

April 16, 2020
Daily COVID-19 Literature Surveillance Summary



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Coming soon:



COVID-19 Daily Literature Surveillance

COVID19LST



Bringing you real time, distilled information for guiding best practices during the COVID-19 pandemic



The Swab

Jasmine Rah



The untold stories of the coronavirus (COVID-19) pandemic.

April 16th, 2020

Executive Summary

Climate:

- Medical providers continue to face difficult choices as the pandemic continues, questions regarding [ethics](#), [non-peer reviewed science](#), [patient safety and litigation](#) begin to emerge.
- Unexpected consequences of the pandemic
 - [Increased domestic violence](#)
 - [Innovative developments](#)
 - [Decrease in global pollution](#)

Epidemiology

- Creative modeling algorithms using search engine [key words](#) seem to reflect the [health practices](#) of communities

Pathology

- New evidence continues to support [aberrant T cell](#) function during severe COVID-19 infections

PPE

- Decontamination of N95 with [UV](#)

Management

- Meta-analysis of literature reveals [corticosteroids were highly associated with more severe disease](#)
- CRP, ESR and other [markers of inflammation](#) continue to be good markers of disease

New guidelines:

- [ED Screening criteria](#) with greater specificity and sensitivity than WHO criteria
- Managing acutely ill [pregnant women](#)
- [Autoimmune liver disease, IBS, endoscopy](#)
- [Nutrition](#) for ICU patients
- [Perioperative infection control](#)
- [Autoimmune skin disorders](#)
- [Rehabilitation](#)
- [Elective](#) and [emergent](#) ortho procedures
- [Solid organ transplants](#) and their patients

Potential treatments on the horizon:

- [tPA](#)
- [Hydroxychloroquine](#)
- [Ivermectin](#)
- [IVIG](#)
- [Bitter medications](#)
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[Cardiovascular Disease and Use of Renin-Angiotensin System Inhibitors in COVID-19.](#)

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Levels of Evidence

Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence

Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5)
How common is the problem?	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
Is this diagnostic or monitoring test accurate? (Diagnosis)	Systematic review of cross sectional studies with consistently applied reference standard and blinding	Individual cross sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards**	Case-control studies, or "poor or non-independent reference standard**	Mechanism-based reasoning
What will happen if we do not add a therapy? (Prognosis)	Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of randomized trial*	Case-series or case-control studies, or poor quality prognostic cohort study**	n/a
Does this intervention help? (Treatment Benefits)	Systematic review of randomized trials or n-of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
What are the COMMON harms? (Treatment Harms)	Systematic review of randomized trials, systematic review of nested case-control studies, n-of-1 trial with the patient you are raising the question about, or observational study with dramatic effect	Individual randomized trial or (exceptionally) observational study with dramatic effect	Non-randomized controlled cohort/follow-up study (post-marketing surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms the duration of follow-up must be sufficient.)**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning
What are the RARE harms? (Treatment Harms)	Systematic review of randomized trials or n-of-1 trial	Randomized trial or (exceptionally) observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning
Is this (early detection) test worthwhile? (Screening)	Systematic review of randomized trials	Randomized trial	Non-randomized controlled cohort/follow-up study**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning

* Level may be graded down on the basis of study quality, imprecision, indirectness (study PICO does not match questions PICO), because of inconsistency between studies, or because the absolute effect size is very small; Level may be graded up if there is a large or very large effect size.

** As always, a systematic review is generally better than an individual study.

Credit: OCEBM Levels of Evidence Working Group*. "The Oxford 2011 Levels of Evidence". Oxford Centre for Evidence-Based Medicine. <http://www.cebm.net/index.aspx?o=5653>

Climate

Reply to: "Skin damage among healthcare workers managing coronavirus disease-2019".

[PMID: 32283228](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Oranges, Teresa; Janowska, Agata; Dini, Valentina

Journal of American Academy of Dermatology

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Comment

Summary: Eczema is one of the main skin problems in healthcare workers managing COVID-19 and using medical devices. Frequent hand hygiene, recommended by WHO, use of antiseptics, and double-layered gloves may be the cause. Topical products containing purified omental lipids and using thin hydrocolloid dressing on the nasal bridge may help.

Is it ethical to be a "whistleblower" during the COVID-19 pandemic ? -Ethical challenges confronted by health care workers in China.

[PMID: 32281144](#)

Publication Date: Apr 12, 2020; Apr 14, 2020 (LitCovid)

Zhu, Junhong

J Adv Nurs

Level of Evidence: Level 5 - Expert opinion

Type of Article: Editorial

Summarizing excerpt: “Any individual behaviour or organizational decision that deviates from general public health goal is a violation of basic principles of public health ethics, and ultimately harms public health and is, therefore, unethical. According to this criterion, although the four ‘whistleblowers’ were punished, their behaviors did not violate the principles of public health ethics. For the sake of public safety and health, the ‘whistleblowers’ who violated executive orders can be said not only to have behaved ethically but also are worthy of the HCWs’ respect and attention.”

Abstract: Should healthcare workers (HCWs) tell the truth? The answer seems definite to be yes since every medical and nursing staff has taken an oath to the *Hippocratic Oath* or *Nightingale Florence Pledge* that only integrity and honesty deserve the trust of patients and commitment of saving life. HCWs who work within the medical system in normal times should follow biomedical ethics, and their primary responsibility is to safeguard the health rights and interests of individual patients.

Nursing homes and COVID-19: we can and should do better.

[PMID: 32281165](#)

Publication Date: Apr 12, 2020; Apr 14, 2020 (LitCovid)

Davidson, Patricia M; Szanton, Sarah L

Journal of Clinical Nursing

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Comment

BLUF: Nursing homes have high transmission rates for infectious diseases and there has been a failure to address staffing (very low numbers of registered numbers found) and care models (guidelines are not met adequately) in nursing homes and skilled nursing facilities.

Abstract:

The COVID-19 pandemic is providing us with many painful lessons particularly the vulnerability of individuals living with chronic conditions and the need for preparedness, coordination, and monitoring. Long-term care facilities, including nursing homes, skilled nursing facilities, and assisted living facilities, provide care for some of the most vulnerable populations in society, including older people and those with chronic medical conditions. In the United Kingdom, there are about 17,000 people living in nursing and residential care homes and 200,000 Australians live or stay in residential aged care on any given day.

Patient safety and litigation in the NHS post-COVID-19.

[PMID: 32279553](#)

Publication Date: Apr 11, 2020; Apr 14, 2020 (LitCovid)

Tingle, John

British Journal of Nursing

Level of Evidence: Level 6 - No evidence

Type of Article: Comment

BLUF: With the current pandemic where health professionals are being recruited from retirement or expedited into the field along with other issues pertaining to patient safety, equipment manufacturers, pharmaceutical manufacturers, hospital systems, and near events, clinical negligence claims and costs are at a record high and will only increase.

End-of-life decisions and care in the midst of a global coronavirus (COVID-19) pandemic.

[PMID: 32280052](#)

Publication Date: Apr 2, 2020; Apr 14, 2020 (LitCovid)

Pattison, Natalie

Intensive Crit Care Nurs

Level of Evidence: 5 - Expert Opinion

Type of Article: Editorial

Summary: The author insists that healthcare providers should have end-of-life discussions with their critically ill patients using several guidelines provided in the editorial, and "...[ensure] a critical care nursing presence, an interpersonal process characterised by sensitivity, intimacy, vulnerability alongside empathy and holistic care."

Collateral consequences of COVID-19 epidemic in Greater Paris.

[PMID: 32283116](#)

Publication Date: Apr 3, 2020

Lapostolle, F; Agostinucci, J M; Alheritiere, A; Petrovic, T; Adnet, F

Resuscitation

Level of Evidence: Level 5 – Retrospective Cohort

Type of Article: Letter

Summarizing Excerpt: The emergency medical system overload in France due to COVID-19 did not significantly affect prehospital management of patients with cardiac arrest. Fear of COVID-19 did

not appear to decrease the – already very low – rate of witness-initiated CPR. However, this effect may be underestimated by a lack of statistical power.

The pandemic paradox: the consequences of COVID-19 on domestic violence.

