

Covid -19 Evidence Update

Summarized and appraised resources

24/12/2020

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 Guidance	
NICE – new guidance	
COVID-19 Evidence alerts from McMaster Plus	
Cochrane Systematic Reviews –	
Care bundles for improving outcomes in patients with COVID-19 or related conditions in intensive care – a rapid scoping review	
Evidence Aid	
Mutations to SARS-CoV-2 (research up to 31 May 2020)	
Surgery during the COVID-19 pandemic (search done on 1 July 2020)	
Dynamics of SARS-CoV-2 in COVID-19 patients (research published up to 23 April 2020)	
Gender and severity of COVID-19 infection (research published up to 26 March 2020)	
Matrix metalloproteinase 9 as a target for treatments for COVID-19 (search done on 23 March 2020)	
Physical and mental health impacts of COVID-19 on healthcareworkers (research published up to March 2020)	
Computerised tomography (CT) findings and COVID-19 Infection (multiple reviews)	
Smoking and COVID-19 (multiple reviews)	
Cancer and COVID-19 (multiple reviews)	
Dynamed – latest updates	
Useful Links	

Royal College/Society Guidance and Point of Care Tools

Latest information and guidance

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

<p>British Society for Rheumatology COVID-19 updates for members</p>	<p>Combined Intensive Care Society, Association of Anaesthetists, Royal College of Anaesthetists, Faculty of Intensive Care Medicine guidance Clinical Guidance</p>
<p>BMJ Best Practice Coronavirus disease 2019 (COVID-19) Management of coexisting conditions in the context of COVID-19</p>	<p>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</p>
<p>Don't forget the bubbles An evidence summary of paediatric Covid-19 literature Covid-19 – a seslection of evidence based summaries and articles.</p>	

New NICE Guidance

[COVID-19 rapid guideline: delivery of systemic anticancer treatments.](#)

National Institute for Health and Care Excellence (NICE); 2020.

<https://www.nice.org.uk/guidance/ng161>

[The purpose of this guideline is to maximise the safety of patients with cancer and make the best use of NHS resources during the COVID-19 pandemic, while protecting staff from infection. In November 2020, NICE removed the option to defer treatments that prevent long-term complications, and amended guidance on treatments suitable for home delivery.] *Freely available online*

[COVID-19 rapid guideline: managing the long-term effects of COVID-19.](#)

National Institute for Health and Care Excellence (NICE); 2020.

<https://www.nice.org.uk/guidance/ng188>

[This guideline covers identifying, assessing and managing the long-term effects of COVID-19, often described as 'long COVID'. It makes recommendations about care in all healthcare settings for adults, children and young people who have new or ongoing symptoms 4 weeks or more after the start of acute COVID-19. It also includes advice on organising services for long COVID.] *Freely available online*

[COVID-19 rapid guideline: vitamin D.](#)

National Institute for Health and Care Excellence (NICE); 2020.

<https://www.nice.org.uk/guidance/ng187>

[The recommendations bring together: evidence from published literature on vitamin D supplementation for preventing or treating COVID-19, associations of vitamin D status with COVID-19, and indirect evidence on vitamin D supplementation for preventing acute respiratory tract infection in the general population (from the updated Scientific Advisory Committee on Nutrition rapid review); existing national guidance and policies (including UK government advice on taking a vitamin D supplement)] *Freely available online*

[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
AGA Institute Rapid Review and Recommendations on the Role of Pre-Procedure SARS-CoV-2 Testing and Endoscopy. <i>Sultan S, Siddique SM, Altayar O, et al. Gastroenterology</i>
Thoracic imaging tests for the diagnosis of COVID-19. <i>Islam N, Salameh JP, Leeflang MM, et al. Cochrane Database Syst Rev</i>
Saliva specimens for detection of severe acute respiratory syndrome coronavirus 2 in Kuwait: A cross-sectional study. <i>Altawalah H, AlHuraish F, Alkandari WA, et al. J Clin Virol</i>
Alternative clinical specimens for the detection of SARS-CoV-2: A rapid review. <i>Comber L, Walsh KA, Jordan K, et al. Rev Med Virol</i>
Comparison of admission chest computed tomography and lung ultrasound performance for diagnosis of COVID-19 pneumonia in populations with different disease prevalence. <i>Colombi D, Petrini M, Maffi G, et al. Eur J Radiol</i>
Etiology
The Association between Influenza Vaccination and the Risk of SARS-CoV-2 Infection, Severe Illness, and Death: A Systematic Review of the Literature. <i>Del Riccio M, Lorini C, Bonaccorsi G, et al. Int J Environ Res Public Health</i>
Primary Prevention
Safety and efficacy of the ChAdOx1 nCoV-19 vaccine (AZD1222) against SARS-CoV-2: an interim analysis of four randomised controlled trials in Brazil, South Africa, and the UK. <i>Voysey M, Clemens SAC, Madhi SA, et al. Lancet</i>
Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine. <i>Polack FP, Thomas SJ, Kitchin N, et al. N Engl J Med</i>
A Cluster-Randomized Trial of Hydroxychloroquine for Prevention of Covid-19. <i>Mitja O, Corbacho-Monne M, Ubals M, et al. N Engl J Med</i>
Prognosis
Possible vertical transmission and antibodies against SARS-CoV-2 among infants born to mothers with COVID-19: A living systematic review. <i>Bwire GM, Njiro BJ, Mwakawanga DL, et al. J Med Virol</i>
Clinical manifestations and perinatal outcomes of pregnant women with COVID-19: a systematic review and meta-analysis. <i>Yee J, Kim W, Han JM, et al. Sci Rep</i>
Clinical Prediction Guide
Definition and retrospective application of a clinical scoring system for COVID-19 triage at presentation. <i>Duan J, Liang M, Li Y, et al. Ther Adv Respir Dis</i>
Treatment
Tocilizumab in Patients Hospitalized with Covid-19 Pneumonia. <i>Salama C, Han J, Yau L, et al. N Engl J Med</i>

