

# Covid -19 Evidence Update

## Summarized and appraised resources

### 15/10/2020

*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](mailto:kgh-tr.library.service@nhs.net)

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# Royal College/Society Guidance

## Latest information and guidance

NICE <a href="#">Rapid guidelines and evidence summaries</a>	NHS England and NHS Improvement <a href="#">Advice for clinicians in secondary care</a> <i>(Includes Prevention, Infection control, Assessment, Management, Discharge, Isolation, Speciality guides, Estates and facilities, Finance ...)</i>
Royal College of Emergency Medicine <a href="#">Covid-19 resources</a>	Association for Palliative Medicine <a href="#">Covid 19 and Palliative, End of Life and Bereavement Care</a>
Royal College of General Practitioners <a href="#">COVID-19</a>	Royal College of Obstetrics & Gynaecologists <a href="#">Coronavirus (COVID-19), pregnancy and women's health</a>
Royal College of Paediatrics and Child Health <a href="#">Key topics COVID 19</a>	Royal College of Pathologists <a href="#">COVID-19 Resources Hub</a>
Royal College of Psychiatrists <a href="#">COVID-19: Community mental health settings</a>	Royal College of Surgeons <a href="#">COVID 19 Information Hub</a>
Royal Pharmaceutical Society <a href="#">COVID-19</a>	British Society of Echocardiography <a href="#">COVID-19 clinical guidance</a>
British Society of Gastroenterology <a href="#">COVID 19 updates</a>	British Society for Haematology <a href="#">COVID-19 Updates</a>
British Society for Rheumatology <a href="#">COVID-19 updates for members</a>	Combined Intensive Care Society, Association of Anaesthetists, Royal College of Anaesthetists, Faculty of Intensive Care Medicine guidance <a href="#">Clinical Guidance</a>

## 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.

Diagnosis
<a href="#">COVID-19 pneumonia: high diagnostic accuracy of chest CT in patients with intermediate clinical probability.</a> <i>Brun AL, Gence-Breney A, Trichereau J, et al. Eur Radiol</i>
<a href="#">Effectiveness of tests to detect the presence of SARS-CoV-2 virus, and antibodies to SARS-CoV-2, to inform COVID-19 diagnosis: a rapid systematic review.</a> <i>Jarrom D, Elston L, Washington J, et al. BMJ Evid Based Med</i>
<a href="#">Diagnostic accuracy and interobserver variability of CO-RADS in patients with suspected coronavirus disease-2019: a multireader validation study.</a> <i>Bellini D, Panvini N, Rengo M, et al. Eur Radiol</i>
<a href="#">Assessing a novel, lab-free, point-of-care test for SARS-CoV-2 (CovidNudge): a diagnostic accuracy study.</a> <i>Gibani MM, Toumazou C, Sohbaty M, et al. Lancet Microbe</i>
<a href="#">COVID-19 pneumonia: Diagnostic and prognostic role of CT based on a retrospective analysis of 214 consecutive patients from Paris, France.</a> <i>Guillo E, Bedmar Gomez I, Dangeard S, et al. Eur J Radiol</i>
<a href="#">Sensitivity, Specificity and Predictive Values of Molecular and Serological Tests for COVID-19: A Longitudinal Study in Emergency Room.</a> <i>Bisoffi Z, Pomari E, Deiana M, et al. Diagnostics (Basel)</i>
<a href="#">Chest CT for rapid triage of patients in multiple emergency departments during COVID-19 epidemic: experience report from a large French university hospital.</a> <i>Ducray V, Vlachomitrou AS, Bouscambert-Duchamp M, et al. Eur Radiol</i>
Etiology
<a href="#">Renin-angiotensin-aldosterone System Inhibitors and Risks of SARS-CoV-2 Infection: A Systematic Review and Meta-analysis.</a> <i>Chan CK, Huang YS, Liao HW, et al. Hypertension</i>
<a href="#">Effect of Renin-Angiotensin-Aldosterone System Inhibitors in Patients with COVID-19: a Systematic Review and Meta-analysis of 28,872 Patients.</a> <i>Baral R, White M, Vassiliou VS Curr Atheroscler Rep</i>
<a href="#">Renin-Angiotensin-Aldosterone System Inhibitors and Risk of Death in Patients Hospitalised with COVID-19: A Retrospective Italian Cohort Study of 43,000 Patients.</a> <i>Trifiro G, Massari M, Da Cas R, et al. Drug Saf</i>
<a href="#">Association of renin-angiotensin-aldosterone system inhibitors with COVID-19-related outcomes in Korea: a nationwide population-based cohort study.</a> <i>Jung SY, Choi JC, You SH, et al. Clin Infect Dis</i>
Prognosis
<a href="#">Clinical Features and Outcome of SARS-CoV-2 Infection in Neonates: A Systematic Review.</a> <i>Dhir SK, Kumar J, Meena J, et al. J Trop Pediatr</i>
<a href="#">Vertical Transmission of COVID-19: A Systematic Review and Meta-analysis.</a> <i>Kotlyar A, Grechukhina O, Chen A, et al. Am J Obstet Gynecol</i>
<a href="#">Clinical features of neonates born to mothers with coronavirus disease-2019: A systematic review of 105 neonates.</a> <i>Chi H, Chiu NC, Tai YL, et al. J Microbiol Immunol Infect</i>
<a href="#">SARS-CoV-2 infection in pregnancy: A systematic review and meta-analysis of clinical features and pregnancy outcomes.</a> <i>Khalil A, Kalafat E, Benlioglu C, et al. EClinicalMedicine</i>
<a href="#">Clinical characteristics, prognostic factors, and maternal and neonatal outcomes of SARS-CoV-2</a>