[PMID: 32281158](#)

Publication Date: Apr 12, 2020; Apr 14, 2020 (LitCovid)

Bradbury-Jones, Caroline; Isham, Louise

J Clin Nurs

Level of Evidence: Level 5 - Expert opinion

Type of Article: Editorial

BLUF: Isolative measures can decrease safety and access to resources for women and children in domestic violence situations. Proposed measures to mitigate this include strategies for “crisis services to remain open. This means ensuring that voluntary sector practitioners can access personal protective equipment, be paid in full and be supported to care for their own families whilst working. It also means finding new solutions, including increasing capacity for helpline services and running targeted campaigns, alongside specialist services, about discrete ways that victim-survivors can contact the emergency services without alerting their abuser.”

Abstract: COVID-19 (the new strain of coronavirus) has been declared a global pandemic. Measures announced over recent weeks to tackle it have seen people's **day-to-day life drastically altered**. These changes are essential to beat coronavirus and protect health systems (UK Home Office 2020). However, there are unintended, negative consequences. As the virus continues to spread across the world, it brings with it multiple new stresses, including physical and psychological health risks, isolation and loneliness, the closure of many schools and businesses, economic vulnerability and job losses. Through all of that, **children (and their mothers) are particularly vulnerable** (End Violence against Children, 2020) **to the risk of domestic violence**. Domestic violence refers to a range of violations that happen within a domestic space. It is a broad term that encompasses intimate partner violence (IPV), a form of abuse that is perpetrated by a current or ex-partner.

Flattening the Curve by Getting Ahead of It: How the VA Healthcare System Is Leveraging Telehealth to Provide Continued Access to Care for Rural Veterans.

[PMID: 32282955](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Myers, Ursula S; Birks, Anna; Grubaugh, Anouk L; Axon, R Neal

J Rural Health

Level of Evidence: 6 - No clinical data provided

Type of Article: Comment

Summary: The VA is the largest telehealth provider in the US. The majority of patients who utilize this system live in rural areas. An act passed in 2018 mandates that mental health and primary care services at the VA must be telehealth capable. During the pandemic, telehealth utilization has rapidly increased, even expanding beyond traditional platforms to Facetime, etc. as a necessary accommodation.

COVID-19 and the liver: the perils of non-peer reviewed science in times of a pandemic.

[PMID: 32283098](#)

[Publication Date: Apr 2, 2020; Apr 14, 2020 \(LitCovid\)](#)

Debes, Jose D

Gastroenterology

Level of Evidence: 5 – Expert Opinion

Type of Article: Correspondence

BLUF: The author voices concern regarding a recently published article (Gu J, Han B, Wang J.

COVID-19: Gastrointestinal manifestations and potential fecal-oral transmission. *Gastroenterology* 2020.) and the fact that it was not peer reviewed.

Summarizing excerpt: I read with great interest the article by Gu et al about COVID-19 and gastrointestinal manifestations. In the article the authors report a detailed discussion about the role of Angiotensin Converting Enzyme 2 (ACE-2) receptor and its presence in cholangiocytes but not in hepatocytes as so to explain the pathophysiology of hepatic involvement by SARS-CoV2. The authors hypothesize on the importance of the ACE2 receptor referencing a manuscript that involves single cell RNA sequencing performed on liver cells. Such study was performed in healthy subjects only (despite a title that seems to depict otherwise) and, more importantly, the study was not peer-reviewed, but rather directly published.

Latin American healthcare systems in times of pandemic.

[PMID: 32282974](#)

[Publication Date: Apr 13 2020; Apr 14, 2020 \(LitCovid\)](#)

Litewka, Sergio G; Heitman, Elizabeth

Dev World Bioeth

Level of Evidence: 5 – Expert opinion

Type of Article: Special Issue

Summarizing Excerpt: “If the COVID-19 pandemic behaves in Latin American as has been forecasted by the UK Imperial College Response Team, which predicts that hospitals will be overwhelmed and many people will die in even the well-funded and efficient healthcare systems of high-income countries, it is to be assumed that the outcomes in Latin American countries will be dire.”

Parallel problems

[PMID: 32287805](#)

[Publication Date: March 6, 2020](#)

No authors listed

New Scientist

Level of Evidence: Level 6 - Expert Opinion

Type of Article: Editorial

Summary: The author draws parallels between the U.S.’s response to coronavirus and efforts to address the climate change crisis. First, in the behavior of individuals (such as handwashing or recycling) and then in politician’s belief (or lack-there-of) of scientific evidence. The author’s primary plea is to unbar, widen, and listen to the voice of scientists on issues of which they are the expert opinion.

Education

Cardiothoracic Education in the Time of COVID-19: How I Teach It.

[PMID: 32283082](#)

Publication Date: Apr 14, 2020 (L)

Lewis, Erik E; Taylor, Lauren J; Hermsen, Joshua L; McCarthy, Daniel P; Fiedler, Amy G
Ann Thorac Surg

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Perspective

Summary: In order to continue training for cardiothoracic surgical residents, the structure of didactics has changed from topic-driven PowerPoint presentations to simulated “mock oral” engagements on one cardiac/congenital and one thoracic topic weekly. Every trainee has been provided with The Chamberlain Group pocket vessel anastomosis simulation kit and have scheduled weekly “friendly competitions” observed by a faculty member. Thoughtful innovation is needed.

Impact, Strategies and Opportunities for Early and Mid-Career Cardiovascular Researchers During the COVID-19 Pandemic.

[PMID: 32286082](#)

Publication Date: Apr 15, 2020

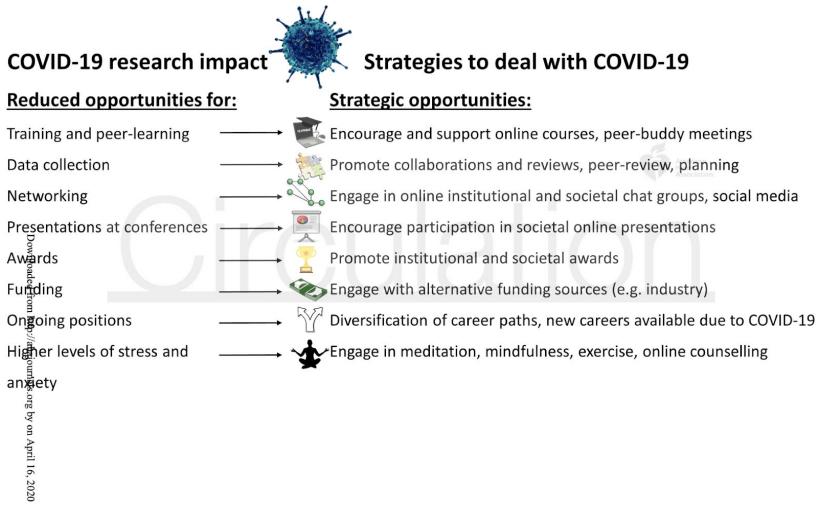
Climie, Rachel E; Marques, Francine Z.

Circulation

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Comment

Summary: The COVID-19 pandemic is negatively impacting cardiovascular Early- and Mid-career researchers (EMCRs) opportunities to establish research independence, mentorship (providing and receiving), team development, and funding. Female EMCRs with children are likely to be disproportionately impacted. Strategies to support career momentum include increased support from leadership, creative electronic learning opportunities, diversification of career paths, exploration of alternative funding opportunities, and maintaining good physical and mental health. The author calls for a transformative change in the culture of cardiovascular research driven by EMCRs to foster collaboration between industry and academia.



Orthopaedic Education During the COVID-19 Pandemic.

[PMID: 32282439](#)

Publication Date: Apr 8, 2020; Apr 14, 2020 (LitCovid)

Kogan, Monica; Klein, Sandra E; Hannon, Charles P; Nolte, Michael TJ Am Acad Journal of American Academy of Orthopaedic Surgeons

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Editorial

BLUF: Amidst the pandemic's disruption to residency education, there are unique opportunities for resident growth and development. "Potential tools include the use of virtual meeting platforms, independent home study, surgical simulation and fostering leadership opportunities." It is also stressed for success, residents must feel safe, protected and heard.

Abstract: The COVID-19 global pandemic presents a challenge to orthopaedic education. Around the world, including in the United States, elective surgeries are being deferred, and orthopaedic residents and fellows are being asked to make drastic changes to their daily routines. In the midst of these changes are unique opportunities for resident/fellow growth and development. Educational tools in the form of web-based learning, surgical simulators, and basic competency tests may serve an important role. Challenges are inevitable, but appropriate preparation may help programs ensure continued resident growth, development, and well-being, while maintaining high quality patient care.

Optimizing Teledermatology Visits for Dermatology Resident Education During the COVID-19 Pandemic.