[Safety and efficacy of inhaled nebulised interferon beta-1a \(SNG001\) for treatment of SARS-CoV-2 infection: a randomised, double-blind, placebo-controlled, phase 2 trial.](#)

Monk PD, Marsden RJ, Tear VJ, et al. Lancet Respir Med

[Corticosteroids on the Management of Coronavirus Disease 2019 \(COVID-19\): A Systemic Review and Meta-Analysis.](#)

Yousefifard M, Mohamed Ali K, Aghaei A, et al. Iran J Public Health

[A pragmatic randomized controlled trial reports lack of efficacy of hydroxychloroquine on coronavirus disease 2019 viral kinetics.](#)

Lyngbakken MN, Berdal JE, Eskesen A, et al. Nat Commun

[Repurposed Antiviral Drugs for Covid-19 - Interim WHO Solidarity Trial Results.](#)

Pan H, Peto R, Henao-Restrepo AM, et al. N Engl J Med

Cochrane Evidence on COVID-19: a roundup

Care bundles for improving outcomes in patients with COVID-19 or related conditions in intensive care – a rapid scoping review

Purpose of the review

The World Health Organization (WHO) commissioned this 'scoping' review to identify how much and what type of evidence is available on the use of care bundles for patients in the ICU setting suffering from COVID-19, acute respiratory distress syndrome (ARDS) or viral pneumonia. We wanted to identify and describe the studies that have been done and what they assessed, but not to appraise their quality or analyse their findings as we would usually do in a standard review. The WHO wanted to use this review to help develop their guidelines, so we prepared it quickly, over a three-week period from 26 October to 18 November 2020.

What did we find?

We included 21 studies and identified three ongoing studies. The studies were conducted in eight countries, most commonly China and the USA, and were published between 1999 and 2020. Over 2000 participants in total were involved in the studies. Seven studies included patients with COVID-19, seven with ARDS, five with viral pneumonia, one with severe respiratory failure and one with a mixture of conditions.

The descriptions of the care bundles were varied, but most involved care practices related to breathing support or ventilator settings, or the positioning of a patient (e.g. face down), for ARDS and COVID-19. COVID-19-specific studies also focused on infection control and use of personal protective equipment (PPE). Some care bundles were specific to parts of the body such as eye or skin care.

Some of the 'evidence gaps' we identified were a lack of care bundles focused on preparing patients to leave the ICU, preventing infections caused by giving medicines intravenously (by drip), and the long-term effects of COVID-19. None of the studies looked at healthcare workers' experience of adapting care bundles.

Authors' conclusions

Information specific to patients with COVID-19 that compares patients receiving care bundles and not receiving care bundles is limited, and more research is needed. We also need information on how care bundles can best be implemented in practice, and the difficulties that might be associated with this. A separate review that assesses the quality of the evidence that we found in this review, and that combines and analyses the data, is required

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.

[Mutations to SARS-CoV-2 \(research up to 31 May 2020\)](#)

Added December 23, 2020

Citation: Abdullahi IN, Emeribe AU, Ajayi OA, et al. Implications of SARS-CoV-2 genetic diversity and mutations on pathogenicity of COVID-19 and biomedical interventions. *Journal of Taibah University Medical Sciences*. 2020;15(4):258-64.

What is this? Like other viruses, SARS-CoV-2, the virus that causes COVID-19, will mutate.

In this rapid review, the authors searched for studies describing mutations, genetic diversity and amino acid and strain variations of SARS-CoV-2. They restricted their searches to articles published in English between 31 December 2019 and 31 May 2020. They included 9 studies, which were from China (3 studies), Italy (2), Nigeria (1), UK (1) and USA (2).

What was found: At the time of this review, the included studies showed that SARS-CoV-2 had undergone significant mutations in non-structural proteins.

The authors recommended that continuous molecular surveillance of SARS-CoV-2 should be conducted given the critical importance of mutations.

[Surgery during the COVID-19 pandemic \(search done on 1 July 2020\)](#)

Added December 23, 2020

Citation: Lee Y, Kirubarajan A, Patro N, et al. Impact of hospital lockdown secondary to COVID-19 and past pandemics on surgical practice: A living rapid systematic review. *American Journal of Surgery*. 2020 Nov 12.

What is this? The COVID-19 pandemic is placing a strain on surgical health care through, for example, hospital lockdowns and cancellation of elective surgeries.

In this rapid review, the authors searched for studies that assessed postoperative outcomes or protection measures for surgical personnel during pandemics. They did not restrict their searches by date or language of publication and did the search on 1 July 2020. They included 61 studies (3948 patients across 17 countries) of the impact of pandemics on surgical practice, 56 of which related directly to COVID-19, but they also included SARS (3 studies), MERS (1) and Ebola (1).

