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Covid -19 Evidence Update

Summarized and appraised resources

3/12/2020

The following resources are available via electronically or in print. Please follow links to access full text online, or contact the library if you have any difficulties with the links.

The resources included in this update are summaries or critically appraised articles.

If you would like a more specific search conducted please email kgh-tr.library.service@nhs.net

Royal College/Society Guidance and Point of Care Tools

Latest information and guidance

NICE Rapid guidelines and evidence summaries Speciality guides (*NHS England and NHS Improvement advice has moved here)*	NHS England and NHS Improvement Secondary care *(Includes Prevention, Infection control, Assessment, Management, Discharge, Isolation, Estates and facilities, Finance, Workforce, Cancer …)*
Royal College of Emergency Medicine Covid-19 resources	Association for Palliative Medicine Covid 19 and Palliative, End of Life and Beareavement Care
Royal College of General Practitioners COVID-19	Royal College of Obstetrics & Gynaecologists Coronavirus (COVID-19), pregnancy and women's health
Royal College of Paediatrics and Child Health Key topics COVID 19	Royal College of Pathologists COVID-19 Resources Hub
Royal College of Psychiatrists COVID-19: Community mental health settings	Royal College of Surgeons COVID 19 Information Hub
Royal Pharmaceutical Society COVID-19	British Society of Echocardiography COVID-19 clinical guidance
British Society of Gastroenterology COVID 19 updates	British Society for Haematology COVID-19 Updates

British Society for Rheumatology COVID-19 updates for members	Combined Intensive Care Society, Association of Anaesthetists, Royal College of Anaesthetists, Faculty of Intensive Care Medicine guidance Clinical Guidance
BMJ Best Practice Coronavirus disease 2019 (COVID-19) Management of coexisting conditions in the context of COVID-19	DynaMed Covid 19 (Novel Coronavirus) Covid-19 and Pediatric Patients Covid 19 and Special Populations Covid-19 and Patients with Cancer Covid-19 and Cardiovascular Disease Patients Covid-19 and Patients with Chronic Kidney Disease and End-stage renal Disease Covid-19 and Pregnant Patients Covid-19-associated Coagulopathy
Don't forget the bubbles An evidence summary of paediatric Covid-19 literature Covid-19 – a seslection of evidence based summaries and articles.	

New NICE Guidance

New COVID-19 rapid guideline on reducing the risk of venous thromboembolism in over 16s

This newly published guideline provides recommendations on reducing the risk of venous thromboembolism in over 16s with COVID-19 pneumonia. It includes patients receiving treatment in hospital or in a community setting such as a 'hospital at home' service or COVID-19 'virtual ward'. The guideline applies to all over 16 patients with COVID-19 pneumonia, including those who have other conditions.

Covid-19 Evidence Alerts from McMaster Plus

COVID-19 Evidence Alerts to current best evidence for clinical care of people with threatened, suspected or confirmed COVID-19 infection. Reports are critically appraised for scientific merit, and those with acceptable scientific merit are appraised for relevance and importance by frontline clinicians. The studies listed below meet their criteria for quality. The site also lists other studies published which do not meet their criteria, or do not belong to a study category they appraise. (More information available).