[PMID: 32283238](#)

Publication date: Mar 31, 2020 (accepted date); Apr 14, 2020 (LitCovid)

Oldenburg, Reid; Marsch, Amanda

J Am Acad Dermatol

Level of Evidence: 5- Expert opinion

Type of Article: Correspondence

Summary: During the COVID-19 pandemic, "Institutions should immediately start implementing [teledermatology] workflows that incorporate residents to both avoid disruption in resident education and allow for trouble shooting while patient volume is low." The article outlines effective workflows in achieving this.

Epidemiology

COVID-19: From bench to bed side

[PMID: 32283498](#)

Publication Date: Apr 9, 2020; Apr 14, 2020 (LitCovid)

Singh, Akriti; Shaikh, Altamash; Singh, Ritu; Singh, Awadhesh Kumar

Diabetes Metab Syndr

Level of Evidence: Level 2- Systematic review

Type of Article: Literature Review

Summarizing excerpt: “SARS-CoV-2 is more infectious, has a long incubation period and a short serial interval but low case-fatality rate than SARS-CoV-1 and MERS-CoV. However, case-fatality rate is much higher in comorbidities. Isolation and containment is [the] only way of prevention from contracting COVID-19.”

Abstract:

BACKGROUND AND AIMS: The last two decades have experienced the outbreaks of three different coronaviruses in the different parts of the world namely; Severe acute respiratory syndrome coronavirus-1 (SARS-CoV-1), Middle East respiratory syndrome (MERS-CoV) and Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). We aimed to delineate the differences in viral dynamics and clinical features between them and tried to focus on every basic detail of SARS-CoV-2 (COVID-19) that every health care provider must know.

METHODS: We systematically searched the PubMed database up till April 2, 2020 and retrieved all the articles published on SARS-CoV-2, SARS-CoV-1, MERS-CoV that dealt with viral dynamics.

RESULTS: Ample data is available to suggest the differences in etiology, transmission cycle, diagnosis, genetics, hosts, reproductive rates, clinical features, laboratory diagnosis and radiological features between SARS-CoV-1, MERS-CoV and SARS-CoV-2.

CONCLUSION: Although SARS-CoV-2 (COVID-19) is more infectious than SARS-CoV-1 and MERS-CoV, most infections are generally mild and self-limiting. However, case-fatality rates are very high in patients with COVID-19 with comorbidities, compared to SARS-CoV-1 and MERS-CoV.

Clinical and Laboratory-Derived Parameters of 119 Hospitalized Patients with Coronavirus Disease 2019 in Xiangyang, Hubei Province, China.

[PMID: 32283164](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Shen, Liang; Li, Shichao; Zhu, Yufang; Zhao, Jianzhong; Tang, Xiaoyong; Li, Huiqin; Xing, Hui; Lu, Mingqing; Frederick, Christina; Huang, Canping; Wong, Gary; Wang, Chunhua; Lan, Jiaming
J Infect

Level of Evidence: 4 - Case series

Type of Article: Research

Summary: The authors analyzed data from 119 patients with COVID-19 in one hospital. The study looked at numerous clinical parameters including transmission trends, symptoms, and disease progression as well as numerous laboratory parameters for the evaluation of organ damage.

COVID-19 in Children in the United States: Intensive Care Admissions, Estimated Total Infected, and Projected Numbers of Severe Pediatric Cases in 2020.

[PMID: 32282440](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Pathak, Elizabeth Barnett; Salemi, Jason L; Sobers, Natasha; Menard, Janelle; Hambleton, Ian RJ
Public Health Manag Pract

Level of Evidence: 4 - Statistical modelling based on case series

Type of Article: Research

BLUF: Hospitals and local health departments must prepare for an expected increase in the number of pediatric patients with COVID-19 requiring hospital and PICU admissions that may overwhelm current reserves.

Abstract:

IMPORTANCE: A surge in severe cases of COVID-19 in children would present unique challenges for hospitals and public health preparedness efforts in the United States.

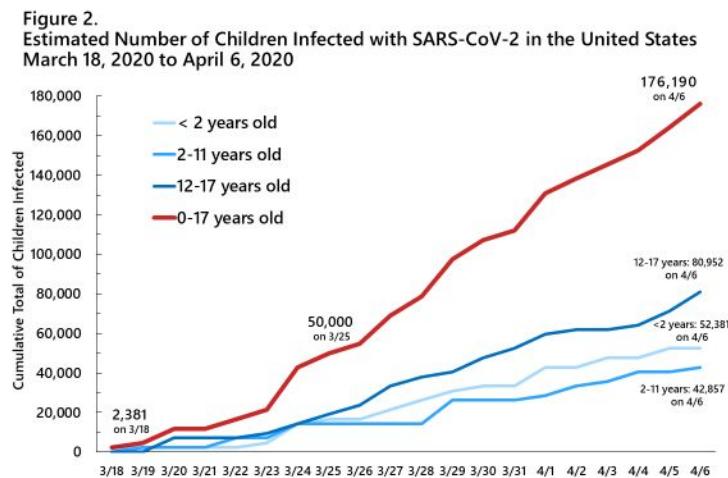
OBJECTIVE: To provide evidence-based estimates of children infected with SARS-CoV-2 and projected cumulative numbers of severely ill pediatric COVID-19 cases requiring hospitalization during the US 2020 pandemic.

DESIGN: Empirical case projection study

MAIN OUTCOMES AND MEASURES: Adjusted pediatric severity proportions and adjusted pediatric criticality proportions were derived from clinical and spatiotemporal modelling studies of the COVID-19 epidemic in China for the period Jan-Feb 2020. Estimates of total children infected with SARS-CoV-2 in the US through April 6, 2020 were calculated using US pediatric intensive care unit (PICU) cases and the adjusted pediatric criticality proportion. Projected numbers of severely and critically ill children with COVID-19 were derived by applying the adjusted severity and criticality proportions to US population data, under several scenarios of cumulative pediatric infection proportion (CPIP).

RESULTS: By April 6, 2020, there were 74 children who had been reported admitted to PICUs in 19 states, reflecting an estimated 176 190 children nationwide infected with SARS-CoV-2 (52 381 infants and toddlers <2 years, 42 857 children 2-11 years, and 80 952 children 12-17 years). Under a CPIP scenario of 5%, there would be 3.7 million children infected with SARS-CoV-2, 9907 severely ill children requiring hospitalization, and 1086 critically ill children requiring PICU admission. **Under a CPIP scenario of 50%, 10 865 children would require PICU admission, 99 073 would require hospitalization for severe pneumonia, and 37.0 million would be infected with SARS-CoV-2.**

CONCLUSIONS AND RELEVANCE: Because there are 74.0 million children 0-17 years old in the US, the projected numbers of severe cases could overwhelm available pediatric hospital care resources under several moderate CPIP scenarios, despite lower severity of COVID-19 in children than in adults.



Social media WeChat infers the development trend of COVID-19.

PMID: 32283142

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Lu, Yue; Zhang, Leiliang

J Infect

Level of Evidence: Predictive modeling, proof of concept

Type of Article: Letter to the Editor

BLUF: Word popularity trends in WeChat during the COVID-19 pandemic correlated with the state of the pandemic at that time. The concerns of citizens at different stages of a pandemic may be able to be utilized during other outbreaks to address issues of social distress.

Summary: The WeChat Index was analyzed for “hot” topics starting in December 2019 in China. “Hot” words included “Wuhan”, “novel coronavirus”, and “pneumonia”. These words remained “hot” during January and February 2020 during the pandemic. Other hot words related to healthcare figures, suspected zoological viral sources, “mask”, “isolation”, “infection”, and “starting school/resuming work”. These topic trends seem to mirror the current state of the pandemic in China socially and medically. The overall trend may be able to be extrapolated to represent public concerns at different pandemic stages.