What was found: At the time of this review, most studies that followed the health of surgical workers noted no adverse outcomes with proper safety measures including PPE and effective screening and isolation post-operatively.

At the time of this review, there was limited information on postoperative complication rates during pandemics, and no information on the clinical impact of delaying surgical care during lockdowns.

[Dynamics of SARS-CoV-2 in COVID-19 patients \(research published up to 23 April 2020\)](#)

Added December 17, 2020

Citation: Weiss A, Jellingsø M, Sommer MO. Spatial and temporal dynamics of SARS-CoV-2 in COVID-19 patients: A systematic review and meta-analysis. *EBioMedicine*. 2020 Aug 1;58:102916.

What is this? The spatial and temporal dynamics of SARS-CoV-2 in COVID-19 patients have been described in case series and other studies.

In this rapid review, the authors searched for case series, observational studies and systematic reviews examining the duration of viral detection and viral RNA load of COVID-19. They restricted their searches to articles published in English between 1 November 2019 and 23 April 2020. They included 37 studies (total: 650 patients): 28 case series, 7 retrospective cohort studies and 2 prospective studies.

What was found: At the time of this review, the included studies showed that COVID-19 was consistently detected in lower respiratory tract (LRT), upper respiratory tract (URT) and fecal specimens, regardless of disease severity.

At the time of this review, the authors noted that the virus persists for longer in the LRT than the URT for all patients, but that there was longer duration of viral detection in the URT and feces for patients with moderate-severe infection.

At the time of this review, the included studies showed that viral RNA load peaked in the first week of infection in the URT and in the second week of infection in the LRT and feces.

[Gender and severity of COVID-19 infection \(research published up to 26 March 2020\)](#)

Added December 17, 2020

Citation: Ueyama H, Kuno T, Takagi H, et al. Gender Difference Is Associated With Severity of Coronavirus Disease 2019 Infection: An Insight From a Meta-Analysis. *Critical Care Explorations*. 2020 Jun;2(6):e0148.

What is this? The severity of COVID-19 might be related to patient characteristics, such as gender.

In this rapid review, the authors searched for studies on the associations between gender and the severity of COVID-19 infection. They restricted their searches to articles published between 1 December 2019 and 26 March 2020 but did not restrict by type or language of publication. They included 15 studies (total: 1935 males and 1559 females), which were from China (14 studies) and Singapore (1).

What was found: At the time of this review, the included studies showed that male gender may be a predictor of more severe COVID-19 disease, but not mortality.

[Matrix metalloproteinase 9 as a target for treatments for COVID-19 \(search done on 23 March 2020\)](#)

Added December 17, 2020

Citation: Hazra S, Chaudhuri AG, Tiwary BK, et al. Matrix metalloproteinase 9 as a host protein target of chloroquine and melatonin for immunoregulation in COVID-19: A network-based meta-analysis. *Life Sciences*. 2020;257:118096.

What is this? Research on repurposed drugs from other coronaviruses might provide useful information for people making decisions about the treatment of patients with COVID-19.

In this rapid review and network meta-analysis, the authors searched for studies of drugs repurposed for the treatment of COVID-19. They did not restrict their searches by language and did the search on 23 March 2020. They identified 120 differentially expressed genes and 65 drugs.

What was found: At the time of their review, the authors found that upregulation of matrix metalloproteinase 9 (MMP9) gene may be the key point of etiopathophysiology of COVID-19.

At the time of the review, the included studies showed that chloroquine and melatonin may have the potential to target MMP9 to reduce immunoinflammatory responses associated with acute respiratory distress syndrome in patients with COVID-19.

[Physical and mental health impacts of COVID-19 on healthcareworkers \(research published up to March 2020\)](#)

Added December 17, 2020

Citation: Shaukat N, Ali DM, Razzak J. Physical and mental health impacts of COVID-19 on healthcare workers: a scoping review. International Journal of Emergency Medicine. 2020 Dec;13:40.

What is this? The COVID-19 pandemic and its associated measures is placing a strain on healthcare workers.

In this scoping review, the authors summarized evidence on physical and mental impacts of the COVID-19 pandemic on healthcare workers. They restricted their searches to articles published between January 2020 and March 2020. They included 5 studies that assessed mental health impacts and 5 studies that assessed physical health impacts.

What was found: At the time of this review, the included studies showed that frontline healthcare workers were at a high risk of physical and mental consequences as a result of providing care for COVID-19 patients, with many risk factors for these health impacts.

At the time of this review, the included studies showed that common physical symptoms in healthcare workers included fever, cough, weakness, chest distress, hemoptysis, headache and diarrhea.

At the time of this review, the included studies showed that mental health impacts in healthcare workers included anxiety, stress disorder, depression, insomnia and post-traumatic stress disorder.

[Computerised tomography \(CT\) findings and COVID-19 Infection \(multiple reviews\)](#)

Added December 17, 2020

Coronavirus (COVID-19)

Diagnostics and epidemiology

Diagnosis and screening

What is this? Many research articles have been published about diagnostic features for COVID-19 infection, such as those found with computerised tomography (CT) imaging of the chest. Several rapid reviews are summarised here. More details on each review, including citations and links to the full text, are available further down this web page.

