Archive of Oto-Rhino-Laryngology, 21st April 2020. [Epub ahead of print]. The COVID-19 pandemic is placing unprecedented demand upon critical care services for invasive mechanical ventilation. There is current uncertainty regarding the role of tracheostomy for weaning ventilated patients with COVID-19 pneumonia. This is due to a number of factors including prognosis, optimal healthcare resource utilisation, and safety of healthcare workers when performing such a high-risk aerosol-generating procedure. A synthesis of the current international literature and reported experience is presented with respect to prognosis, viral load and staff safety, thus leading to a pragmatic recommendation that tracheostomy is not performed until at least 14 days after endotracheal intubation in COVID-19 patients. Practical steps to minimise aerosol generation in percutaneous tracheostomy are outlined and we describe the process and framework for setting up a dedicated tracheostomy team. Evidence based guideline. Freely available at: https://link.springer.com/article/10.1007%2Fs00405-020-05993-x

Infection Control and Prevention

Maillard, J-Y. et al. Reducing antibiotic prescribing and addressing the global problem of antibiotic resistance by targeted hygiene in the home and everyday life settings: a position paper. American Journal of Infection Control, 17th April 2020. [Epub ahead of print]. Antimicrobial resistance (AMR) continues to threaten global health. Although global and national AMR action plans are in place, infection prevention and control is primarily discussed in the context of healthcare facilities with home and everyday life settings barely addressed. As seen with the recent global SARS-CoV-2 pandemic, everyday hygiene measures can play an important role in containing the threat from infectious microorganisms. This position paper has been developed following a meeting of global experts in London, 2019. It presents evidence that home and community settings are important for infection transmission and also the acquisition and spread of AMR. It also demonstrates that the targeted hygiene approach offers a framework for maximizing protection against colonization and infections, thereby reducing antibiotic prescribing and minimizing selection pressure for the development of antibiotic resistance. If combined with the provision of clean water and sanitation, targeted hygiene can reduce the circulation of resistant bacteria in homes and communities, regardless of a country’s Human Development Index (overall social and economic development). Achieving a reduction of AMR strains in healthcare settings requires a mirrored reduction in the community. The authors call upon national and international policy makers, health agencies and healthcare professionals to further recognize the importance of targeted hygiene in the home and everyday life settings for preventing and controlling infection, in a unified quest to tackle AMR. Review. Freely available at: https://www.ajicjournal.org/article/S0196-6553(20)30209-1/pdf

Mental Health

British Psychological Society. Information on supporting older people and those with dementia during COVID-19. BPS, 9th April 2020. [Online]. Older people and those with dementia are likely to be some of the hardest hit by the current crisis, being most at risk of severe disease if they contract the virus and in many cases advised to stringently self-isolate for the foreseeable future. This document includes guidance for older people on self-isolation, including on how to remain connected and stay active as much as possible during the pandemic. There is also a specific section on the needs of people living with dementia and memory problems, particularly on how to help them to understand and follow Covid-19 advice. Guidance. Freely available at: https://www.bps.org.uk/news-and-policy/information-supporting-older-people-and-those-dementia-during-covid-19

British Psychological Society. The psychological needs of health care staff as a result of the coronavirus pandemic. Guidance. BPS. 31st March 2020. This guide is for leaders and managers of health care services who will need to consider the wellbeing needs of all staff working in health care as a result of the Covid-19 outbreak. It offers practical recommendations for how to

Covid-19 Evidence Update, Issue 5 24th April 2020
respond at individual, management and organisational levels, making best use of expertise from their practitioner psychologist and mental health professionals and anticipates the psychological reactions over time, as well as what people may need to recovery psychologically from this pandemic. Freely available at: https://www.bps.org.uk/sites/www.bps.org.uk/files/News/News%20-%20Files/Psychological%20needs%20of%20healthcare%20staff.pdf

Cowan, K. Survey results: understanding people’s concerns about the mental health impacts of the COVID-19 pandemic. Academy of Medical Sciences, 15th April 2020. [Online]. The Academy of Medical Sciences, together with the research charity MQ: Transforming Mental Health, is working with researchers and those with lived experience to ensure that mental health is at the heart of research into the impacts of Covid-19. This report describes the findings of a consultation undertaken in late March 2020, the week that the prime minister announced the UK lockdown in response to the Covid-19 pandemic. Survey. Freely Available at: https://acmedsci.ac.uk/file-download/99436893