Diagnosis
Diagnostic accuracy of X-ray versus CT in COVID-19: a propensity-matched database study. *Borakati A, Perera A, Johnson J, et al.* BMJ Open
Seropositivity rate and diagnostic accuracy of serological tests in 2019-nCoV cases: a pooled analysis of individual studies. *Guo CC, Mi JQ, Nie H* Eur Rev Med Pharmacol Sci
Unenhanced computed tomography (CT) utility for triage at the emergency department during COVID-19 pandemic. *Skalidis I, Nguyen VK, Bothorel H, et al.* Am J Emerg Med
Value of chest computed tomography scan in diagnosis of COVID-19; a systematic review and meta-analysis. *Hossein H, Ali KM, Hosseini M, et al.* Clin Transl Imaging
Accuracy of UK Rapid Test Consortium (UK-RTC) "AbC-19 Rapid Test" for detection of previous SARS-CoV-2 infection in key workers: test accuracy study. *Mulchandani R, Jones HE, Taylor-Phillips S, et al.* BMJ
Etiology
The Use of Renin-Angiotensin-Aldosterone System (RAAS) Inhibitors is Associated with a Lower Risk of Mortality in Hypertensive COVID-19 Patients: A Systematic Review and Meta-analysis. *Wang Y, Chen B, Li Y, et al.* J Med Virol
A systematic review and meta-analysis of the use of renin-angiotensin system drugs and COVID-19 clinical outcomes: What is the evidence so far? *Kurdi A, Abutheraa N, Akil L, et al.* Pharmacol Res Perspect
Hydroxychloroquine and QTc prolongation in patients with COVID-19: A systematic review and meta-analysis. *Agstam S, Yadav A, Praveen Kumar M, et al.* Indian Pacing Electrophysiol J
Sodium-glucose-co-transporter-2 inhibitors and susceptibility to COVID-19: a population-based retrospective cohort study. *Sainsbury C, Wang J, Gokhale K, et al.* Diabetes Obes Metab
Primary Prevention
Infectious Diseases Society of America Guidelines on Infection Prevention for Health Care Personnel Caring for Patients with Suspected or Known COVID-19. *Lynch JB, Davitkov P, Anderson DJ, et al.* Clin Infect Dis
Prognosis
Clinical manifestations and perinatal outcomes of pregnant women with COVID-19: a systematic review and meta-analysis. *Yee J, Kim W, Han JM, et al.* Sci Rep
Clinical Prediction Guide
A Biomarker Based Severity Progression Indicator for COVID-19: The Kuwait Prognosis Indicator Score. *Jamal MH, Doi SA, AlYouha S, et al.* Biomarkers
The utility of MEWS for predicting the mortality in the elderly adults with COVID-19: a retrospective cohort study with comparison to other predictive clinical scores. *Wang L, Lv Q, Zhang X, et al.* PeerJ
Treatment

The Outcome of Hydroxychloroquine in Patients Treated for COVID-19: Systematic Review and Meta-Analysis. *Ayele Mega T, Feyissa TM, Dessalegn Bosho D, et al.* Can Respir J
A Randomized Trial of Convalescent Plasma in Covid-19 Severe Pneumonia. *Simonovich VA, Burgos Pratx LD, Scibona P, et al.* N Engl J Med
Critically Ill Patients with COVID-19: A Narrative Review on Prone Position. *Qadri SK, Ng P, Toh TSW, et al.* **Pulm Ther**
Methylprednisolone as Adjunctive Therapy for Patients Hospitalized With COVID-19 (Metcovid): A Randomised, Double-Blind, Phase IIb, Placebo-Controlled Trial. *Jeronimo CMP, Farias MEL, Val FFA, et al.* **Clin Infect Dis**
Hydroxychloroquine for treatment of non-severe COVID-19 patients; systematic review and meta-analysis of controlled clinical trials. *Elsawah HK, Elsokary MA, Elrazzaz MG, et al.* J Med Virol
Efficacy of chloroquine or hydroxychloroquine in COVID-19 patients: a systematic review and meta-analysis. *Kashour Z, Riaz M, Garbati MA, et al.* J Antimicrob Chemother
The Use of Therapeutic-Dose Anticoagulation and Its Effect on Mortality in Patients With COVID-19: A Systematic Review. *Wijaya I, Andhika R, Huang I* Clin Appl Thromb Hemost
Efficacy and Safety of Corticosteroid Treatment in Patients With COVID-19: A Systematic Review and Meta-Analysis. *Cheng W, Li Y, Cui L, et al.* Front Pharmacol

Cochrane Systematic Reviews

Cochrane Evidence on COVID-19: a roundup

Thoracic imaging tests for the diagnosis of COVID-19

We wanted to know whether chest imaging is accurate enough to diagnose COVID-19 in people with suspected infection. This is the first update of this review; in it we included studies in people with suspected COVID-19 only; we excluded studies in people with confirmed COVID-19.

The evidence is up to date to 22 June 2020.

We found 34 studies with 9339 people. All the studies confirmed SARS-CoV-2 infection using RT-PCR alone or RT-PCR with another test.