What was found: At the time of these reviews, the included studies showed that chest CT imaging has high sensitivity but low specificity for diagnosing COVID-19 infection and the reviews mostly recommended that chest CT not be used as a first-line tool for this diagnosis. However, the Shao review (search done on 7 June 2020) concluded that CT is capable of detecting COVID-19 infection earlier in the infectious course than RT-PCR laboratory tests and concluded that, among surgical patients, chest CT be considered as an additional diagnostic measure before surgery for detecting COVID-19 infection in patients who are symptomatic but have tested negative with RT-PCR.

In general, these reviews found that Ground-Glass Opacities (GGO) and consolidation was often reported by CT and pathological signs of COVID-19 were often found in multiple lung lobes and bilaterally. The Xu (search done on 31 March 2020) and Lv reviews (search done on 31 March 2020) reported that lower lobes were frequently affected, and the Wan review (search done on 15 March 2020) reported that most patients in the studies in their review had CT abnormalities noted in the right lower lobe.

Most reviews reported that normal chest CT findings were rarely reported but the Sun review (search done on 31 March 2020) found that normal CT imaging was reported, particular among asymptomatic patients and those in the early stages of infection.

Several reviews reported that chest CT is good at detecting COVID-19 imaging abnormalities when symptomatic infection is present (sensitivity), particularly in severe epidemic areas. But the Lv review (search done on 31 March 2020) noted that sensitivity was reduced in children. The Xu review (search done on 31 March 2020) noted that chest CT has high sensitivity for patients with an initial false-negative COVID-19 result.

The reviews found that chest CT has poor specificity for COVID-19 infection. For example, the Sun review (search done on 31 March 2020) reported that the CT findings typically observed with COVID-19 are also observed in other viral pneumonias and the Salameh review (search done on 5 May 2020) reported that using CT findings to diagnose COVID-19 may result in similar proportions of “positive” results in patients with and without COVID-19.

The Park review (search done on 17 March 2020) concluded that there was insufficient evidence to support using CT for COVID-19 screening and the Adams review (search done on 12 April 2020) concluded that their findings did not support using CT imaging for screening people with no symptoms of COVID-19.

What are the reviews:

Citation: Adams HJ, Kwee TC, Yakar D, et al. [Systematic Review and Meta-Analysis on the Value of Chest CT in the Diagnosis of Coronavirus Disease \(COVID-19\)](#): Sol Scientiae, Illustra Nos. American Journal of Roentgenology. 2020 Dec;215(6):1342-50.

In this rapid review, the authors searched for studies on the diagnostic performance of chest CT in detecting COVID-19. They did not restrict their searches by date, type or language of publication and did the search on 12 April 2020. They included 6 studies (total: 1431 participants), from China (4 studies), Italy (1) and Japan (1).

Citation: Kim H, Hong H, Yoon SH. [Diagnostic performance of CT and reverse transcriptase-polymerase chain reaction for coronavirus disease 2019: a meta-analysis](#). Radiology. 2020;296(3):E145-55.

In this rapid review, the authors searched for studies of chest CT scans or reverse transcriptase-polymerase chain reaction (RT-PCR) assays as diagnostic tests for COVID-19 infection. They restricted their searches to articles published between 1 December 2019 and 16 March 2020 and did the search on 3 April 2020. They included 68 articles.

Citation: Lv M, Wang M, Yang N, et al. [Chest computed tomography for the diagnosis of patients with coronavirus disease 2019 \(COVID-19\): a rapid review and meta-analysis](#). Annals of Translational Medicine 2020;8(10):622

In this rapid review, the authors searched for observational studies of the sensitivity of chest CT for diagnosing COVID-19 infection. They restricted their searches to publications in English and Chinese up to 31 March 2020. They included 103 studies (total: 5673 patients), with most studies from China (95) and one study from each of Germany, Korea, Italy and the cruise ship “Diamond Princess”. They assessed all included studies as low-quality evidence.

Citation: Park JH, Jang W, Kim SW, et al. [The clinical manifestations and chest computed tomography findings of coronavirus disease 2019 \(COVID-19\) patients in China: a proportion meta-analysis](#). Clinical and Experimental Otorhinolaryngology. 2020 May;13(2):95-105.

In this rapid review, the authors searched for observational studies of CT findings in COVID-19 patients. They restricted their searches to articles published in English that included ≥ 4 patients and did the search on 17 March 2020. They included 4 studies from Wuhan, China and 5 studies from elsewhere in China (total: 627 participants). They assessed all included studies as low-quality evidence and noted marked variation between studies.

Citation: Salameh J-P, Leeflang MMG, Hooft L, et al. [Thoracic imaging tests for the diagnosis of COVID-19](#). Cochrane Database of Systematic Reviews. 2020;(9):CD013639.

In this Cochrane living review, the authors searched for studies comparing the diagnostic accuracy of chest imaging versus laboratory-based PCR tests in people with confirmed or suspected COVID-19. They did not restrict their searches by language of publication and did the search for this version of the review on 5 May 2020. They included studies assessing CT scans, chest X-rays and chest ultrasound investigations. They included 84 studies, of which most (78) assessed CT scans.

Citation: Shao JM, Ayuso SA, Deerenberg EB, et al. [A systematic review of CT chest in COVID-19 diagnosis and its potential application in a surgical setting](#). Colorectal disease. 2020 Sep;22(9):993-1001.