<p><a href="#">infection among hospitalized pregnant women: a systematic review.</a> Turan O, Hakim A, Dashraath P, et al. <b>Int J Gynaecol Obstet</b></p>
<p><a href="#">Clinical manifestations, risk factors, and maternal and perinatal outcomes of coronavirus disease 2019 in pregnancy: living systematic review and meta-analysis.</a> Allotey J, Stallings E, Bonet M, et al. <b>BMJ</b></p>
<p><b>Clinical Prediction Guide</b></p>
<p><a href="#">Development and Validation of the Quick COVID-19 Severity Index: A Prognostic Tool for Early Clinical Decompensation.</a> Haimovich AD, Ravindra NG, Stoytchev S, et al. <b>Ann Emerg Med</b></p>
<p><a href="#">Development and validation of a prediction model for severe respiratory failure in hospitalized patients with SARS-Cov-2 infection: a multicenter cohort study (PREDI-CO study).</a> <b>Bartoletti M, Giannella M, Scudeller L, et al. Clin Microbiol Infect</b></p>
<p><a href="#">Clinical and laboratory predictors of in-hospital mortality in patients with COVID-19: a cohort study in Wuhan, China.</a> Wang K, Zuo P, Liu Y, et al. <b>Clin Infect Dis</b></p>
<p><a href="#">Performance of Two Risk-Stratification Models in Hospitalized Patients With Coronavirus Disease.</a> Xu R, Hou K, Zhang K, et al. <b>Front Med (Lausanne)</b></p>
<p><b>Primary Prevention</b></p>
<p><a href="#">Efficacy and Safety of Hydroxychloroquine vs Placebo for Pre-exposure SARS-CoV-2 Prophylaxis Among Health Care Workers: A Randomized Clinical Trial.</a> Abella BS, Jolkovsky EL, Biney BT, et al. <b>JAMA Intern Med</b></p>
<p><a href="#">Effectiveness of the use of non-woven face mask to prevent coronavirus infections in the general population: a rapid systematic review.</a> Camargo MC, Martinez-Silveira MS, Lima AA, et al. <b>Cien Saude Colet</b></p>
<p><b>Treatment</b></p>
<p><a href="#">Chinese medical drugs for coronavirus disease 2019: A systematic review and meta-analysis.</a> Pang W, Liu Z, Li N, et al. <b>Integr Med Res</b></p>
<p><a href="#">Interferon beta-1b in treatment of severe COVID-19: A randomized clinical trial.</a> Rahmani H, Davoudi-Monfared E, Nourian A, et al. <b>Int Immunopharmacol</b></p>
<p><a href="#">Exploring Repurposing Potential of Existing Drugs in the Management of COVID-19 Epidemic: A Critical Review.</a> Chakraborty D, Debnath F, Biswas S, et al. <b>J Clin Med Res</b></p>
<p><a href="#">NSafety and Effectiveness of Azithromycin in Patients with COVID-19: an open-label randomized trial.</a> Sekhavati E, Jafari F, SeyedAlinaghi S, et al. <b>Int J Antimicrob Agents</b></p>
<p><a href="#">Efficacy of various treatment modalities for nCOV-2019: a systematic review and meta-analysis.</a> Misra S, Nath M, Hadda V, et al. <b>Eur J Clin Invest</b></p>
<p><a href="#">Convalescent plasma a clutch at straws in COVID-19 management! A systematic review and meta-analysis.</a> Sarkar S, Soni KD, Khanna P <b>J Med Virol</b></p>
<p><a href="#">Effect of hydroxychloroquine with or without azithromycin on the mortality of COVID-19 patients: a systematic review and meta-analysis.</a> Fiolet T, Guihur A, Rebeaud M, et al. <b>Clin Microbiol Infect</b></p>
<p><a href="#">Efficacy and Safety of Anti-malarial Drugs (Chloroquine and Hydroxy-Chloroquine) in Treatment of COVID-19 Infection: A Systematic Review and Meta-Analysis.</a> Das RR, Jaiswal N, Dev N, et al. <b>Front Med (Lausanne)</b></p>
<p><a href="#">Therapeutic versus prophylactic anticoagulation for severe COVID-19: A randomized phase II clinical trial (HESACOVID).</a> Lemos ACB, do Espirito Santo DA, Salvetti MC, et al. <b>Thromb Res</b></p>
<p><a href="#">"Effect of Calcifediol Treatment and best Available Therapy versus best Available Therapy on Intensive Care Unit Admission and Mortality Among Patients Hospitalized for COVID-19: A Pilot Randomized Clinical study".</a> Castillo ME, Entrenas Costa LM, Vaquero Barrios JM, et al. <b>J Steroid Biochem Mol Biol</b></p>
<p><a href="#">Is there any potential management against COVID-19? A systematic review and meta-analysis.</a></p>