Grant, L. and Kinman, G. Developing emotional resilience and wellbeing: a practical guide for social workers. The Community Care Inform Team, 20th April 2020. At the time of publishing this guide, practitioners are concerned about their lack of personal protective equipment putting service users at risks, as well as themselves and their families. They are also telling Community Care about difficulties managing work when colleagues are self-isolating or sick. The worries being voiced most loudly are about the impact on vulnerable children and adults. Domestic abuse, child maltreatment and mental health problems could be worsened by the crisis, and meeting the care and support needs of disabled and older people must be managed while adhering to government guidance on social distancing. In this rapidly changing landscape, we know that different pressures may emerge in the coming weeks. Guideline. Freely available at: https://markallenassets.blob.core.windows.net/communitycare/2020/04/Community-Care-Inform-emotional-resilience-guide.pdf


Obstetrics and Gynaecology

Di Mascio, D. et al. Outcomes of coronavirus spectrum infections (SARS, MERS, COVID1-19) during pregnancy: a systematic review and meta-analysis. American Journal of Obstetrics and Gynecology MFM, 25th March 2020. [Online]. The aim of this systematic review was to report pregnancy and perinatal outcomes of Coronavirus (CoV) spectrum infections, and particularly COVID-19 disease due to SARS-COV-2 infection during pregnancy. In mothers infected with coronavirus infections, including COVID-19, >90% of whom also had pneumonia, PTB is the most common adverse pregnancy outcome. Miscarriage, preeclampsia, cesarean, and perinatal death (7-11%) were also more common than in the general population. There have been no published cases of clinical evidence of vertical transmission. Evidence is accumulating rapidly, so these data may need to be updated soon. The findings from this study can guide and enhance prenatal counseling of women with COVID-19 infection occurring during pregnancy. Systematic review. Meta-analysis. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7104131/

Gatta, A.N.D. et al. COVID19 during pregnancy: a systematic review of reported cases. American Journal of Obstetric Gynaecology, 7th April 2020. [Epub ahead of print]. Although vertical transmission of SARS-Cov2 has been excluded thus far and the outcome for mothers and fetuses has been generally good, the high rate of preterm cesarean delivery is a reason for concern. These interventions were typically elective, and it is reasonable to question whether they were warranted or not. COVID-19 associated with respiratory insufficiency in late pregnancies certainly creates a complex clinical scenario. Systematic review Freely available at: https://www.ajog.org/article/S0002-9378(20)30438-5/pdf

The pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has exposed vulnerable populations to an unprecedented global health crisis. The knowledge gained from previous human coronavirus outbreaks suggests that pregnant women and their fetuses are particularly susceptible to poor outcomes. The objective of this study was to summarize the clinical manifestations and maternal and perinatal outcomes of COVID-19 during pregnancy. Although the majority of mothers were discharged without any major complications, severe maternal morbidity as a result of COVID-19 and perinatal deaths were reported. Vertical transmission of the COVID-19 could not be ruled out. Careful monitoring of pregnancies with COVID-19 and measures to prevent neonatal infection are warranted. Systematic review. Freely available at: https://obgyn.onlinelibrary.wiley.com/doi/full/10.1111/aogs.13867

Ophthalmology


The authors of this article have attempted to collect the most up-to-date information on ophthalmic manifestations of COVID-19 as a resource for identifying symptoms, providing diagnostic pearls, and mitigating transmission. Review. Freely available at: https://www.ncbi.nlm.nih.gov/books/NBK556093/


Challenges in different care settings in our ophthalmology practice have been identified and analyzed with practical solutions and guidelines implemented in anticipation of these challenges. First, to minimize cross-infection of COVID-19, stringent infection control measures were set up. These include personal protective equipment (PPE) for healthcare workers and routine cleaning of "high-touch" surfaces. Second, for outpatient care, a stringent dual screening and triaging process were carried out to identify high-risk patients, with proper isolation for such patients. Administrative measures to lower patient attendance and reschedule appointments were carried out. Third, inpatient and outpatient care were separated to minimize interactions. Last but not least, logistics and manpower plans were drawn up in anticipation of resource demands and measures to improve the mental well-being of staff were implemented. Evidence based guideline. Freely available at: https://link.springer.com/article/10.1007/s00417-020-04682-z