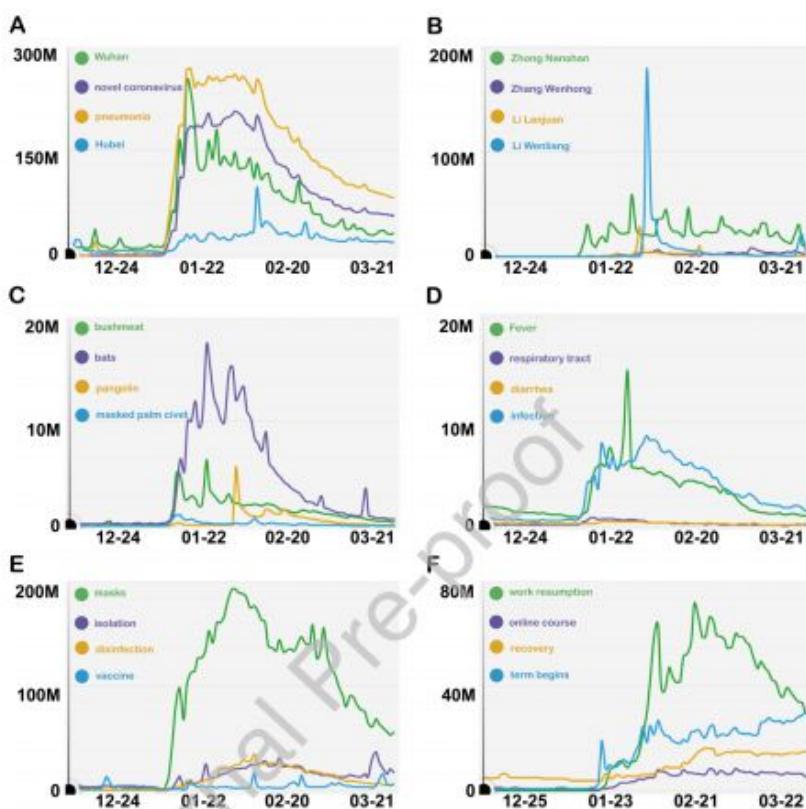


Figure 1. WeChat Index of six groups of popular words (from Dec 24, 2019 to March 22, 2020).

- A. WeChat Index of COVID-19 outbreak place and the name of the disease/virus. B. WeChat Index of famous doctors and whistler. C. WeChat Index of potential hosts. D. WeChat Index of potential symptoms. E. WeChat Index of disease control terms. F. WeChat Index of back to school and back to work.

Understanding the Dynamics of COVID-19.

[PMID: 32282887](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

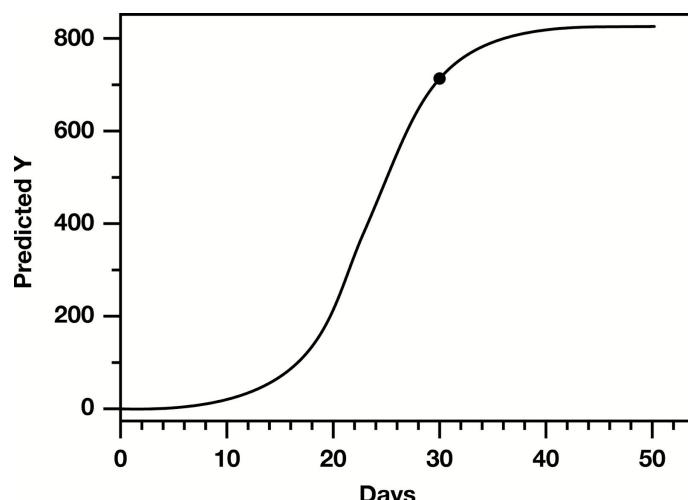
Vollmer, Robin

Am J Clin Pathol

Level of Evidence: 5 - Expert Opinion

Type of Article: Letter

Summary: The author uses statistical modeling to study the dynamics of COVID-19. “The success for the logistic growth model applied here to COVID-19 [data from the Diamond Princess] suggests that for many populations the number of infected may eventually reach a limit.”



Google searches for the keywords of "wash hands" predict the speed of national spread of COVID-19 outbreak among 21 countries.

[PMID: 32283286](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Lin, Yu-Hsuan; Liu, Chun-Hao; Chiu, Yu-Chuan

Brain Behav Immun

Level of Evidence: Predictive modeling

Type of Article: Letter to the Editor

BLUF: Google searches for “wash hands” correlated with decreased velocity of infection spread in 21 countries. “Face masks” did not show this correlation. Causative effects can not be determined based on this data alone.

Abstract: This study hypothesized that **national population health literacy** might reflect on their keywords searching. We applied Google searches for “wash hands” and “face mask” during January 19 to February 18 as a surrogate of national population health literacy among 21 countries, and examine whether google searches for “wash hands” and “face masks” would protect from increased numbers of confirmed cases of among 21 countries. **We found the increased google searches for “wash hands” from January 19 to February 18, 2020, correlated with a lower spreading speed of COVID-19** from February 19 to March 10, 2020 among 21 countries

(Pearson's correlation coefficient of -0.70 , $P < 0.001$). The result highlights the **importance of public awareness of hand washing** in preventing COVID-19 disease spreading.

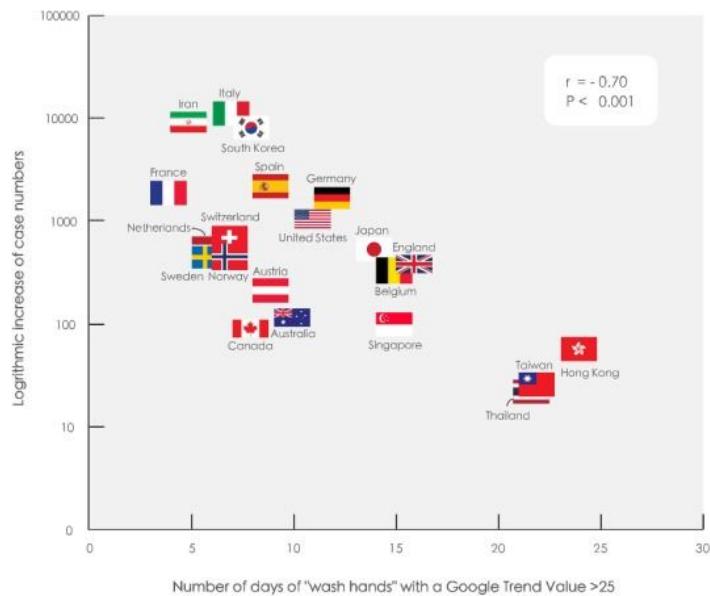


Fig. 2. The number of days with a “Google Trend” value of >25 for “wash hands” during January 19 to February 18 had a temporally negatively association to the logarithmic increased COVID-19 cases among 21 countries during February 18 to March 10.

Imported COVID-19 Cases Pose New Challenges for China.

[PMID: 32283157](#)

Publication Date Mar 26, 2020 (acceptance date); Apr 14, 2020 (LitCovid)

Chen, Libin; Cai, Juncheng; Lin, Qiuyan; Xiang, Bin; Ren, Tao

J Infect

Level of Evidence: 5 – Expert Opinion

Type of Article: Correspondence

Summary: Though data suggest that China has controlled COVID-19 spread among its citizens, the country has entered a stage where imported cases pose a significant threat and a global effort will be required to limit resurgences in infection.

A Commentary on Rural-Urban Disparities in COVID-19 Testing Rates per 100,000 and Risk Factors.

[PMID: 32282964](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Souch, Jacob M; Cossman, Jeralynn S

J Rural Health

Level of Evidence: Level 1 – Local and current censuses

Type of Article: Commentary

Summary: “Our analyses suggest that rural states—ranked higher in specific risk factors like hypertension, obesity, diabetes, lung cancer, and e-cigarette use—are performing [SARS-CoV-2] tests at lower rates.”

Society coexisting with COVID-19.

[PMID: 32281538](#)

[Publication Date: Apr 13, 2020; Apr 14, 2020 \(LitCovid\)](#)

Tanabe, Kazuhiro

Infect Control Hosp Epidemiol

Level of Evidence: 5 - Expert Opinion

Type of Article: Letter

Summary: The author compares the progression of countries from 100 COVID-19 patients to 1000. For 14/15 countries discussed in the letter, this feat took less than 12 days; in Japan, this occurred in more than 28 days. Japan responded quickly to the pandemic by implementing a lockdown early. However, this low rate of spread could also be due to low testing rates. The author argues that "...excessive responses do not always have expected results. Limiting society functions such as lockdown is accompanied by major adverse effects among the socially vulnerable, including elderly people [i.e., Japan's aging population] or the patients suffering from the other diseases, and it may result in deaths from other causes."

Chronic liver disease is not associated with severity or mortality in Coronavirus disease 2019 (COVID-19): a pooled analysis.