In this rapid review, the authors searched for studies assessing the sensitivity and utility of chest CT imaging in diagnosing COVID-19 infection, compared with RT-PCR testing, with a particular emphasis on surgical settings. They did not restrict their searches by language of publication and searched up to 7 June 2020. They included 20 studies.

Citation: Sun Z, Zhang N, Li Y, et al. [A systematic review of chest imaging findings in COVID-19](#). Quantitative Imaging in Medicine and Surgery. 2020 May;10(5):1058-79.

In this rapid review, the authors searched for research on the clinical characteristics and chest imaging features of patients with COVID-19. They restricted their searches to articles published in English and searched up to 31 March 2020. They identified 55 studies from China (and included 25 of these in a meta-analysis). 52 included studies assessed the role of CT imaging in COVID-19 diagnosis.

Citation: Wan S, Li M, Ye Z, et al. [CT manifestations and clinical characteristics of 1115 patients with coronavirus disease 2019 \(COVID-19\): A systematic review and meta-analysis](#). Academic Radiology. 2020 Jul 1;27(7):910-21.

In this systematic review, the authors searched for observational studies assessing CT features, clinical features and laboratory results of patients with confirmed COVID-19 infection. They restricted their searches to articles published between 1 January 2019 and 15 March 2020. They included 14 observational studies (total: 1115 participants), which were all from China and assessed these as ‘fair’ quality.

Citation: Xu B, Xing Y, Peng J, et al. [Chest CT for detecting COVID-19: a systematic review and meta-analysis of diagnostic accuracy](#). European Radiology. 2020 Oct;30(10):5720-7.

In this rapid review, the authors searched for studies of the diagnostic test accuracy of chest CT for detecting COVID-19 infection. They did not restrict their searches by language of publication and included studies with ≥ 30 patients, published up to 31 March 2020. They included 16 studies (total: 3186 patients), which were all from China and noted marked variation between studies.

Citation: Zhu J, Zhong Z, Li H, et al. [CT imaging features of 4121 patients with COVID-19: a meta-analysis](#). Journal of Medical Virology 2020 Jul;92(7):891-902.

In this rapid review, the authors searched for observational studies examining CT imaging features of COVID-19 patients. They did not restrict their searches by language of publication and included studies with ≥ 30 patients published between 1 January 2020 and 16 March 2020. They included 34 observational studies (total: 4121 participants), which were conducted in China, and assessed these as high-quality observational studies.

Other reviews of this topic

Citation: Altmayer S, Zanon M, Pacini GS, et al. [Comparison of the Computed Tomography Findings in COVID-19 and Other Viral Pneumonia in Immunocompetent Adults: A Systematic Review and Meta-Analysis](#). European Radiology 2020 Dec; 30(12): 6485-96.

[Smoking and COVID-19 \(multiple reviews\)](#)

Added December 15, 2020

What is this? Smokers are more vulnerable to infectious diseases and smoking can worsen the prognosis of people with respiratory diseases, such as COVID-19. Findings from several relevant rapid reviews are summarised here. More details, including citations and links to the reviews, are available further down this page.

What was found: The reviews found a paucity of data about smoking and COVID-19 but they suggest that smoking, which is an avoidable risk factor, was associated with worse outcomes for COVID-19 patients.

The Grundy review of reviews (search done on 8 May 2020) found an increased risk of developing severe COVID-19 in patients who had ever smoked.

The Patanavanich review (search done on 28 April 2020) found that smoking increases the risk of severe infection and complications related to COVID-19. Smokers were approximately twice as likely to progress to severe or critical disease or death.

The Farsalinos review (search done up to 25 April 2020) found that current smokers had a higher risk of adverse outcomes than non-smokers but a lower risk than former smokers.

The Vardaras review (search done on 17 March 2020) reported that current or previous smokers with COVID-19 infection were more likely to be admitted to an intensive care unit, receive mechanical ventilation and die from the COVID-19 (compared to COVID-19 patients who did not smoke).

What are the reviews:

Citation: Farsalinos K, Barbouni A, Poulas K, et al. [Current smoking, former smoking, and adverse outcome among hospitalized COVID-19 patients: a systematic review and meta-analysis](#). Therapeutic Advances in Chronic Disease. 2020;11:2040622320935765.

In this rapid review, the authors searched for studies assessing the prevalence and effects of current smoking on outcomes among hospitalized COVID-19 patients. They did not restrict their searches by language of publication and searched up to 25 April 2020. They included 30 retrospective observational case series (including 12 pre-prints), including a total of 6515 patients.

Citation: Grundy EJ, Suddek T, Filippidis FT, et al. [Smoking, SARS-CoV-2 and COVID-19: A review of reviews considering implications for public health policy and practice](#). Tobacco induced diseases. 2020;18:58.

In this rapid review of reviews, the authors searched for systematic reviews and meta-analyses on the association between smoking, COVID-19 infection and poor clinical outcomes. They restricted their searches to articles published in English between 1 January 2020 and 8 May 2020. They included 8 reviews.

Citation: Patanavanich R, Glantz SA. [Smoking is associated with COVID-19 progression: a meta-analysis](#). Nicotine & Tobacco Research. 2020;22(9):1653-6.