Paediatric and Neonatal Care


The search identified 45 relevant scientific papers and letters. The review showed that children have so far accounted for 1%-5% of diagnosed COVID-19 cases, they often have milder disease than adults and deaths have been extremely rare. Diagnostic findings have been similar to adults, with fever and respiratory symptoms being prevalent, but fewer children seem to have developed severe pneumonia. Elevated inflammatory markers were less common in children, and lymphocytopenia seemed rare. Newborn infants have developed symptomatic COVID-19, but evidence of vertical intrauterine transmission was scarce. Suggested treatment included providing oxygen, inhalations, nutritional support and maintaining fluids and electrolyte balances. Freely available at: https://onlinelibrary.wiley.com/doi/full/10.1111/apa.15270


As the 2019 novel coronavirus disease (COVID-19) rapidly spread across China and to more than 70 countries, an increasing number of pregnant women were affected. The vertical transmission potential of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is of great concern to the obstetrics, neonatologists, and public health agencies. Though some studies indicated the risk of vertical transmission is low, few cases have been reported with comprehensive serial tests from multiple specimens. In this case, a female preterm infant was born to a mother with confirmed COVID-19. She presented with mild respiratory distress and received general management and a short
period of nasal continuous positive airway pressure support. During her stay at the hospital, a series of SARS-CoV-2 nucleic test from her throat and anal swab, serum, bronchoalveolar lavage fluid, and urine were negative. The nucleic acid test from the mother’s amniotic fluid, vaginal secretions, cord blood, placenta, serum, anal swab, and breast milk were also negative. The most comprehensively tested case reported to date confirmed that the vertical transmission of COVID is unlikely, but still, more evidence is needed. Review. Freely available at: https://www.sciencedirect.com/science/article/pii/S1876034120304391?via%3Dihub

A recent cluster of pneumonia cases in China was caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). We report the screening and diagnosis of corona virus disease 2019 (COVID-19) in our hospital. Diagnosis. Freely available at: http://atm.amegroups.com/article/view/37468/html

SARS-CoV, MERS-CoV and SARS-CoV-2 infections seem to affect children less commonly and less severely as compared with adults. This might be because children are less frequently exposed to the main sources of transmission (which until now has been disproportionally nosocomial) or because they are less exposed to animals. However, it could also be that children are less frequently symptomatic or have less severe symptoms and are therefore less often tested, leading to an underestimate of the true numbers infected. In relation to SARS-CoV-2, a study prepublished in early March 2020 suggests that children are just as likely as adults to become infected with this virus but are less likely to be symptomatic or develop severe symptoms. However, the importance of children in transmitting the virus remains uncertain. The majority of children infected by a novel CoVs reported thus far have a documented household contact, often showing symptoms before them, suggesting the possibility that children are not an important reservoir for novel CoVs. The clinical, laboratory and radiologic features in children are similar for all novel CoVs, except more children infected with SARS-CoV presented with fever compared with SARS-CoV-2 or MERS-CoV. To date, no deaths in children have been reported for SARS-CoV or SARS-CoV-2, except (in the case of the former) for infants of mothers who were infected during pregnancy. Review. Freely available at: https://journals.lww.com/pidj/FullText/2020/05000/Coronavirus_Infections_in_Children_Including.1.aspx

Personal Protective Equipment

Respiratory protective devices are critical in protecting against infection in health care workers at high risk of novel 2019 coronavirus disease (COVID-19); however, recommendations are conflicting and epidemiological data on their relative effectiveness against COVID-19 are limited. Low certainty evidence suggests that medical masks and N95 respirators offer similar protection against viral respiratory infection including coronavirus in health care workers during non-aerosol generating care. Preservation of N95 respirators for high-risk, aerosol generating procedures in this pandemic should be considered when in short supply. Systematic review. Freely available at: https://onlinelibrary.wiley.com/doi/full/10.1111/irv.12745