<p><a href="#">Talaie H, Hosseini SM, Nazari M, et al. Daru</a></p> <p><a href="#">Effect of Recombinant Human Granulocyte Colony-Stimulating Factor for Patients With Coronavirus Disease 2019 (COVID-19) and Lymphopenia: A Randomized Clinical Trial.</a></p> <p><i>Cheng LL, Guan WJ, Duan CY, et al. JAMA Intern Med</i></p>
<p><a href="#">Systematic and Statistical Review of Coronavirus Disease 19 Treatment Trials.</a></p> <p><i>Siordia JA Jr, Bernaba M, Yoshino K, et al. SN Compr Clin Med</i></p>
<p><a href="#">Effect of Dexamethasone on Days Alive and Ventilator-Free in Patients With Moderate or Severe Acute Respiratory Distress Syndrome and COVID-19: The CoDEX Randomized Clinical Trial.</a></p> <p><i>Tomazini BM, Maia IS, Cavalcanti AB, et al. JAMA</i></p>
<p><a href="#">Efficacy and Safety of Lopinavir/Ritonavir or Arbidol in Adult Patients with Mild/Moderate COVID-19: An Exploratory Randomized Controlled Trial.</a></p> <p><i>Li Y, Xie Z, Lin W, et al. Med (N Y)</i></p>
<p><a href="#">Azithromycin in addition to standard of care versus standard of care alone in the treatment of patients admitted to the hospital with severe COVID-19 in Brazil (COALITION II): a randomised clinical trial.</a></p> <p><i>Furtado RHM, Berwanger O, Fonseca HA, et al. Lancet</i></p>
<p><a href="#">Safety and Efficacy of Hydroxychloroquine in COVID-19: A Systematic Review and Meta-Analysis.</a></p> <p><i>Ullah W, M Abdullah H, Roomi S, et al. J Clin Med Res</i></p>
<p><a href="#">Hydroxychloroquine in the Treatment of COVID-19: A Multicenter Randomized Controlled Study.</a></p> <p><i>Abd-Elsalam S, Esmail ES, Khalaf M, et al. Am J Trop Med Hyg</i></p>
<p><a href="#">Effect of Hydrocortisone on 21-Day Mortality or Respiratory Support Among Critically Ill Patients With COVID-19: A Randomized Clinical Trial.</a></p> <p><i>Dequin PF, Heming N, Meziani F, et al. JAMA</i></p>
<p><a href="#">Effect of Hydrocortisone on Mortality and Organ Support in Patients With Severe COVID-19: The REMAP-CAP COVID-19 Corticosteroid Domain Randomized Clinical Trial.</a></p> <p><i>Angus DC, Derde L, Al-Beidh F, et al. JAMA</i></p>
<p><a href="#">Oxygen targets in the intensive care unit during mechanical ventilation for acute respiratory distress syndrome: a rapid review.</a></p> <p><i>Cumpstey AF, Oldman AH, Smith AF, et al. Cochrane Database Syst Rev</i></p>
<p><a href="#">A living WHO guideline on drugs for covid-19.</a></p> <p><i>Lamontagne F, Agoritsas T, Macdonald H, et al. BMJ</i></p>

### [Interventions to reduce contaminated aerosols produced during dental procedures for preventing infectious diseases](#)

Sumanth Kumbargere Nagraj, Prashanti Eachempati, Martha Paisi, Mona Nasser, Gowri Sivaramakrishnan, Jos H Verbeek

12 October 2020

Plain Language Summary

#### **Do measures that aim to reduce aerosol production during dental procedures prevent the transmission of infectious diseases?**

##### **Why is this question important?**

Most dental care procedures create tiny drops of liquid that float in the air, called aerosols. For example, to remove the film of bacteria (plaque) that builds on teeth, dentists use scaling machines (scalers). Scalers vibrate at high speed and use a flow of water to wash away the plaque. This produces aerosols that are made of air, water, and the patient's saliva, which may also contain micro-organisms such as bacteria, fungi and viruses.

Aerosols that contain bacteria, fungi or viruses can spread infectious diseases. Limiting the production of these aerosols could help to prevent disease transmission in a dental setting.

A range of approaches can be used to reduce production of potentially infectious aerosols during dental procedures. These include:

- ways to decontaminate the mouth before aerosols are produced, for example by using anti-microbial mouthwash;
- ways to prevent aerosols from leaving the mouth (for example, placing a rubber sheet – known as a 'dam' – around the tooth that is to be treated, to isolate the treatment zone from saliva; or using a straw-like suction tube known as a saliva ejector);
- local ventilation using a suction device (known as a high-volume evacuator) that draws up a large volume of air and evacuates aerosols from the treatment zone;
- general ventilation, to reduce the concentration of aerosols in the air, for example by keeping windows open;
- decontamination of air-borne aerosols, for example using ultraviolet light to sterilize the air.