Most studies (31 studies; 8014 participants) evaluated chest CT; three evaluated chest X-rays (1243 participants) and one evaluated lung ultrasound (100 participants). Nineteen studies took place in Asia, 10 in Europe, four in North America and one in Australia. Participants were hospital inpatients (24 studies), and outpatients (4 studies); the setting was unclear in six studies.

Where four or more studies evaluated a particular type of chest imaging, we pooled their results and analysed them together.

Chest CT

Pooled results showed that chest CT correctly diagnosed COVID-19 in 89.9% of people who had COVID-19. However, it incorrectly identified COVID-19 in 38% of people who did not have COVID-19.

Chest X-ray

Correct diagnosis of COVID-19 with chest X-rays ranged from 57% to 89%. However, incorrect diagnosis of COVID-19 in people who did not have COVID-19 ranged from 11% to 89%.

Lung ultrasound

Lung ultrasound correctly diagnosed COVID-19 in 96% of people with COVID-19. However, it incorrectly diagnosed COVID-19 in 38% of people who did not have COVID-19.

How reliable are the results?

The studies differed from each other and used different methods to report their results. About a quarter of the studies were published as preprints, which do not undergo the same rigorous checks as published studies. We cannot draw confident conclusions based on results from studies in this review.

Authors' conclusions

Implications for practice

The uncertainty resulting from high or unclear risk of bias and the heterogeneity of included studies limit our ability to confidently draw conclusions based on our results. Our findings indicate that chest computed tomography (CT) gives a higher proportion of positive results for patients with a SARS-CoV-2 infection as compared to those without: the chances of getting a positive CT result are 89.9% (95% CI 85.7 to 92.9) in patients with a SARS-CoV-2 infection and 38.9% (95% CI 22.9 to 57.7) in patients without. Due to the limited availability of data, accuracy estimates of chest X-ray and ultrasound of the lungs for the diagnosis of COVID-19 in suspected participants should be carefully interpreted.

Evidence Aid

https://evidenceaid.org/evidence/coronavirus-covid-19/

This evidence collection contains plain-language summaries of high-quality research which are available in English, and translated into French, Spanish, Portuguese, Arabic and Chinese (simplified and traditional).

The collection includes summaries of systematic reviews that might be relevant to the direct impact of COVID-19 (including reviews of emerging research, as well as existing reviews of relevant interventions) on health and other outcomes, the impact of the COVID-19 response on other conditions, and issues to consider for the recovery period after COVID-19.

Telemedicine and telemonitoring for a variety of conditions (multiple reviews)

Added November 29, 2020

What is this? The COVID-19 pandemic is placing a strain on healthcare services. Existing research and recent rapid reviews on the use of telemedicine, including telemonitoring, might provide useful information for policy makers. Several reviews are summarised here. More details on each review, including citations and links to their full text, are available lower down this page.

What was found: Telemedicine, including mHealth tools and telemonitoring, has been successfully applied in various healthcare settings and specialities, and appears satisfactory to both patients and providers. However, the cost-effectiveness of telemedicine interventions is uncertain, partly because of a lack of available data.

At the time of their rapid review, the studies included by Gao (search done on 31 March 2020) reported that telemedicine is an efficient and safe way for the public to consult healthcare professionals on issues related to COVID-19 and SARS. The Ream review (search done in January 2019) found that telephone interventions appear to reduce depression, anxiety, fatigue and emotional distress in adult cancer patients. Two reviews (Agarwal, search done in December 2013; and Braun, search done in June 2012) found positive outcomes from telemedicine in low-resource settings, including general health services such as maternal, child and sexual health services by community health workers, and the use of mHealth by frontline healthcare workers resulting in improved data collection. Two reviews assessed telemedicine for chronic obstructive pulmonary disease (COPD). The Hong review (search done in April 2017) found that telemonitoring of COPD patients reduced emergency room visits and hospitalisations, improved patients' mental health quality of life, and that integrated telemonitoring, which includes self-management education and teleconsultation, is more effective than only telemonitoring vital signs. The Kruse review (search done in February 2017) reported mixed results for the effects of telemonitoring, with important barriers including low-quality data, increased workload for providers and cost. The Pradhan review (search done in 2018) found that technology and Web-based interventions were effective in the primary prevention of substance abuse. The Ning review (search done in May 2019) found high patient and provider satisfaction with telemedicine in otolaryngology.