Pharmacy

Radiology and Radiotherapy

Buscombe, J.R. et al. COVID-19: guidance for infection prevention and control in nuclear medicine. Nuclear Medicine Communications, 15th April 2020. [Epub ahead of print]. This guidance document is a brief consensus document covering the range and breadth of nuclear medicine practice in the UK, and identifies a few steps individual nuclear medicine practitioners and departments can take in the best interests of their patients. This guidance document should be used to inform local practice and does not replace local Trust policies or any relevant legislation. At all times, the best interests of the patients should be paramount. Please read this guidance in conjunction with previous editorial (COVID-19: Nuclear Medicine Departments, be prepared! by Huang HL, Allie R, Gnanasegaran G, Bomanji. J Nucl Med Commun 2020; 41:297-299). Although some aspects of this guidance are time-sensitive due to the nature of the global emergency, we believe that there is still sufficient information to provide some key guiding principles. Evidence based guideline. Abstract only at: https://journals.lww.com/nuclearmedicinecomm/Abstract/9000/COVID_19_guidance_for_infection_prevention_and_98255.aspx

Kim, H., Hong, H. and Yoon, SH. Diagnostic performance of CT and reverse transcriptase-polymerase chain reaction for coronavirus disease 2019: a meta-analysis. Radiology, 17th April 2020. [Epub ahead of print]. To perform a meta-analysis to evaluate diagnostic performance measures, including predictive values, of chest CT and initial reverse transcriptase-polymerase chain reaction (RT-PCR). Outside of China where there is a low-prevalence of COVID-19 (1-22.9%), chest CT screening of patients with suspected disease had low positive predictive value (1.5-30.7%). Chest computed tomography scans for the primary screening or diagnosis of coronavirus disease 2019 would not be beneficial in a low-prevalence region due to the substantial rate of false-positives. Meta-Analysis. Freely available at: https://pubs.rsna.org/doi/pdf/10.1148/radiol.2020201343


Shi, F. et al. Review of artificial intelligence techniques in imaging data acquisition, segmentation and diagnosis for COVID-19. IEE Review of Biomedical Engineering, 16th April 2020. [Epub ahead of print]. Medical imaging such as X-ray and computed tomography (CT) plays an essential role in the global fight against COVID-19, whereas the recently emerging artificial intelligence (AI) technologies further strengthen the power of the imaging tools and help medical specialists. We hereby review the rapid responses in the community of medical imaging (empowered by AI) toward COVID-19. For example, AI-empowered image acquisition can significantly help automate the scanning procedure and also reshape the workflow with minimal contact to patients, providing the best protection to the imaging technicians. Also, AI can improve work efficiency by accurate delineation of infections in X-ray and CT images, facilitating subsequent quantification. Moreover, the computer-aided platforms help radiologists make clinical decisions, i.e., for disease diagnosis, tracking, and prognosis. In this review paper, we thus cover the entire pipeline of medical imaging and analysis techniques involved with COVID-19, including image acquisition, segmentation, diagnosis, and follow-up. We particularly focus on the integration of AI with X-ray and CT, both of which are widely used in the frontline hospitals, in order to depict the latest progress of medical imaging and radiology fighting against COVID-19. Review. Abstract only at: https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=4664312

Surgery

Hefferman, D.S. et al. Surgical Infection Society guidance for operative and peri-operative care of adults infected by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). Surgical Infections, 20th April 2020. [Epub ahead of print]. This guidance will facilitate appropriate protection of patients and staff, and maintenance of infection control measures to assist surgical personnel and facilities to prepare for COVID-19-infected adult patients requiring urgent or emergent Covid-19 Evidence Update, Issue 5 24th April 2020

**Telehealth Care and Digital Technologies**

Health Tech Newspaper. Guy’s and St Thomas’ launch 3D printing farm. HTN, 22nd April 2020. [Online].