These can be used alone, or in combination.

We analysed the evidence from research studies to find out whether interventions that aim to reduce aerosol production during dental procedures can prevent the transmission of infectious diseases. We also wanted to find out about the cost of the interventions, whether patients and dentists found them acceptable, and whether the interventions were easy to implement.

##### **What did we find?**

We found 16 studies that involved a total of 425 people. Studies involved between one and 80 participants, who were aged between 5 and 69 years. Six studies were conducted in the USA, five in India, two in the UK and one each in Egypt, the Netherlands and the United Arab Emirates.

The studies evaluated one or more of the following devices:

- high-volume evacuator (7 studies);
- hands-free suction device (2 studies);
- saliva ejector (1 study);
- rubber dam (3 studies);
- rubber dam with a high-volume evacuator (1 study); or
- air cleaning system (1 study).

None of the studies evaluated the risk infectious disease transmission. Nor did they evaluate cost, acceptability or ease of implementation.

All 16 studies measured changes in the levels of bacterial contamination in aerosols, but we assessed the evidence as being of very low certainty. This means that we have very little confidence in the evidence, and that we expect further research to change the findings of our review. We therefore cannot deduce from this evidence whether there is an effect on levels of bacterial contamination. No studies investigated viral or fungal contamination.

### **What does this mean?**

We do not know whether interventions that aim to reduce aerosol production during dental procedures prevent the transmission of infectious diseases. This review highlights the need for more and better-quality studies in this area.

### **How up to date is this review?**

The evidence in this Cochrane Review is current to September 2020.

## **[Thoracic imaging tests for the diagnosis of COVID-19](#)**

Jean-Paul Salameh, Mariska MG Leeflang, Lotty Hooft, Nayaar Islam, Trevor A McGrath, Christian B Pol, Robert A Frank, Ross Prager, Samanjit S Hare, Carole Dennie, René Spijker, Jonathan J Deeks, Jacqueline Dinnes, Kevin Jenniskens, Daniël A Korevaar, Jérémie F Cohen, Ann Van den Bruel, Yemisi Takwoingi, Janneke de Wiggert, Johanna AAG Damen, Junfeng Wang, Cochrane COVID-19 Diagnostic Test Accuracy Group, Matthew DF McInnes

### Plain Language Summary

#### **How accurate is chest imaging for diagnosing COVID-19?**

#### **Why is this question important?**

People with suspected COVID-19 need to know quickly whether they are infected, so that they can self-isolate, receive treatment, and inform close contacts. Currently, formal diagnosis of COVID-19 infection requires laboratory analysis of blood or nose and throat samples. The laboratory test, called RT-PCR, requires specialist equipment and takes at least 24 hours to produce a result. Further, RT-PCR is not completely accurate and a second RT-PCR or a different test may be required to confirm the diagnosis.

COVID-19 is a respiratory infection: people with COVID-19 may have a cough, may have difficulty breathing and in severe cases may have COVID-19 pneumonia. Clinicians use chest imaging tests to diagnose COVID-19 disease, when awaiting RT-PCR test results, for example, or when RT-PCR results are negative, and the person has COVID-19 symptoms.

We wanted to find out how accurate chest imaging is in diagnosing COVID-19 disease in people with known or suspected infection.

#### **What did we find?**

We found 84 studies with 8279 people. Studies included either only people with confirmed COVID-19 diagnosis (71 studies, involving 6331 people) or both suspected and confirmed COVID-19 (13 studies, involving 1948 people). Infection was mainly confirmed using RT-PCR.

The majority of studies evaluated chest CT. We found studies from all over the world; 78 studies took place in Asia.

#### ***Accuracy of chest imaging for diagnosing COVID-19 in people with confirmed infection***

On average, chest CT correctly identified infection in 93% of people with confirmed COVID-19 (65 studies, 5759 people). Chest X-ray correctly identified infection in 82% of people with confirmed COVID-19 (nine studies, 682 people). Lung ultrasound correctly identified infection in 100% of people with confirmed COVID-19 (2 studies, 32 people).

#### ***Accuracy of chest imaging for diagnosing COVID-19 in people with suspected or confirmed infection***

On average, chest CT correctly identified infection in 86% of people who were infected with COVID-19 (13 studies, 2346 people). However, it incorrectly identified infection in 82% of people who were not infected with COVID-19. We did not find any studies that reported data on lung ultrasound.

#### **How reliable are the results?**

Studies reported limited information about how they confirmed COVID-19 diagnosis, how they recruited participants, and they did not always use robust methods. Most studies only included people with a confirmed COVID-19 diagnosis, so we have little information about the ability of chest imaging to rule out COVID-19 in people who are not infected. Also, studies did not report any pre-existing respiratory conditions that might have affected their results. Finally, 25% of studies were published as preprints, which do not undergo the same rigorous checks as published studies. We cannot confidently draw conclusions based on the results from studies included in this review.