The Odendaal review (search done in January 2018) found that healthcare workers felt that the use of mHealth allowed them to better coordinate and provide higher quality care, and could improve supervision and enable them to work more flexibly, take on new tasks and overcome geographical barriers.

The Eichberg review (search done on 5 April 2020) reported that technology challenges were the most frequent barrier to a successful telemedicine consultation.

Environmental measures to prevent transmission of infectious diseases (multiple reviews)

Added November 23, 2020

What is this? Environmental measures (of interventions as varied as cleaning of surfaces and border controls) are among the non-pharmaceutical interventions being used to minimise transmission of COVID-19. Several reviews are summarised here, with more details, including citations and links to the full reviews, available further down this page.

What was found: Several environmental interventions have been studied, including the cleaning of surfaces and objects cleaning, closures of hospital wards, border controls and closures of schools (which is covered in a separate summary.
The Xiao review (search done in August 2018) did not find evidence of a major effect of surface or object cleaning on transmission of influenza.The Wong review (search done in July 2014) concluded that whether ward closures are effective at controlling outbreaks of infectious diseases is uncertain because of the lack of controlled studies.The Saunders-Hasting review (search done in July 2016) concluded that whether border controls are effective at controlling outbreaks of infectious diseases is uncertain due to insufficient evidence.
The Jefferson review (search done in October 2010) concluded that whether screening at ports of entry is effective at controlling outbreaks of infectious diseases is uncertain due to insufficient evidence.

Isolation and quarantine to prevent transmission of infectious diseases (multiple reviews)

Added November 23, 2020

What is this? Isolation and quarantine are among the non-pharmaceutical interventions being used to minimise transmission of COVID-19. Several reviews are summarised here, with more details, including citations and links to the full reviews, available further down this page.
What was found: The Jefferson review (search done in October 2010) found that isolation of patients in hospital wards or at home can be effective in reducing the spread of respiratory viruses and the Baharoon review (search done before October 2019) found that early identification and isolation of MERS patients may have prevented transmission in healthcare facilities and in the community. However, the Teasdale review (search done in February 2013) found that people were ambivalent about adopting isolation in some contexts, because of its perceived adverse impact and potential social stigma.
At the time of their rapid review, the modelling studies included by Nussbaumer-Streit et al. (search done on 23 June 2020) consistently reported a benefit of simulated quarantine measures for reducing transmission of coronaviruses. They concluded that early implementation of quarantine and combining it with other public health measures is important for its effectiveness.
At the time of their rapid review, the studies included by Webster et al. (search done on 30 January 2020) showed that the main influencers of adherence to quarantine were a person's knowledge about the disease and quarantine procedure, social norms, perceived benefits of quarantine and perceived risk of the disease, and practical issues (such as running out of supplies or the financial consequences of being out of work).
The Fong review (search done in November 2018) found limited evidence that measures such as isolating ill individuals and quarantining of exposed individuals were effective interventions to reduce transmission in influenza pandemics.

Hygiene measures to prevent transmission of infectious diseases (multiple reviews)

Added November 23, 2020

What is this? Hygiene measures (such as hand washing) are among the non-pharmaceutical interventions being used to minimise transmission of COVID-19. Several reviews are summarised here, with more details, including citations and links to the full reviews, available further down this page.
What was found: The Jefferson review (search done in April 2020) found that hand hygiene has a modest effect as a physical intervention to interrupt the spread of respiratory viruses. Similar findings were reported in the Xiao review (search done in August 2018), which did not find evidence of a major effect of hand hygiene measures, or of surface or object cleaning, on transmission rates of influenza.
The Teasdale review (search done in February 2013) found that people viewed hand hygiene, as well as respiratory hygiene, as familiar and socially responsible actions.
The Smith review (search done in February 2014) found that gargling povidone-iodine lowered overall upper respiratory tract infection rates but did not lower the risk of influenza.
The Baharoon review (search done before October 2019) reported that lapses in infection control measures within healthcare facilities were an important factor in relation to the transmission of MERS.
None of these reviews provided evidence on respiratory hygiene interventions.