A new 3D printing farm has delivered its first face shields at Guy’s and St Thomas’ NHS FT. The trust, in collaboration with 3D companies and enthusiasts, has produced face shields to be worn by frontline staff, using 3D printing technology. Using over 200 printers around the clock, the trust said it is able to produce roughly 1,500 shields each day. **News.** Freely available at: https://www.thehtn.co.uk/2020/04/22/guys-and-st-thomas-launch-3d-printing-farm/


NHS Digital has announced a new trial to use machine learning techniques to plan and manage COVID-19 treatment resources. The system developed by NHS Digital and University of Cambridge is to help predict the upcoming demand for intensive care (ICU) beds and ventilators needed to treat patients with COVID-19 at individual hospitals and across regions in England. The system called, The COVID 19 Capacity Planning and Analysis System (CPAS), uses data from Public Health England with machine learning techniques developed by data scientists to help support planning and resource management. Four hospitals this week are participating in the pilot to demonstrate its accuracy and support any changes before being rolled-out further. **News.** Freely available at: https://www.thehtn.co.uk/2020/04/20/nhs-digital-launches-trial-for-machine-learning-to-predict-icu-beds-and-ventilator-demand/

Health Tech Newspaper. **NHSX and NHS digital to fast track COVID-19 apps and similar tech.** HTN, 17th April 2020. [Online].

NHSX and NHS Digital are to fast-track and evaluate apps and technology that support the response to COVID-19. The organisations will assess solutions based on its current Digital Assessment Questionnaire, which looks into technical and policy details such as whether the technology is inline with national standards, regulations and industry best practice. The assessment also looks at clinical effectiveness, data protection and how users benefit. In May last year NHS Digital introduced the process to streamline the mechanism and approval process into the NHS Apps Library. **News.** Freely available at: https://www.thehtn.co.uk/2020/04/17/nhsx-and-nhs-digital-to-fast-track-covid-19-tech/

Health Tech Newspaper. **UCL to use supercomputers to research COVID-19.** HTN, 20th April 2020. [Online].

University College London researchers are to use supercomputers to support ‘urgent investigations’ into COVID-19 disease. The aim is to be able to accelerate the development of vaccines and antiviral drugs by using the most powerful supercomputers commonly used for high intensive tasks such as quantum mechanics and climate research. A consortium led by Professor Peter Coveney and his colleagues at the UCL Centre for Computational Science are backed by hundreds of researchers. **News.** Freely available at: https://www.thehtn.co.uk/2020/04/20/ucl-to-use-supercomputers-to-research-covid-19/


Face-to-face consultation is by far the best way to carry out a clinical consultation, but in exceptional circumstances (such as those being faced in the current COVID-19 pandemic), alternative ways of patient interaction should be considered to minimise the risk of exposure and help maintain the safety of the patient and the clinician. An upgrade of telephone consultation could involve video or Skype consultation. This could allow a more objective consultation, although the logistics may be difficult, especially for older patients who may not be familiar with technology or patients who do not have access to the internet. Exceptional circumstances make healthcare professionals reassess novel ways of clinician–patient interaction. These require good planning, a systematic approach and informed decision making. **Guidance.** Freely available at: https://www.magonlinelibrary.com/doi/pdf/10.12968/bjhc.2020.0032
Trauma and Orthopaedics

Morgan, C. et al. The impact of the novel coronavirus on trauma and orthopaedics in the UK: review. British Journal of Hospital Medicine, 10th April 2020. [Epub ahead of print].

At first glance, the novel coronavirus pandemic and orthopaedic surgery appear separate entities. Orthopaedic surgeons are not generally considered front-line staff in terms of the treatment of the disease that the novel coronavirus causes compared with anaesthetic and medical colleagues. However, the impact that the novel coronavirus is likely to have on the musculoskeletal injury burden and the morbidity associated with chronic musculoskeletal disease is significant. This article summarises the strategies currently being developed for the remodelling of orthopaedic services in the UK and the emergency British Orthopaedic Association Standards for Trauma and Orthopaedic guidelines released on 24 March 2020 in managing urgent orthopaedic patients during the novel coronavirus pandemic. Guideline. Freely available at: https://www.magonlineibrary.com/doi/pdf/10.12968/hmed.2020.0137