#### **What does this mean?**

The evidence suggests that chest CT and chest X-ray may be good tests for confirming COVID-19 diagnosis in people who have been diagnosed with COVID-19 infection using another test. However, CT scans may be less accurate in confirming or ruling out infection in people with only suspected COVID-19.

We plan to update this review regularly as more research becomes available.

#### **How up-to-date is this review?**

The evidence in this Cochrane Review is current to May 2020.

### [Prophylactic anticoagulants for people hospitalised with COVID-19](#)

Ronald LG Flumignan, Jéssica Dantas de Sá Tinôco, Patricia IF Pascoal, Libnah L Areias, Marcellly S Cossi, Maria ICD Fernandes, Isabelle KF Costa, Larissa Souza, Charbel F Matar, Britta Tendal, Virginia FM Trevisani, Álvaro N Atallah, Luis CU Nakano

Rapid review

Plain language summary

#### **Do blood thinners prevent people who are hospitalised with COVID-19 from developing blood clots?**

COVID-19 typically affects the lungs and airways, however, in addition to respiratory problems, about 16% of people hospitalised with COVID-19 experience problems with their blood and blood vessels, leading to blood clots forming in the arteries, veins and lungs. These blood clots can break loose and travel to other parts of the body, where they may cause blockages leading to heart attacks or strokes. Nearly half of all people with severe COVID-19, in intensive care units, may develop clots in their veins or arteries.

#### **What did we want to find out?**

We wanted to know whether giving people hospitalised with COVID-19 blood thinners as a preventive measure, reduced the number of deaths compared to people who received no treatment or who received a placebo treatment. We also wanted to know whether these people needed less support with breathing, whether they still developed harmful blood clots, whether they experienced bleeding and whether they experienced any other unwanted events (for example, nausea, vomiting, kidney problems and amputations).

**Search date:** 20 June 2020

#### **What we found**

We hoped to find randomised controlled trials (RCTs). RCTs allocate participants at random to receive either the treatment under investigation or the comparison treatment (another treatment, no treatment or placebo). RCTs give the best evidence.

We did not find any RCTs, so we included seven non-randomised 'retrospective' studies that looked back at treatments given to 5929 people. These studies took place in intensive care units, hospital wards and emergency departments in China, Italy, Spain and the USA. They provided evidence on deaths and bleeding but no evidence on respiratory support, blood clotting and other unwanted effects. The studies were very different from each other, so we were not able to pool their results.

**Blood thinners compared with no treatment (6 studies)** - One study reported a reduction in mortality and another study reported a reduction in mortality in severely ill people only. Three studies reported no difference in mortality

and the remaining study reported no deaths in either group.

- One study reported major bleeding in 3% of participants who received blood thinners and 1.9% of participants who did not receive blood thinners.

**Treatment dose of blood thinners compared with preventive dose (1 study)** All the participants were in the intensive care unit on mechanical ventilators. They may or may not have had blood clots but were given either blood thinners in a dose usually used to treat clots (higher dose), or a dose used to prevent clots (lower dose).

- This study reported a lower rate of death in people who received the treatment dose (34.2%) compared with the preventive dose (53%).

- This study reported major bleeding in 31.7% of participants who received the treatment dose compared with 20.5% of those who received the preventive dose.

### **Reliability of the evidence**

We do not know whether blood thinners are a useful preventive treatment for people with COVID-19 because we are very uncertain about the evidence. None of the studies randomised participants and all were retrospective. Also, they reported different results from each other and did not report their methods fully. This means our confidence (certainty) in the evidence is very low.

### **What happens next?**

Our searches found 22 ongoing studies, 20 of which are RCTs, with 14,730 people. We plan to add the results of these studies to our review when they are published. We hope that these better quality studies will provide a conclusive answer to our review question.

## **[Convalescent plasma or hyperimmune immunoglobulin for people with COVID-19: a living systematic review](#)**

Khai Li Chai, Sarah J Valk, Vanessa Piechotta, Catherine Kimber, Ina Monsef, Carolyn Doree, Erica M Wood, Abigail A Lamikanra, David J Roberts, Zoe McQuilten, Cynthia So-Osman, Lise J Estcourt, Nicole Skoetz

Plain language summary

### **Is plasma from people who have recovered from COVID-19 an effective treatment for people with COVID-19?**

Coronavirus disease 2019 (COVID-19) is a highly infectious respiratory illness caused by a newly recognised type of coronavirus. Some people have severe infection, leading to hospitalisation, admission to intensive care or death. Currently, no vaccine or specific treatment is available.

People who have recovered from COVID-19 develop natural defences in their blood (antibodies). Antibodies are found in part of the blood called plasma. Plasma from blood donated from recovered patients, which contains COVID-19 antibodies, can be used to make two preparations. Firstly, convalescent plasma, which is plasma that contains these antibodies. Secondly, hyperimmune immunoglobulin, which is more concentrated, and therefore contains more antibodies.