In this rapid review, the authors searched for comparative studies of the association of smoking with COVID-19 progression. They restricted their searches to articles published between January 2020 and April 2020 and conducted the search on 28 April 2020. They included 19 studies, which were from China (16 studies), Korea (1) and the USA (2). They used data from 11,590 patients in their meta-analysis.

Citation: Vardavas CI, Nikitara K. [COVID-19 and smoking: A systematic review of the evidence](#). Tobacco Induced Diseases. 2020;18:20

In this rapid review, the authors searched for studies of the association between smoking and health outcomes related to COVID-19. They restricted their searches to studies published in English between 2019 and 2020 and did the search on 17 March 2020. They identified 5 studies (1549 participants), all of which were from China.

Other reviews of this topic:

Citation: Alqahtani JS, Oyelade T, Aldhahir AM, et al. [Prevalence, severity and mortality associated with COPD and smoking in patients with COVID-19: a rapid systematic review and meta-analysis](#). PLoS One. 2020;15(5):e0233147.

Citation: Emami A, Javanmardi F, Pirbonyeh N, et al. [Prevalence of underlying diseases in hospitalized patients with COVID-19: A systematic review and meta-analysis](#). Archives of Academic Emergency Medicine. 2020;8(1):e35

Citation: Zheng Z, Peng F, Xu B, et al. [Risk factors of critical & mortal COVID-19 cases: A systematic literature review and meta-analysis](#). Journal of Infection. 2020;81(2):e16-25

[Cancer and COVID-19 \(multiple reviews\)](#)

Added December 3, 2020

What is this? The COVID-19 pandemic is having an impact on cancer care and cancer patients. Several systematic reviews are summarised here, including rapid reviews of COVID-19 infection in cancer patients and the treatment and management of cancer patients during the COVID-19 pandemic. More details on each review, including citations and links to the full versions, are provided lower down this page.

What was found: Overall, the studies included in these reviews suggest that people with cancer may be more likely to contract COVID-19 than people without cancer and may be at higher risk of severe infection,

complications and death. Recommendations have been made to try and protect cancer patients from COVID-19 infection, which include delaying treatment, but this may impact on their cancer outcomes.

The Moujaess review (search done on 5 April 2020) found that COVID-19 can present differently in patients with cancer compared to the general population, which might make COVID-19 diagnosis more challenging in patients with cancer. They also reported that cancer treatments and cancer research had been adversely affected by the COVID-19 pandemic.

The Giannakoulis review (search done on 27 April 2020) found that COVID-19 patients with cancer had higher all-cause mortality than COVID-19 patients without cancer and that they were more likely to need ICU admission.

The Afshar review (search done on 7 May 2020) found case fatality rates in patients with COVID-19 and cancer ranging from 5.5% to 60% and that the proportion of severe COVID-19 cases was higher in patients with cancer than in those without cancer.

The reviews by Tian (search done on 23 April 2020) and Zaki (search done before 23 June 2020) found that cancer patients may be at higher risk of COVID-19 infection, severe infection and poorer outcomes.

The Spolverato review (search done on 4 April 2020) found that recommendations to reduce infection and mortality from COVID-19 in cancer patients included postponing non-essential treatments, providing patients with adequate PPE, case-by-case evaluation for surgery and separate facilities.

The Fligor review (search done on 23 March 2020) found that delayed surgery for colorectal cancer may worsen survival, but that the impact on outcomes for patients with pancreatic or gastric cancer was unclear. The authors noted that neoadjuvant treatment should be considered if surgery is delayed.

The Garg review (search done on 2 May 2020) found many cancer guidelines that had been rapidly developed during the COVID-19 pandemic, which were based on limited evidence. They noted marked discordance in recommendations across sub-specialities and concluded that the guidelines should be interpreted with caution.

What are the reviews:

Citation: Afshar ZM, Dayani M, Naderi M, et al. [Fatality rate of COVID-19 in patients with malignancies: a systematic review and meta-analysis](#). The Journal of Infection. 2020;81(2):e114–6.

In this rapid review, the authors searched for studies that reported the case fatality rate of patients with COVID-19 and cancer. They restricted their search to articles published between 30 December 2019 and 7 May 2020. They included 9 studies (805 patients), which were from China (7 studies), Iran (1) and the USA (1).

Citation: Fligor SC, Wang S, Allar BG, et al. [Gastrointestinal Malignancies and the COVID-19 Pandemic: Evidence-Based Triage to Surgery](#). Journal of Gastrointestinal Surgery. 2020;24:2357-73.

In this review, the authors searched for studies of the impact of time to surgery on cancer-related outcomes for adults with colorectal, pancreatic or gastric cancer. They restricted their search to studies published in English between 1 January 2005 and 23 March 2020. They included 58 studies, which covered colorectal cancer (43 studies), gastric cancer (6) and pancreatic cancer (9).

Citation: Garg PK, Kaul P, Choudhary D, et al. [Discordance of COVID-19 guidelines for patients with cancer: a systematic review](#). Journal of surgical oncology. 2020;122(4):579-93.

In this rapid review, the authors searched for published guidance on cancer and COVID-19. They restricted their search to articles published in English and searched up to 2 May 2020. They included 86 guidelines/recommendations/reviews, 25 research articles, 18 case reports/series, 25 editorials and 58 commentary/expert opinion articles. Most of the included guidelines were published in April 2020.