Cost effectiveness of non-pharmaceutical measures to prevent transmission of respiratory viruses (multiple reviews)

Added November 23, 2020

What is this? Non-pharmaceutical interventions are important control measures for minimizing transmission of respiratory viruses. Several reviews of their cost effectiveness are summarised here, with more details, including citations and links to the full reviews, available further down this page.
What was found: The Pérez Velasco review (search done in September 2011) found that a combination of pharmaceutical and non-pharmaceutical interventions, including social distancing and school closures, are cost effective for influenza pandemics. At the same time, the Lee review (search done in September 2011) also concluded that the use of physical interventions to prevent transmission of respiratory viruses appear to be cost effective during an epidemic or pandemic.
One included study in the Saunders-Hastings review (search done in July 2016) reported that social distancing and school closure are likely to be cost-effective in all settings, but noted that quarantine was not cost effective in any of the studied settings.

Chest CT scan findings among COVID-19 patients (search done on 7 April 2020)

Added November 23, 2020

Citation: Ojha V, Mani A, Pandey NN, et al. *CT in coronavirus disease 2019 (COVID-19): a systematic review of chest CT findings in 4410 adult patients*. European Radiology. 2020 Nov:30(11):6129-38.
What is this? Information is needed on the diagnostic features of COVID-19, such as the findings from chest computerized tomography (CT) scans.
In this rapid review, the authors searched for studies of chest CT findings for adults with COVID-19. They restricted their searches to articles published in English between 1 January 2020 and 7 April 2020. They included 45 studies (total: 4733 CT scans from 4410 patients) from China (40 studies), Italy (1), Japan (3) and South Korea (1).
What was found: At the time of this review, the included studies showed that CT imaging show typical patterns of imaging manifestations that might be used to diagnose COVID-19 and help in the early diagnosis, stratification and initial follow-up of COVID-19 patients.
At the time of this review, the included studies showed that ground glass opacities (GGOs) were the most common major pattern across all chest CT findings in adults with COVID-19.
At the time of this review, the included studies showed that younger people had more GGOs and older people and those with more severe disease had more extensive involvement with consolidations.
At the time of this review, the included studies found that the peak of the CT lesions was reached around 10 or 11 days after symptom onset before gradually resolving or persisting as patchy fibrosis up to 4 weeks.

Dynamed - COVID-19 (Novel Coronavirus)

Latest updates

3 DEC 2020
addition of mask recommendation to other public health measures might not reduce risk of SARS-CoV-2 infection over 1 month in healthy adults in Denmark (Ann Intern Med 2020 Nov 18 early online)
View in topic

25 NOV 2020
working in more confined conditions associated with increased risk of COVID-19 compared to combination of open-air and confined conditions in crew members on board aircraft carrier (N Engl J Med 2020 Nov 11 early online)
View in topic

25 NOV 2020
FDA issues Emergency Use Authorization for casirivimab and imdevimab combination therapy for treatment of mild to moderate COVID-19 in persons ≥ 12 years old and weighing ≥ 40 kg who are at high risk for progressing to severe COVID-19 and/or hospitalization (FDA Press Release 2020 Nov 21)
View in topic

23 NOV 2020
FDA issues Emergency Use Authorization for baricitinib (Olumiant) in combination with remdesivir (Veklury) for treatment of suspected or laboratory-confirmed COVID-19 in hospitalized adults and pediatric patients ≥ 2 years old requiring supplemental oxygen, invasive mechanical ventilation, or extracorporeal membrane oxygenation (ECMO) (FDA Press Release 2020 Nov 19)
View in topic

23 NOV 2020
thiopurine monotherapy, combination TNF antagonist plus thiopurine therapy, and mesalamine/sulfasalazine therapy each associated with increased risk of severe COVID-19 compared to TNF antagonist monotherapy in patients with inflammatory bowel disease and confirmed COVID-19 (Gut 2020 Oct 20 early online)
View in topic

Useful Links

BMJ – latest news and resources for COVID-19

Cochrane Library **Coronavirus (COVID-19): evidence relevant to critical care**

Elsevier - Novel Coronavirus Information Center – Elsevier

European Centre for Disease Prevention and Control

GOV.UK

Health protection Scotland

New England Journal of Medicine

NHS UK

Oxford University Press

Patient.Info

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