Convalescent plasma and hyperimmune immunoglobulin have been used successfully to treat other respiratory viruses. These treatments (given by a drip or injection) are generally well-tolerated, but unwanted effects similar to those from standard plasma transfusion can occur.

### **Key results**

We included 19 completed studies with 38,160 participants; 36,081 participants received convalescent plasma. We found two randomised controlled trials (RCTs), with 189 participants; 95 participants received convalescent plasma. RCTs are clinical studies where people are randomly allocated to receive the treatment (intervention group) or to receive different or no treatment (control group). Methods used in RCTs are designed to produce the most reliable evidence.

We found eight studies that were not randomised but included a control group of participants who did not receive convalescent plasma (controlled NRSIs), with 2471 participants; 485 participants received convalescent plasma. Because of critical study limitations or missing data, we did not include these studies to evaluate the benefit of convalescent plasma.

The remaining nine studies were not randomised and did not include a control group (non-controlled NRSIs) but provided information about unwanted effects of convalescent plasma for 20,622 of the included participants. To assess whether convalescent plasma is effective for COVID-19, we evaluated results from the RCTs. The control groups received standard care at the time of treatment without convalescent plasma. There was not enough evidence to determine whether convalescent plasma affected the risk of death at hospital discharge and our confidence in the evidence is low. Convalescent plasma may decrease the need for breathing support, but our confidence in the evidence is low.

To assess whether convalescent plasma causes unwanted effects, we also evaluated nine non-controlled NRSIs. We identified some serious unwanted effects, which could be related to convalescent plasma, including death, allergic reactions or respiratory complications. There was not enough evidence to determine whether convalescent plasma therapy causes serious unwanted events and our confidence in the evidence is low.

None of the included studies reported effects on quality of life.

### **Certainty of the evidence**

Our certainty (confidence) in the evidence was low or very low because there were only two RCTs and most studies did not use reliable methods to measure their results. Furthermore, participants received various treatments alongside convalescent plasma, and some had underlying health problems.

### **Conclusion**

We are uncertain whether plasma from people who have recovered from COVID-19 is an effective treatment for people hospitalised with COVID-19 and whether convalescent plasma affects the number of serious unwanted effects. These findings could be related to the natural progression of disease, other treatments or to convalescent plasma. Our searches found 138 ongoing studies, of which 73 are randomised. This is the second update of our review, and we will continue to update this review.

## 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.

### ***Neurological manifestations and COVID-19 (multiple reviews)***

Added October 1, 2020

**What is this?** Some patients with neurological conditions will develop COVID-19 and some COVID-19 patients will develop neurological symptoms. Many potentially relevant systematic reviews have been done and the findings are summarised here. More details on these reviews, including citations and links to their full text, are available further down this page.

**What was found:** At the time of these reviews, the included studies reported a variable incidence of neurological manifestations among COVID-19 patients, and that these are typically present with more severe COVID-19 infection. The neurological manifestations identified include:

- Non-specific neurological manifestations such as fatigue, shortness of breath (due to brainstem regulation of breathing), anorexia and malaise. The Wang review reported that approximately one-third of COVID-19 patients experienced these symptoms.
- Central nervous system (CNS) manifestations such as impaired consciousness, cerebrovascular events, ataxia, seizures, acute inflammation, and autoimmune complications including Guillan-Barré syndrome.
- Peripheral nervous system (PNS) and cranial nerve manifestations such as changes in smell, taste or speech, and nerve pain. Several reviews found that cranial nerve involvement is common in patients with mild-moderate COVID-19.
- Neuromuscular manifestations such as sensory disturbances in the limbs

At the time of these reviews, the included studies reported a variable prevalence of pre-existing neurological conditions in patients with COVID-19. Several reviews noted that individuals with pre-existing neurological conditions may be more vulnerable to severe COVID-19 infection.

### ***Traditional Chinese Medicine and herbal medicine for COVID-19 (multiple reviews)***

Added September 28, 2020

**What is this?** Traditional Chinese medicine and other forms of herbal medicine have been suggested as treatments for COVID-19 patients. Several potentially relevant systematic reviews have been done and the findings are summarised here. More details on these reviews, including citations and links to their full text, are available further down this page.

**What was found:** At the time of these reviews, the included studies suggest that herbal and traditional Chinese medicine (alone or in combination with Western treatment) may improve symptoms, and other patient outcomes,

for patients with COVID-19 or other respiratory illnesses. However, the conclusions of these reviews should be interpreted with caution because of the generally low quality of their included studies.

The Xiong review (searches done up to 21 June 2020) reported that the potential benefits applied to COVID-19 patients irrespective of disease severity. The other reviews were limited to patients with mild-moderate infection or did not comment on disease severity.

The effects of herbal and traditional Chinese medicine on mortality for COVID-19 patients with COVID-19 or other respiratory illnesses are uncertain.