Citation: Giannakoulis VG, Papoutsis E, Siempos II. [Effect of Cancer on Clinical Outcomes of Patients With COVID-19: A Meta-Analysis of Patient Data](#). JCO Global Oncology. 2020 Jun;6:799-808.

In this rapid review, the authors searched for studies that reported all-cause mortality or need for intensive care unit (ICU) admission in patients with COVID-19, comparing outcomes in patients with cancer to outcomes in patients without cancer. They restricted their searches to articles published in English from 1 January 2020 to 27 April 2020. They included 32 studies (46,499 patients).

Citation: Moujaess E, Kourie HR, Ghosn M. [Cancer patients and research during COVID-19 pandemic: A systematic review of current evidence](#). Critical Reviews in Oncology/Hematology. 2020 Jun;150:102972.

Free to view: No

In this rapid review, the authors searched for studies that investigated the clinical characteristics of adults with cancer who contracted COVID-19. They restricted their search to articles published in English, French or Chinese since December 2019 and did the search on 5 April 2020. They included 68 opinion publications and 20 observational studies.

Citation: Spolverato G, Capelli G, Restivo A, et al. [The management of surgical patients during the COVID-19 pandemic](#). Surgery. 2020 July;168(1):4-10.

In this rapid review, the authors searched for research or opinion papers on the epidemiology and diagnosis of COVID-19, the management of cancer and surgical patients, and the safety of healthcare workers during the pandemic. They did not restrict their searches by type or language of publication, and searched for articles published since January 1998 on 4 April 2020. They included 28 retrospective studies.

Citation: Tian Y, Qiu X, Wang C, et al. [Cancer associates with risk and severe events of COVID-19: A systematic review and meta-analysis](#). International Journal of Cancer. 2021;148:363-74.

In this rapid review, the authors searched for research on the prevalence of cancer in COVID-19 patients and associated outcomes. They restricted their search to studies from China published in English or Chinese, and did the search on 23 April 2020. They included 38 studies (7094 patients).

Citation: Zaki N, Alashwal H, Ibrahim S. [Association of hypertension, diabetes, stroke, cancer, kidney disease, and high-cholesterol with COVID-19 disease severity and fatality: a systematic review](#). Diabetes & Metabolic Syndrome: Clinical Research & Reviews. 2020;14(5):1133-42.

In this rapid review, the authors searched for studies assessing the effect of comorbidities, including cancer, on the severity of COVID-19 infection. The search period is not documented but the manuscript was submitted to the journal on 23 June 2020. They included 7 articles focused on cancer.

Other reviews of this topic:

Citation: Crosby DL, Sharma A. [Evidence-based guidelines for management of head and neck mucosal malignancies during the COVID-19 pandemic](#). Otolaryngology–Head and Neck Surgery. 2020;163(1):16-24.

Citation: Russell B, Moss C, George G, et al. [Associations between immune-suppressive and stimulating drugs and novel COVID-19: a systematic review of current evidence](#). Ecancermedicalsecience. 2020;14:1022.

Citation: Xing L, Guo X, Bai L, Qian J, Chen J. [Are spiritual interventions beneficial to patients with cancer?: a meta-analysis of randomized controlled trials following PRISMA](#). Medicine. 2018;97(35):e11948.

Citation: Zaorsky NG, James BY, McBride SM, et al. [Prostate cancer radiotherapy recommendations in response to COVID-19](#). Advances in Radiation Oncology. 2020;5(4):659-65.

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

Latest updates

23 DEC 2020

COVID-19 mRNA vaccine from Pfizer-BioNTech (Comirnaty) receives conditional marketing authorization by the European Commission for active immunization to prevent COVID-19 in persons \geq 16 years old (European Medicines Agency [EMA] Press Release 2020 Dec 21) [View in topic](#)

23 DEC 2020

in adults hospitalized with laboratory-confirmed COVID-19, reverse transcriptase polymerase chain reaction (RT-PCR) positivity for SARS-CoV-2 appears to peak within 3 days after disease onset, and IgM and IgG seroconversion rates appear to peak by 5 weeks (Ann Intern Med 2020 Dec 8 early online) [View in topic](#)

23 DEC 2020

addition of tocilizumab to standard care reduces risk of composite of mechanical ventilation and death in adults from high-risk and mostly racial and ethnic minority populations hospitalized with COVID-19 pneumonia (N Engl J Med 2020 Dec 17 early online) [View in topic](#)

23 DEC 2020

high-dose combination therapy with casirivimab plus imdevimab (REGN-COV2) may reduce viral load at 7 days in nonhospitalized adults with COVID-19 (N Engl J Med 2020 Dec 17 early online) [View in topic](#)

23 DEC 2020

addition of baricitinib to remdesivir may shorten time to recovery in adults hospitalized with COVID-19 (N Engl J Med 2020 Dec 11 early online) [View in topic](#)

23 DEC 2020

awake prone positioning may not reduce intubation rate in patients with confirmed or suspected COVID-19 and with tachypnea requiring oxygen supplementation (Acad Emerg Med 2020 Dec) [View in topic](#)

22 DEC 2020

FDA issues Emergency Use Authorization for Moderna COVID-19 mRNA vaccine for active immunization to prevent COVID-19 disease in persons \geq 18 years old (FDA Press Release 2020 Dec 18) [View in topic](#)