[PMID: 32282549](#)

[Publication Date: Apr 10, 2020; Apr 14, 2020 \(LitCovid\)](#)

Lippi, Giuseppe; de Oliveira, Maria Helena Santos; Henry, Brandon Michael

European Journal of Gastroenterology & Hepatology

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Letter to the Editor

Summary (with excerpts): The aim was to analyze if "co-morbid chronic liver disease in patients with laboratory confirmed COVID-19 is associated with increased odds of severe form of disease or mortality". With a final pooled analysis of 6 studies from 39 from initial catchment, "chronic liver disease was not found to be associated with increased odds of severe form of COVID-19 [OR 0.96 (95% CI 0.36-2.52), I²=0%, Cochran's Q, P=0.86]". And, it was "neither significantly associated with increased odd of mortality in COVID-19 patients [OR 2.33 (95% CI 0.77-7.04), I²=30%, Cochran's Q, P=0.23]". Chronic liver appears to have a "minor role in influencing patient progression towards the severe form of disease".

Rapid asymptomatic transmission of COVID-19 during the incubation period demonstrating strong infectivity in a cluster of youngsters aged 16-23 years outside Wuhan and characteristics of young patients with COVID-19: a prospective contact-tracing study.

[PMID: 32283156](#)

[Publication Date: Apr 10, 2020; Apr 14, 2020 \(LitCovid\)](#)

Huang, Lei; Zhang, Xiuwen; Zhang, Xinyue; Wei, Zhijian; Zhang, Lingli; Xu, Jingjing; Liang, Peipei;

Xu, Prof Yuanhong; Zhang, Chengyuan; Xu, Prof Aman

J Infect

Level of Evidence: 4 - Observational Study

Type of Article: Research

Summarizing excerpt: “SARS-CoV-2-infection presented strong infectivity during the incubation-period with rapid transmission in this cluster of youngsters outside Wuhan. COVID-19 developed in these youngsters had fast onset and various **nonspecific atypical manifestations**, and were much milder than in older patients as previously reported.”

Calculating virus spread.

[PMID: 32287801](#)

[Publication Date: February 22, 2020](#)

Kucharski, Adam

New Science

Level of Evidence: Level 6 - Expert Opinion

Type of Article: Editorial



BLUF: Infectious disease outbreak analyst, Adam Kucharski publicizes that statistical modeling can aid researchers in understanding which control measures made a difference during the COVID-19 pandemic. He offers his book, *The Rules of Contagion*, as a means of using maths to quantify the impact of different measures and the future of major outbreaks.

Understanding the Pathology

SARS-CoV-2 infection is likely to be androgen mediated.

[PMID: 32283245](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Wambier, Carlos Gustavo; Goren, Andy

J Am Acad Dermatol

Level of Evidence: 5 - Expert Opinion

Type of Article: Letter

Summary: Transmembrane protease, serine 2 (TMPRSS2) is essential for the spread of SARS-CoV-2 virus and pathogenesis of infection in infected hosts. The transcription of TMPRSS2 requires androgen receptor activity. Thus, the authors propose that "...the hyperandrogenic phenotype might correlate with COVID19 increased viral load, increased viral dissemination and severity of lung involvement."

COVID-19-related myocarditis in a 21-year-old female patient.

[PMID: 32282027](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

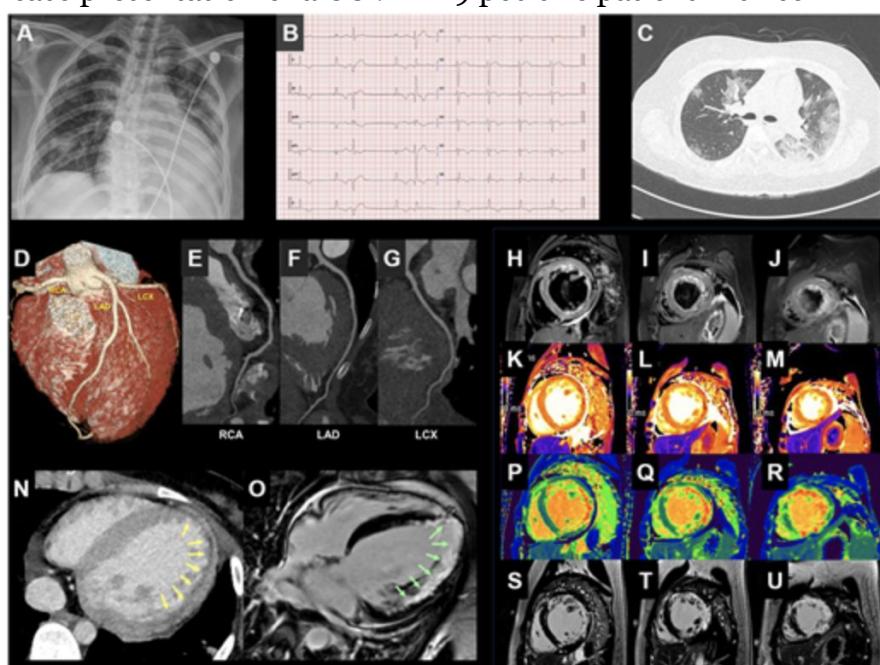
Kim, In-Cheol; Kim, Jin Young; Kim, Hyun Ah; Han, Seongwook

Eur Heart J

Level of Evidence: Level 4 - Case report

Type of Article: Research

Summary: A brief case presentation of a COVID-19 positive patient with confirmed myocarditis.



The chest radiograph revealed a multifocal consolidation on both lung fields and cardiomegaly (Panel A). Electrocardiography showed non-specific intraventricular conduction delay and multiple premature ventricular complexes (Panel B). Echocardiography showed severe left ventricular (LV) systolic dysfunction ([Supplementary material online](#), Videos S1–S3). A chest computed tomography (CT) revealed a multifocal consolidation and ground-glass opacification in both lungs in the lower lobe and a peripheral dominant distribution (Panel C). On the cardiac CT, the coronary arteries were normal (Panels D–G), and the myocardium was hypertrophied due to oedema combined with a subendocardial perfusion defect on the lateral left ventricle (Panel N). Cardiac magnetic resonance imaging (MRI) revealed a diffuse high signal intensity (SI) in the LV myocardium on T2 short tau inversion recovery image (Panels H–J; SI ratio of myocardium over skeletal muscle = 2.2), and myocardial wall thickening (LV mass index: 111.3 g/m²), which suggests myocardial wall oedema. On mapping sequence, native T1 (Figure 1K–M; mid-septum, 1431 ms; lateral wall, 1453 ms, reference value ~1150 ms) and extracellular volume (Panels P–R; mid-septum, 29.7%; lateral wall, 61%; reference value ~25%) values were diffusely increased (Panel O). Extensive transmural late gadolinium enhancement was noted (Panels S–U). Myocarditis combined with COVID-19 was confirmed by multimodality imaging.

Inflammatory Response Cells During Acute Respiratory Distress Syndrome in Patients With Coronavirus Disease 2019 (COVID-19).

[PMID: 32282871](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Zhang, Yulin; Gao, Yuxue; Qiao, Luxin; Wang, Wenjing; Chen, Dexi
Ann Intern Med

Level of Evidence: 5 - Case reports

Type of Article: Research

Summary: The authors describe histological findings of lung biopsies from two individuals deceased from COVID-19 after developing severe ARDS. Their study "...suggests that infiltrated mononuclear cells [as also seen in other case reports] are CD4 T cells, CD8 T cells, natural killer cells, and macrophages; that recruitment of aberrant CD45RA+ T cells is the immunologic feature of COVID-19; and that once bacterial pneumonia occurs, some phagocytes recruited by CD4 T cells begin to play a major role in lung injury."

Transmission & Prevention

Development of a protective device for RT-PCR testing of COVID-19.

[PMID: 32279701](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Tsuchida, Tomoya; Fujitani, Shigeki; Yamasaki, Yukitaka; Kunishima, Hiroyuki; Matsuda, Takahide
Infection Control & Hospital Epidemiology

Level of Evidence: N/A

Type of Article: Letter to the Editor

Summarizing Excerpts: “On March 14, 2020, we developed a protective box (product name: Star Ball Shield) to be used in patients with suspected COVID-19 during clinical examinations or performance of RT-PCR... [I]t permits health workers to run RT-PCR without the risk of exposure ... [or] the need to put on and take off PPE for each clinical examination.”

Community Pharmacists in Taiwan at the Frontline Against the Novel Coronavirus Pandemic: Gatekeepers for the Rationing of Personal Protective Equipment.

[PMID: 32282891](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Ou, Huang-Tz; Kao Yang, Yea-Huei

Ann Intern Med

Level of Evidence: 6 - No data cited

Type of Article: Ideas and Opinions

BLUF: Clinical pharmacies have been utilized to distribute rations of masks in Taiwan. Independent pharmacies face many logistical issues during the pandemic and solutions such as increasing the workforce with students, altering refill and prescription policies, and online mask availability are in force to mitigate these issues.