#### **What are the reviews:**

**Citation:** Ang L, Song E, Lee HW, et al. *Herbal Medicine for the Treatment of Coronavirus Disease 2019 (COVID-19): A Systematic Review and Meta-Analysis of Randomized Controlled Trials*. Journal of Clinical Medicine. 2020 May;9(5):1583.

In this rapid review, the authors searched for randomized trials of herbal medicines for COVID-19 patients. They did not restrict their search by type or language of publication and did the search on 12 May 2020. They included 7 trials (855 patients) comparing combined herbal and Western treatment versus Western treatment, from China; 4 of which included only mild or moderate COVID-19 infection. They also identified 32 ongoing trials.

**Citation:** Chen Y, Guo JJ, Healy DP, et al. *Effect of integrated traditional Chinese medicine and western medicine on the treatment of severe acute respiratory syndrome: A meta-analysis*. Pharmacy Practice. 2007;5(1):1-9.

In this systematic review, the authors searched for randomized and non-randomized trials of integrative traditional Chinese medicine and Western medicine versus Western medicine alone for severe acute respiratory syndrome (SARS). They restricted their search to articles published in English or Chinese between 2002 and 2006, and did their search in August 2006. They identified 16 randomized trials (866 participants) and 8 non-randomized trials (812 participants), and assessed the overall quality of the evidence to be low.

**Citation:** Liu X, Zhang M, He L, et al. *Chinese herbs combined with Western medicine for severe acute respiratory syndrome (SARS)*. Cochrane Database of Systematic Reviews. 2012;(10):CD004882.

In this Cochrane review, the authors searched for randomized and quasi-randomized trials of Chinese herbs combined with Western medicines versus Western medicines alone for patients diagnosed with SARS. They did not restrict their searches by language of publication and did the search in March 2012. They identified 12 randomized and 1 quasi-randomized trials (640 participants), evaluating 12 different Chinese herbs, and assessed

the overall quality of the evidence to be low.

**Citation:** Xiong X, Wang P, Su K, et al. *Chinese herbal medicine for coronavirus disease 2019: a systematic review and meta-analysis*. Pharmacological Research. 2020 Oct;160:105056.

In this rapid review, the authors searched for randomized trials of combined treatment with Chinese herbal medicine and Western medicine versus Western medicine alone in COVID-19 patients. They did not restrict their searches by language of publication and did the search on 21 June 2020. They included 5 multi-centre and 13 single-centre randomized trials (total: 2275 participants), which were all conducted in China. They assessed that most of the included studies were of a poor methodological design.

#### **Other reviews of this topic:**

**Citation:** Leung PC. *The efficacy of Chinese medicine for SARS: a review of Chinese publications after the crisis*. American Journal of Chinese Medicine. 2007;35(4):575-81. (Summary available [here](#).)

**Citation:** Li X, Feng G, Ma W, Liu J, Xu A. *Traditional Chinese Medicine Syndromes of the Novel Coronavirus Pneumonia: A Systemic Review and Meta-analysis*. World Chinese Medicine. 2020;15(3):305-14. (Summary available [here](#).)

**Language:** Chinese

#### ***Autoimmune disease and COVID-19: associations are uncertain (search done on 8 May 2020)***

Added September 28, 2020

**Citation:** Liu M, Gao Y, Zhang Y, et al. *The association between severe or dead COVID-19 and autoimmune disease: a systematic review and meta-analysis*. The Journal of Infection. 2020 Sep;81(3):e93-5.

**What is this?** Some patients with COVID-19 may have autoimmune disease. In this rapid review (published as a letter to the editor), the authors searched for studies on the association between severity of COVID-19 and autoimmune disease. They did not restrict their searches by language of publication and did the search on 8 May 2020. They included 6 studies (total: 2091 patients), which were from China (5 studies) and the USA (1).

**What was found:** At the time of this review, the evidence in the included studies shows that the size of associations between autoimmune disease and severe COVID-19 disease and death are uncertain.

#### ***Cell-based therapy for COVID-19 patients with acute respiratory syndrome (search on 30 March 2020)***

Added September 24, 2020

**Citation:** Qu W, Wang Z, Hare JM, et al. *Cell-based therapy to reduce mortality from COVID-19: Systematic review and meta-analysis of human studies on acute respiratory distress syndrome*. Stem Cells Translational Medicine. 2020;9(9):1007-22.

**What is this?** Cell-based therapy has been suggested as a treatment for COVID-19 induced acute respiratory syndrome (ARDS).

In this rapid review, the authors searched for studies of the safety and efficacy of therapy with mesenchymal stromal cells (MSCs) in adult patients diagnosed with COVID-19 pneumonia or ARDS from any cause. They did not restrict their searches by language of publication and searched for articles published between 1990 and 31 March 2020. They included four phase I clinical trials, three phase I/II or phase II randomized trials, one case report and one case series.

**What was found:** At the time of this review, the included studies showed that no serious adverse events were reported for MSC treatment and all mild adverse events related to MSC treatment resolved spontaneously.