22 DEC 2020

Pfizer-BioNTech mRNA vaccine (BNT162b2) may be 95% effective against COVID-19 in persons \geq 16 years old (N Engl J Med 2020 Dec 10 early online) [View in topic](#)

18 DEC 2020

AbC-19 Rapid Test LFIA may have moderate sensitivity and high specificity to detect antibodies against SARS-CoV-2 in essential workers (BMJ 2020 Nov 11) [View in topic](#)

18 DEC 2020

FDA issues Emergency Use Authorization for Ellume COVID-19 Home Test (using self-collected nasal swabs with results read at home) to test for COVID-19 in persons \geq 2 years old without a prescription (FDA Press Release 2020 Dec 15) [View in topic](#)

16 DEC 2020

addition of interferon beta 1-a to standard care may not decrease in-hospital mortality in adults with COVID-19 (N Engl J Med 2020 Dec 2 early online) [View in topic](#)

16 DEC 2020

addition of lopinavir/ritonavir to standard care may not decrease in-hospital mortality in adults with COVID-19 (N Engl J Med 2020 Dec 2 early online) [View in topic](#)

16 DEC 2020

addition of hydroxychloroquine to standard care may not decrease in-hospital mortality in adults with COVID-19 (N Engl J Med 2020 Dec 2 early online) [View in topic](#)

16 DEC 2020

addition of remdesivir to standard care may not decrease in-hospital mortality in adults with COVID-19 (N Engl J Med 2020 Dec 2 early online) [View in topic](#)

15 DEC 2020

United States FDA issues Emergency Use Authorization for Pfizer-BioNTech COVID-19 mRNA vaccine BNT162b2 for active immunization to prevent COVID-19 disease in persons \geq 16 years old (FDA Press Release 2020 Dec 11) [View in topic](#)

12 DEC 2020

risk of infection associated with exposure to person with laboratory-confirmed SARS-CoV-2 infection may vary from < 1% to 10% depending on exposure setting, with household exposure associated with increased risk compared to each of healthcare, entertainment or workplace, and public transportation settings in China (Ann Intern Med 2020 Dec 1) [View in topic](#)

11 DEC 2020

0.8% estimated infection fatality rate associated with SARS-CoV-2 in Spain between April 27 and June 22, 2020 (BMJ 2020 Nov 27) [View in topic](#)

11 DEC 2020

384-well ELISA and Total immunoassays may have at least 96% sensitivity and 98% specificity to diagnose COVID-19 \geq 20 days after symptom onset in adults (Lancet Infect Dis 2020 Dec) [View in topic](#)

11 DEC 2020

addition of inhaled recombinant interferon beta-1a to standard care might increase rates of clinical improvement and recovery in adults with COVID-19 not receiving ventilation or intensive unit care (Lancet Respir Med 2020 Nov 12 early online) [View in topic](#)

10 DEC 2020

FDA issues Emergency Use Authorization for LabCorp Pixel COVID-19 Test Home Collection Kit (using self-collected nasal swabs sent to LabCorp for testing) to test for COVID-19 in persons \geq 18 years old without a prescription (FDA Press Release 2020 Dec 9) [View in topic](#)

10 DEC 2020

adenovirus-vectored vaccine expressing SARS-CoV-2 spike protein (ChAdOx1 nCoV-19) reported to have neutralizing antibody response at 14 days after boost vaccination in 99.5% of healthy adults and to be safe in healthy older adults (Lancet 2020 Nov 18 early online) [View in topic](#)

10 DEC 2020

FDA issues Emergency Use Authorization for Quest Diagnostics RC COVID-19 + Flu RT-PCR Test (using home-collected sample) to detect SARS-CoV-2 and influenza A and B in persons who are suspected of respiratory viral infection consistent with COVID-19 (FDA Press Release 2020 Dec 4; FDA Fact Sheet for Healthcare Providers 2020 Dec 4) [View in topic](#)

10 DEC 2020

vertical transmission reported in 6.3% of neonates born to mothers with COVID-19 (J Med Virol 2020 Oct 22 early online) [View in topic](#)

8 DEC 2020

$>$ 50% lung involvement on chest computed tomography (CT) at hospital admission associated with increased risk of composite of death or admission to ICU within 7 days of hospital admission in adults with confirmed COVID-19 (Clin Microbiol Infect 2020 Oct) [View in topic](#)

8 DEC 2020

in adults receiving home healthcare after hospitalization for COVID-19, male sex, White race, heart failure, diabetes with complications, daily pain, and cognitive impairment each associated with increased risk of composite of rehospitalization and death (Ann Intern Med 2020 Nov 24 early online) [View in topic](#)

8 DEC 2020

nomogram might help predict 14-day and 21-day in-hospital survival in adults hospitalized with COVID-19 in China (Clin Infect Dis 2020 Jul 10 early online) [View in topic](#)

7 DEC 2020

convalescent plasma may not improve clinical status at 30 days in adults hospitalized with severe COVID-19 pneumonia (N Engl J Med 2020 Nov 24 early online) [View in topic](#)

4 DEC 2020

QCOVID risk score helps predict COVID-19-specific mortality and COVID-19-related hospital admission in adults from general population (BMJ 2020 Oct 20) [View in topic](#)

3 DEC 2020

O blood group and Rh-negative group associated with reduced risk of SARS-CoV-2 infection (Ann Intern Med 2020 Nov 24 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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