Summary: To address a mask shortage due to pandemic panic for their acquisition, Taiwan implemented strict regulations on their sale, export, and distribution, as well as facilitated an increase in production. Pharmacists were designated as the distributors of mask rations to communities utilizing “A real-time, open tracking system for mask availability...Community pharmacists offered education and consultation on proper hygiene strategies, disseminated accurate information to counter myths and misinformation, and provided emotional support to alleviate public concerns arising from the COVID-19 crisis.” Small independent pharmacies are facing risks of prescription supply shortages, large crowds, and a lack of infrastructure for increased demand and the new monitoring system. Possible solutions to these issues have been implemented such as student volunteers to help pack masks and alternative drug identification, refill flexibility, and online delivery system for masks.

Rural Healthcare Center Preparation and Readiness Response to Threat of COVID-19

[PMID: 32283269](#)

Publication Date: Apr 6, 2020; Apr 14, 2020 (LitCovid)

Brown, Jennifer; Guru, Swadha; Williams, Karen; Florentino, Reyna; Miner, Jean; Cagir, Burt

BLUF: Implementation of a COVID-19 rural surgery preparedness plan created and shared by Guthrie Hospital, a 267-bed tertiary care teaching hospital, in the small town of Sayre, Pa. involving increasing COVID-19 screening, work-from-home status for non-essential staff, PPE conservation, telehealth expansion, elective procedure postponement, and contingency plans for the workforce in case of increased needs.

Summarizing Excerpt: “As early as January, the leadership team at the Guthrie Clinic began surveilling the spread of COVID-19 with one dilemma in mind...if this hits us how will we protect our vulnerable population? As cases began emerging in our surrounding counties, our organization mobilized to protect the health of our at-risk patients. In the surrounding counties Robert Packer Hospital serves, 72.3% of patients are Medicare (55.2%) and Medicaid (17.1%) and 45.3% have a household income of \$50,000 or less ². As our population health strategies specifically address improving the health and outcomes of patients with chronic diseases in light of social determinants, the COVID-19 crisis became the biggest immediate threat to our communities.”

Containing COVID-19 in the emergency room: the role of improved case detection and segregation of suspect cases.

[PMID: 32281231](#)

Publication Date: Apr 12, 2020; Apr 14, 2020 (LitCovid)

Wee, Liang En; Fua, Tzay-Ping; Chua, Ying Ying; Ho, Fu Wah Andrew; Sim, Xiang Ying Jean; Conceicao, Edwin Philip; Venkatachalam, Indumathi; Tan, Kenneth Boon-Kiat; Tan, Ban Hock
Acad Emerg Med

Level of Evidence: 3 - Cohort study

Type of Article: Original Contribution - Research

BLUF: Changes to ED management of patients with respiratory symptoms was altered to triage patients in segregated fever areas, utilizing full PPE in these areas (N95, face shields, gowns, and gloves), surgical mask requirement at minimum throughout the ED, and increased inpatient ward capacity. Criteria of suspected COVID-19 patients included: high risk occupation, anosmia, recent travel to SE Asian or European countries, or close interaction with travellers or secondary contacts of unwell patients locally in the past 2 weeks. This internal screening criteria had a sensitivity and specificity of 84.3% and 64.8% respectively, compared to 48.6% and 89.6% for the WHO's criteria. Nosocomial transmission was not experienced in the ED population. For EDs that can accommodate these changes to patient and personnel management, a broader criteria than that given by the WHO may help to prevent nosocomial spread of COVID-19.

ABSTRACT:

AIMS: Patients with COVID-19 may present with respiratory syndromes indistinguishable from common viruses. This poses a challenge for early detection during triage at the emergency department (ED). Over a 3-month period, our ED aimed to **minimise nosocomial transmission by using broader suspect case criteria** for better detection and using appropriate personal protective equipment (PPE) for healthcare workers (HCWs)

METHODS: All ED admissions with respiratory syndromes over a 3-month period were tested for COVID-19. The sensitivity and specificity of screening criteria in detecting COVID-19 was assessed. A risk-stratified approach was adopted for PPE usage in the ED, based on high-risk "fever areas" and lower-risk zones. When a case of COVID-19 was confirmed, surveillance was conducted for potentially exposed patients and HCWs.

RESULTS: A total of 1,841 cases presenting with respiratory syndromes required admission over the study period. **Amongst these, 70 cases of COVID-19 were subsequently confirmed. The majority (84.2%, 59/70) were picked up at ED triage as they fulfilled suspect case criteria. Of these, 34 met the official screening criteria; another 25 were picked up by the broader internal screening criteria.** Over the 12-week period, the cumulative **sensitivity** of internal screening criteria was 84.3% (95% confidence interval, CI=73.6%-91.9%), whereas the **sensitivity of the official screening criteria was 48.6%** (95%CI=36.4%- 60.8%). Given the broadened internal criteria, the pre-existing ED "fever area" was insufficient and had to be expanded. However, **there were no cases of nosocomial transmission** from intra-ED exposure, despite extensive surveillance.

CONCLUSION: Frontline physicians need to be given leeway to decide on the disposition of cases based on clinical suspicion during an ongoing outbreak of COVID-19. If a broader criterion is used at ED triage, ED facilities and isolation facilities need to be readied to accommodate a surge of suspect cases. Usage of appropriate PPE is essential in minimising nosocomial transmission.

Table 1: Accuracy of suspect case criteria at triage for deciding on isolation for suspected COVID-19, amongst all cases of acute respiratory disease presenting to the emergency department of a Singaporean tertiary hospital over a 3-month period

	Confirmed COVID-19 case	Negative COVID-19 case	Total		Confirmed COVID-19 case	Negative COVID-19 case	Total
Internal screening criteria met at ED triage for isolation as a suspect COVID-19 case†	59	636	695	Official case criteria met at ED triage for isolation as a suspect COVID-19 case‡	34	184	218
Internal screening criteria not met at ED for isolation as a suspect COVID-19 case	11	1170	1178	Official case criteria not met at ED for isolation as a suspect COVID-19 case	36	1587	1623

†Sensitivity of internal screening criteria: 84.3% (95% confidence interval, CI=73.6% to 91.9%), specificity 64.8% (95% CI=62.5% to 67.0%), positive predictive value 8.49% (95%CI=7.61% to 9.46%), negative predictive value 99.1% (95%CI=98.4%-99.5%)

‡Sensitivity of official screening criteria: 48.6% (95% CI=36.4% to 60.8%), specificity 89.6% (95%CI=88.1% to 91.0%), positive predictive value 15.6% (95%CI=12.3% to 19.6%), negative predictive value 97.8% (95%CI=97.2%-98.2%)

Concise Communication: Covid-19 and the N95 Respirator Shortage: Closing the Gap.

[PMID: 32279694](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Nogee, Daniel; Tomassoni, Anthony

Infect Control Hosp Epidemiol

Level of Evidence: 5 – Expert Opinion

Type of Article: Letter

Summarizing excerpt: “Though further work will be needed to determine dosages of UVGI to effectively sterilize SARS-CoV-2 contaminated FFRs, UVGI provides a potential avenue for greatly extending the limited FFR supply in the face of the ongoing COVID-19 pandemic in a simple, cost-effective, and rapidly deployable fashion”

Universal Screening for SARS-CoV-2 in Women Admitted for Delivery.

[PMID: 32283004](#)

Publication Date: Apr 13, 2020

Sutton, Desmond; Fuchs, Karin; D'Alton, Mary; Goffman, Dena

N Engl J Med

Level of Evidence: Level 4 - Cohort Study

Type of Article: Correspondence

Summarizing Excerpt: “Our use of universal SARS-CoV-2 testing in all pregnant patients presenting for delivery revealed that at this point in the pandemic in New York City, **most of the patients who were positive for SARS-CoV-2 at delivery were asymptomatic**, and more than one of eight asymptomatic patients who were admitted to the labor and delivery unit were positive for SARS-CoV-2.”

Dynamics of Faecal SARS-CoV-2 in Infected Children during the Convalescent Phase.