Treatment, Trials and Vaccines


No therapeutics have yet been proven effective for the treatment of severe illness caused by SARS-CoV-2. In hospitalized adult patients with severe Covid-19, no benefit was observed with lopinavir-ritonavir treatment beyond standard care. Future trials in patients with severe illness may help to confirm or exclude the possibility of a treatment benefit. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7121492/pdf/NEJMoa2001282.pdf


Several antiretroviral drugs are being considered for the treatment of COVID-19, the disease caused by a newly identified coronavirus, (SARS-CoV-2). We systematically reviewed the clinical outcomes of using antiretroviral drugs for the prevention and treatment of coronaviruses and planned clinical trials. On the basis of the available evidence it is uncertain whether LPV/r and other antiretrovirals improve clinical outcomes or prevent infection among patients at high risk of acquiring COVID-19. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7158851/


In sum, the preliminary results suggest that Chloroquine could be an effective and inexpensive option among many proposed therapies, e.g. Lopinavir/Ritonavir. Considering the severe epidemic, short supply of medical resource, the study was limited by small sample size. Although the study is relatively preliminary, it has some implications for the epidemic to the world. It is hoped that this work may encourage larger scale randomized trials to fully evaluate this old drug against COVID-19. In the absence of a specific cure, old drugs such as Chloroquine may be repurposed to fight this novel disease and save lives worldwide. Treatment. Freely available at: https://academic.oup.com/jmcb/article/doi/10.1093/jmcb/mjaa014/5814655


The beginning of the novel SARS-CoV-2 human coronavirus in Wuhan, China, has triggered a worldwide respiratory disease outbreak (COVID-19). By April 07, 2020, SARS-CoV-2 has affected more than 1.36 million people worldwide and caused more than 75,900 deaths. To date, the anti-malaria drug hydroxychloroquine found to be a treatment option for SARS-CoV-2. In addition to supportive treatment, such as oxygen supply in moderate cases and extracorporeal membrane oxygenation in critically ill patients, unique medications for this condition are also under investigation. Here we reviewed the antibody therapy might be an immediate strategy for emergency prophylaxis and SARS-CoV-2 therapy. Review. Freely available at: https://www.sciencedirect.com/science/article/pii/S2052297520300342?via%3Dihub

2020. [Epub ahead of print].
With ongoing global outbreak of coronavirus disease 2019 (COVID-19), management of exposure events is a concern. Long-term care hospitals (LTCHs) are especially vulnerable to cluster outbreaks, since it is difficult to find facilities and healthcare personnel for their separate isolation care in a large outbreak situation. Although several drugs have been proposed as treatment regimens, there are no data on the effectiveness and safety of post-exposure prophylaxis (PEP) for COVID-19. After a large COVID-19 exposure event in a LTCH in Korea, PEP using hydroxychloroquine (HCQ) was conducted to 211 persons including 189 patients and 22 careworkers, whose baseline polymerase chain reaction (PCR) tests for COVID-19 were negative. PEP was completed in 184 (97.4%) patients and 21 (95.5%) careworkers without serious adverse events. At the end of 14 days of quarantine, follow-up PCR tests were all negative. Based on our experience, further clinical studies would be conducted for COVID-19 PEP. Treatment. Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7162746/

Luo, E. et al. Treatment efficacy analysis of traditional Chinese medicine for novel coronavirus pneumonia (COVID-19): an empirical study from Wuhan, Hubei Province, China. Chinese Medicine, 15th April 2020. [Online]. A novel coronavirus was identified in December, 2019 in Wuhan, China, and traditional Chinese medicine (TCM) played an active role in combating the novel coronavirus pneumonia (NCP) caused by this fast-spreading virus COVID-19. Thus, we aimed to explore TCM characteristics of clinical efficacy to NCP, as well as to optimize Qingfei Paidu decoction (QFPDD) and the recommended formulas to NCP by National Health Commission (NHC). TCM has a systematic theoretical understanding on the pathological evolution and a positive clinical efficacy on NCP. The CMs of ISRD improved patients' recovery, suggesting the importance of regulating intestinal function and keeping microenvironmental balance in TCM treatment of NCP. The active compounds from QFPDD and NHC-recommended formulas contribute to recovery of varied disease progresses during TCM treating NCP. Treatment. Freely available at: https://cmjournal.biomedcentral.com/articles/10.1186/s13020-020-00317-x