At the time of this review, the included studies showed that MSC treatment may improve pulmonary function in patients with ARDS and may reduce the physiologic and immunologic responses leading to ARDS.

At the time of this review, the included studies showed that MSC treatment may reduce mortality rates; and the authors concluded that adequately powered clinical trials were urgently needed to test clinical outcomes in COVID-19 patients.

# Dynamed Plus - [COVID-19 \(Novel Coronavirus\)](#)

## Latest updates

**12 Oct 2020**

National Institutes of Health (NIH) guideline on treatment of COVID-19 recommendations for pharmacologic management based on disease severity (NIH 2020 Oct 9) [View in topic](#)

**12 Oct 2020**

N-acetylcysteine may not reduce risk of mechanical ventilation or death in adults with severe COVID-19 (Clin Infect Dis 2020 Sep 23 early online) [View in topic](#)

**12 Oct 2020**

90-day mortality 37.4% in patients  $\geq$  16 years old with COVID-19 who received ECMO (Lancet 2020 Oct 10) [View in topic](#)

**9 Oct 2020**

National Early Warning Score (NEWS) and NEWS2 may help predict intensive care admission in adults presenting to emergency department (ED) for COVID-19 (Resuscitation 2020 Sep 9) [View in topic](#)

**9 Oct 2020**

4C Mortality Score predicts in-hospital mortality in adults admitted to hospital with COVID-19 (BMJ 2020 Sep 9) [View in topic](#)

**8 Oct 2020**

FDA recommending healthcare providers to give clear visual and verbal step-by-step instructions for SARS-CoV-2 self-testing via anterior nares (nasal) specimen collection in healthcare settings to prevent inadequate samples (FDA Letter to Healthcare Providers 2020 Oct 7) [View in topic](#)

**7 Oct 2020**

median age of patients with COVID-19 in United States decreased between May and August 2020 (MMWR Morb Mortal Wkly Rep 2020 Oct 2) [View in topic](#)

**7 Oct 2020**

SARS-CoV-2 detection in fecal/anal sample reported in 52% and to persist for mean 12.5 days longer than in respiratory sample in patients with COVID-19 (Aliment Pharmacol Ther 2020 Aug 27 early online) [View in topic](#)

**7 Oct 2020**

favipiravir might not improve viral clearance by day 6 in adults and adolescents hospitalized with asymptomatic-to-mild SARS-CoV-2 infection (Antimicrob Agents Chemother 2020 Sep 21 early online) [View in topic](#)

**7 Oct 2020**

tocilizumab might be associated with unfavorable outcomes in patients with solid organ transplant hospitalized for COVID-19, but patients receiving tocilizumab may have had more severe disease (Am J Transplant 2020 Sep 18 early online) [View in topic](#)

**7 Oct 2020**

tocilizumab associated with reduced mortality in patients with severe COVID-19 pneumonia (Lancet Rheumatol 2020 Aug) [View in topic](#)

**7 Oct 2020**

tocilizumab associated with reduced mortality in patients with severe COVID-19 requiring intensive care (Lancet Rheumatol 2020 Oct) [View in topic](#)

**7 Oct 2020**

34,804,348 confirmed cases of COVID-19 including 1,030,738 deaths worldwide reported by World Health Organization (WHO) as of October 4, 2020 (WHO Weekly Epidemiological Update 2020 Oct 5) [View in topic](#)

**28 Sep 2020**

CO-RADS score based on presence of ground glass opacities on chest CT helps stratify risk of SARS-CoV-2 infection in symptomatic and asymptomatic patients (Radiology 2020 Aug 10 early online) [View in topic](#)

**28 Sep 2020**

heterologous vaccination with recombinant adenovirus type 26 (rAd26-S) and type 5 (rAd5-S) vectors reported to be safe and to induce humoral and cellular response against SARS-CoV-2 in healthy adults (Lancet 2020 Sep 3 early online) [View in topic](#)

**28 Sep 2020**

SARS-CoV-2 recombinant spike protein nanoparticle vaccine (NVX-CoV2373) reported to be safe and to induce humoral response by day 35 in healthy adults (N Engl J Med 2020 Sep 2 early online) [View in topic](#)

**28 Sep 2020**

dexamethasone may reduce 28-day mortality in critically ill adults with COVID-19 (JAMA 2020 Sep 2 early online) [View in topic](#)

**24 Sep 2020**

rapid point-of-care molecular-based tests may have high sensitivity and specificity and rapid point-of-care antigen tests may have high specificity but low sensitivity for detection of SARS-CoV-2 infection (Cochrane Database Syst Rev 2020 Aug 26) [View in topic](#)

**19 Sep 2020**

Bacille Calmette-Guerin (BCG) tuberculosis vaccine at birth may not be protective against COVID-19 in adults (Clin Infect Dis 2020 Aug 23 early online) [View in topic](#)

**18 Sep 2020**

acute kidney injury reported in 17% of adults hospitalized with COVID-19 (Kidney Int Rep 2020 Aug) [View in topic](#)

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## 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](#)

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