[PMID: 32283149](#)

Publication Date: Mar 26, 2020

Xing, Yuhua; Ni, Wei; Wu, Qin; Li, Wenjie; Li, Guoju; Wang, Wendi; Tong, Jianning; Song, Xiufeng; Wong, Gary Wing Kin; Xing, Quansheng

J Infect

Level of Evidence: Level 4 – Case Series

Type of Article: Letter

Summary: The authors found SARS-CoV-2 remained detectable in feces of pediatric patients for approximately 4 weeks, whereas negative conversion of viral RNA in respiratory specimens occurred within 2 weeks after disease onset.

COVID-19 - A Guide to Rapid Implementation of Telehealth Services: A Playbook for the Pediatric Gastroenterologist.

[PMID: 32282628](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Berg, Elizabeth A; Picoraro, Joseph A; Miller, Steven D; Srinath, Arvind; Franciosi, James P; Hayes, Christopher E; Farrell, Peter R; Cole, Conrad R; LeLeiko, Neal S

J Pediatr Gastroenterol Nutr

Level of Evidence: 5 - Expert Opinion

Type of Article: Commentary

Summary: This communication serves as “...a guide to the implementation of telehealth services for pediatric gastroenterologists during the COVID-19 public health emergency and beyond,” and “...consists of five sections: (1) guiding principles, (2) planning and implementing visits, (3) documentation and billing, (4) adapting general telehealth principles to varied clinical settings and (5) specific applications of telehealth for children with inflammatory bowel disease (IBD) and intestinal failure (IF).” For example, “...chronic pediatric digestive diseases that may be managed using telemedicine include chronic abdominal pain, celiac disease, chronic constipation, cyclic vomiting syndrome, dysphagia, eosinophilic esophagitis and gastroenteritis, food protein-induced enterocolitis, gastrostomy tube care, inflammatory bowel disease, intestinal failure, and irritable bowel syndrome.”

Flattening the Curve by Getting Ahead of It: How the VA Healthcare System Is Leveraging Telehealth to Provide Continued Access to Care for Rural Veterans.

[PMID: 32282955](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Myers, Ursula S; Birks, Anna; Grubaugh, Anouk L; Axon, R Neal

J Rural Health

Level of Evidence: 5 - Expert opinion

Type of Article: Commentary

Summarizing excerpt: “VHA’s early adoption and dissemination of telehealth along with swift deployment of creative solutions to expand services in response to COVID-19, can mitigate the impact of this virus on the health of veterans...Additionally, the **VHA can serve as an instructive model for the rest of the nation and other health care systems regarding telehealth implementation.** Finally, the rapid expansion of telehealth in response to COVID-19 within VHA and subsequent refinements to the system can be used to more immediately improve the health and well-being of veterans facing ongoing access to care barriers, such as those residing in rural areas.”

Use of self-administered surveys through QR code and same center telemedicine in a walk-in clinic in the era of COVID-19.

[PMID: 32282922](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Perez-Alba, Eduardo; Nuzzolo-Shihadeh, Laura; Espinosa-Mora, Jaime Eugenio; Camacho-Ortiz, Adrian

J Am Med Inform Assoc

Level of Evidence: 5 – Expert Opinion

Type of Article: Correspondence

BLUF: Self-administered surveys accessed through QR code in concert with teleconferencing are effective in achieving patient satisfaction and reducing HCW exposure in Mexico.

Summary: The authors present their methodology for utilization of teleconferencing during the pandemic in Mexico: “In brief, patients enter the clinic, scan a QR code, fill the questionnaire and are consulted through same center telemedicine, all without physical contact with the HCW. The ID team then considers whether it is necessary to undergo a swab or other procedures reducing the exposure to an average time of 5:43 min per patient.” Out of the 1009 patients cared for with this model, 86.6% were able to successfully scan the QR code, 90% felt they had enough time with their doctor, and 80% reported the QR based survey was easy to use.

Household Transmission of SARS-CoV-2.

[PMID: 32283139](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Wang, Zhongliang; Ma, Wanli; Zheng, Xin; Wu, Gang; Zhang, Ruiguang

J Infect

Level of Evidence: 4 - Case series

Type of Article: Research

BLUF: Infection rates of household contacts do not correlate with the number of sick contacts.

Infection rates in the study were shown to be 30% overall in a study composed of the close contacts of

78/85 COVID-19 confirmed patient households (7/85 patients lived alone and had no contacts). The majority of family members were adults.

Abstract:

BACKGROUND: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has caused an epidemic in China and many other countries. Many infected clusters have been found within familial households, but the **data about secondary transmission among household contacts is limited.**

METHODS: In this retrospective case series, we enrolled 85 patients infected with SARS-CoV-2 and their household members in Wuhan. Patients were confirmed infected with SARS-CoV-2 by real-time reverse transcription polymerase chain reaction (RT-PCR) assays on throat swabs. Epidemiological, clinical and laboratory data of the household members were collected.

RESULTS: There were 155 close contacts in total. 104 contacts received RT-PCR assays, with 47 (30%) positive cases and 57 (37%) negative cases. 51 (33%) cases did not receive RT-PCR tests for they showed no symptoms of pneumonia during the 2 weeks of quarantine. **The infection rate of close contacts was 38% for households with 1 contact, 50% for households with 2 contacts, and 31% for households with 3 contacts.**

CONCLUSIONS: The **rate of secondary transmission** among household contacts of patients with SARS-CoV-2 infection was **30%**. Our data provide insight into the rate of secondary transmission of SARS-CoV-2 in home.

COVID-19 and Home Positive Airway Pressure (PAP) Therapy.

[PMID: 32281886](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Krishnan, VidyaAm J Respir Crit Care Med

Level of Evidence: 6 - No Data Cited

Type of Article: Information Series - Patient Education

BLUF: Breathing machines should still be used during COVID-19 or other respiratory illness unless otherwise instructed. Transmission precautions including sleeping in a different room, disinfecting surfaces, and daily cleaning of the device are advised.

Summary: Utilizing a home breathing machine during the COVID-19 pandemic brings concern for managing respiratory illness symptoms, using the machine during illness, and disinfecting the machine. Use nasal dilator sprays and saline nasal wash if congested. Do not share sleeping space with others while using the machine if diagnosed with COVID-19. Disinfect surfaces with “regular household cleaning spray followed by an EPA-approved disinfectant such as diluted bleach (0.1%) or alcohol solution (62-71%) or hydrogen peroxide (0.5%).” Information on machine cleaning and disinfecting can be found at

<https://www.thoracic.org/patients/patient-resources/resources/pap-care-and-cleaning.pdf>. This should be done daily if ill. Request a new filter for your device if your illness has not improved in “4-5 days and you are cleaning your device and mask regularly”.

Patients should not stop using their machine for a long period without consulting their doctor and should bring the machine with them if admitted to the hospital.

Rx Action Steps

- ✓ Stay calm and practice social distancing.
- ✓ If you have mild symptoms of a viral infection, you can try nasal saline washes, nasal dilator sprays or breathing strips to help with nasal congestion. Stay at home and self-quarantine, as much as possible.
- ✓ If you test COVID-19 positive, sleep in a separate room whenever possible.
- ✓ If you test COVID-19 positive, clean and disinfect your PAP machine and supplies daily.
- ✓ If you are having shortness of breath while awake, contact your provider, bring your PAP device with you to the ED or UC.

Healthcare Provider's Contact Number:

Cloud-Based System for Effective Surveillance and Control of COVID-19: Useful Experiences From Hubei, China.

PMID: 32287040

Publication Date: Apr 15, 2020

Gong, Mengchun; Li, Liu; Xin, Sun; Yue, Yang; Wang, Shuang; Hong, Zhu

Journal of Medical Internet Research

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Research

BLUF: The development and

deployment of cloud-based hardware

Honghu Hybrid System (HHS) allowed for COVID-19 surveillance and control in Honghu, Hubei Province, (145 km from Wuhan, population 900,000). The HHS Integrated data from EMR, social media, mobile devices, case report systems, and diagnostic labs to perform real-time acquisition and analysis of citizen symptoms, psychological status, contact history, social behavior, and physical environment.

Abstract: Background: COVID-19 has been an unprecedented challenge to the global healthcare system. Tools that can improve the focus of surveillance efforts and clinical decision support are of paramount importance. **Objective:** New medical informatics technologies are needed to enable effective control of the pandemic. **Methods:** The Honghu Hybrid System (HHS) for COVID-19

collected, integrated, standardized and analyzed data from multiple sources, including the case reporting system, diagnostic labs, electronic medical records and social media on mobile devices. **Results:** HHS was developed and successfully deployed within 72 hours in the city of Honghu in Hubei Province, China. Syndromic surveillance component in HHS covered over 95% of the population of over 900,000 people and provided near real-time evidence for the control of epidemic emergencies. Clinical decision support component in HHS was also provided to improve patient care and prioritize the limited medical resources. **Conclusions:** The facilitating factors and challenges are discussed to provide useful insights to other cities to build up suitable solutions based on big-data technologies. The HHS for COVID-19 proved to be feasible, sustainable and effective and can be migrated.