Mendes, A. Research towards treating COVID-19. British Journal of Community Nursing, 25 (4), 2020, pp. 204-205. [Online]. It is possible that a vaccine may be developed to protect against COVID-19 in due course, although this will likely take up to 2 years to achieve, or 12–18 months at the very. There are also concerns that some vaccines may not be effective against mutated strains of the virus. It is encouraging, nonetheless, that there are 20 vaccines in development, mostly beginning with animal data, and there is one—in the US—that has skipped this step to test its safety and efficacy altogether and has begun human trials. Treatment. Freely available at: https://www.magonlinelibrary.com/doi/pdf/10.12968/bjcn.2020.25.4.204


Shah, S. et al. A systematic review of prophylactic role of chloroquine and hydroxychloroquine in coronavirus (COVID-19). International Journal of Rheumatic Disease, 13th April 2020. [Epub ahead of print]. Different drugs for prophylaxis against COVID-19 including chloroquine (CQ) or hydroxychloroquine (HCQ) have been tried. This study was performed to systematically review the role of CQ and HCQ in preventing the spread of COVID-19. Although pre-clinical results are promising, till date, there is dearth of evidence to support the efficacy of CQ or HCQ in preventing COVID-19. Considering potential safety issues and the likelihood of imparting a false sense of security, prophylaxis with CQ or HCQ against COVID-19 needs to be thoroughly evaluated in observational studies or high quality randomized controlled studies. Systematic review. Freely available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/1756-185X.13842


The administration of HCQ did not result in a higher negative conversion rate but more alleviation of clinical symptoms than SOC alone in patients hospitalized with COVID-19 without receiving antiviral treatment, possibly through anti-inflammatory effects. Adverse events were significantly increase in HCQ recipients but no apparently increase of serious adverse events. This article is a preprint and has not been certified by peer review. It reports new medical research that has yet to be evaluated and should not be used to guide clinical practice. *Prognosis.* Freely available at: https://www.medrxiv.org/content/10.1101/2020.04.10.20060558v1.full.pdf+html


Patients with severe conditions are more likely to require corticosteroids. Corticosteroid use is associated with increased mortality in patients with coronavirus pneumonia. *Treatment.* Freely available at: https://www.journalofinfection.com/article/S0163-4453(20)30191-2/pdf


The purpose of the current systematic review is to evaluate the efficacy of antiviral therapies in treatment of COVID-19. In addition, clinical trials on the efficacy of antiviral therapies in the management of Severe Acute Respiratory Syndrome coronavirus (SARS-Cov) or Middle East Respiratory Syndrome coronavirus (MERS-CoV) have also been reviewed, in order to identify potential treatment options for COVID-19. *Systematic review.* Freely available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7156260/pdf/aaem-8-e45.pdf

**Wounds and Burns**


The Burn Department of our hospital is one of sections with the highest infectious risk of COVID-19. Based on our own experience and the guidelines on the diagnosis and treatment of COVID-19 (7th Version) with other regulations and literature, we describe our experience with suggestions for medical practices for burn units during the COVID-19 outbreak. We hope these experiences and suggestions benefit our international colleagues during the pandemic of the COVID-19. *Evidence based guideline.* Freely available at: https://www.sciencedirect.com/science/article/pii/S0305417920302369?via%3Dihub

The following sources have been searched for evidence published in the previous week.

- American Journal of Medicine
- BMJ
- BMJ Best Practice
- CEBM Oxford
- Cochrane Library
- Google Scholar
- HDAS Databases (Medline, Cinahl etc)
- JAMA
- KnowledgeShare
- LIS-Medical
- Medscape
- New England Journal of Medicine
- NICE Evidence
- NHS Networks

Covid-19 Evidence Update, Issue 5  24th April 2020
Please contact the editors for further information, or if you would like to receive a personal copy of the bulletin via your e-mail.

We hope you find this newsletter useful. Suggestions or comments? E-mail The Editor

If you require a search for information or knowledge with respect to a particular group of patients (e.g. pregnant or elderly, with asthma or psychological illness) please do let us know and we will endeavour to search for you.

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