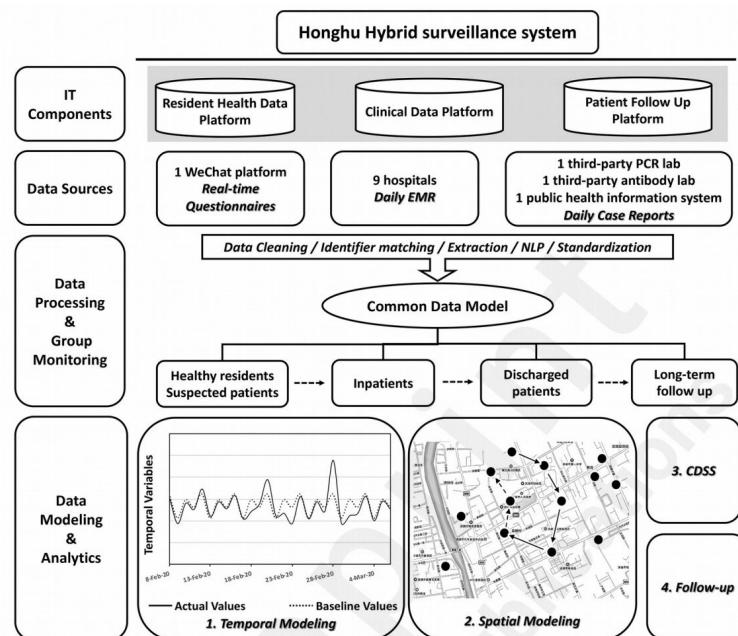


Figure 1. Schematic representation of data streams, processing and analytics in the Honghu Hybrid System for the COVID-19 surveillance and control. The resident health data platform and patient follow-up platform were developed as mini programs on Wechat SDK while the clinical data platform was an existing software from Digital China Health Technologies. EMR, electronic medical records. CDSS, clinical decision support system. PCR, polymerase chain reaction.

Figure 1 shows the architecture of the Honghu Hybrid surveillance system. It consists of several interconnected components: IT Components (Data Sources, Data Processing & Group Monitoring, Data Modeling & Analytics), the Honghu Hybrid surveillance system itself (Resident Health Data Platform, Clinical Data Platform, Patient Follow Up Platform), and various data sources (WeChat platform, hospitals, third-party labs, public health information system). The data flows through a Common Data Model, which then branches into four categories: Healthy residents Suspected patients, Inpatients, Discharged patients, and Long-term follow up. The Data Modeling & Analytics section includes Temporal Modeling (showing actual vs baseline values over time) and Spatial Modeling (showing locations on a map). The final outputs are Clinical Decision Support System (CDSS) and Follow-up.

A pandemic in all but name

[PMID: 32287802](#)

[Publication Date: Feb 29, 2020](#)

No authors listed

New Scientist

Level of Evidence: Level 6 - Expert Opinion

Type of Article: Editorial

BLUF: The author states that the spread COVID-19 is entering a critical new phase of mitigation rather than containment. Due to a lack of immunity in the global population, the author anticipates that most people will encounter the virus, and calls for individuals to alter behavior to slow the spread of infection.

Best we be prepared

[PMID: 32287785](#)

[Publication Date: February 1, 2020](#)

No authors listed

New Science

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Comment

Summary: Anticipation of the impending spread of COVID-19, stating the airborne spread, and epidemiological warning of a high death toll and possible pandemic. Key lessons learned from past pandemics are highlighted: national and international health agency reactions. The authors applaud China's unprecedented lockdown.

Management

Treatment considerations for coronavirus (COVID-19).

[PMID: 32282262](#)

Publication Date: Apr 7, 2020; Apr 14, 2020 (LitCovid)

Reilly, Joseph

Hosp Pract (1995)

Level of Evidence: 5- Expert opinion

Type of Article: Interview

BLUF: Interview with a pharmacist regarding current pharmacologic treatments for COVID-19: No conclusively proven treatments besides supportive care. Be weary of media attention given to COVID-19 drugs.

Summary: Treatment summary as follows:

- Supportive care: Iv fluids, supplemental O₂, antipyretics
- Hydroxychloroquine/chloroquine is reported, but their effectiveness is unproven.
- Kaletra use is reported, but supportive studies are lacking
- Remdesivir use reported, supportive data lacking, but trials underway

The effect of corticosteroid treatment on patients with coronavirus infection: a systematic review and meta-analysis.

[PMID: 32283144](#)

Publication Date: Apr , 2020; Apr 14, 2020 (LitCovid)

Yang, Zhenwei; Liu, Jialong; Zhou, Yunjiao; Zhao, Xixian; Zhao, Qiu; Liu, Jing

Journal of Infection

Level of Evidence: Level 1 - Meta-analysis

Type of Article: Research

BLUF(excerpt): “Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) threatens the health of people, and there is no proven pharmacological treatment. Although corticosteroids were widely used during outbreaks of severe acute respiratory syndrome and Middle East respiratory syndrome, their efficacy remains highly controversial. **Patients with severe conditions are more likely to require corticosteroids. However, corticosteroid use may lead to increased mortality and serious adverse reactions. Therefore, corticosteroids should be used with caution** in the treatment of coronavirus disease 2019 (COVID-19).”

Abstract:

Objectives: An outbreak of novel coronavirus in 2019 threatens the health of people, and there is no proven pharmacological treatment. Although corticosteroids were widely used during outbreaks of severe acute respiratory syndrome and Middle East respiratory syndrome, their efficacy remains highly controversial. We aimed to further evaluate the influence of corticosteroids on patients with coronavirus infection.

Methods: We conducted a comprehensive literature search from January 1, 2002 to March 15, 2020 in the PubMed, Embase, Cochrane library, and China national knowledge infrastructure (CNKI). All statistical analyses in this study were performed on stata14.0.

Results: A total of 5270 patients from 15 studies were included in this meta-analysis. The result indicated that critical patients were more likely to require corticosteroids therapy (risk ratio [RR]=1.56, 95% confidence interval [CI]=1.28-1.90, P<0.001). However, corticosteroid treatment was associated with higher mortality (RR=2.11, 95%CI=1.13-3.94, P=0.019), longer length of stay (weighted mean difference [WMD]=6.31, 95%CI=5.26-7.37, P<0.001), a higher rate of bacterial

infection (RR=2.08, 95%CI=1.54-2.81, P<0.001), and hypokalemia (RR=2.21, 95%CI=1.07-4.55, P=0.032) but not hyperglycemia (RR=1.37, 95%CI=0.68-2.76, P=0.376) or hypocalcemia (RR=1.35, 95%CI=0.77-2.37, P=0.302).

Conclusions: Patients with severe conditions are more likely to require corticosteroids. Corticosteroid use is associated with increased mortality in patients with coronavirus pneumonia.

Low-dose corticosteroid therapy does not delay viral clearance in patients with COVID-1.

[PMID: 32283153](#)

Publication Date: Apr 14, 2020; Apr 14, 2020 (LitCovid)

Fang, Xiaowei; Mei, Qing; Yang, Tianjun; Li, Lei; Wang, Yinzong; Tong, Fei; Geng, Shike; Pan, Aijun
J Infect

Level of Evidence: Level 5 - Expert opinion on case series

Type of Article: Letter to the Editor

Summary: The author points out the controversy regarding the effect of corticosteroids in patients with viral pneumonia, and states that previous evidence suggesting steroids prolonged viral clearance only evaluated those treated with high-dose corticosteroids. The article then highlights 2 small studies showing no significant difference in viral clearance between COVID-19 patients treated with low-dose corticosteroids, suggesting **low-dose corticosteroids may not delay viral clearance**.

C-reactive protein correlates with CT findings and predicts severe COVID-19 early.

[PMID: 32281668](#)

Publication Date: Apr 13, 2020; Apr 14, 2020

Tan, Chaochao; Huang, Ying; Shi, Fengxia; Tan, Kui; Ma, Qionghui; Chen, Yong; Jiang, Xixin; Li, Xiaosong
J Med Virol

Level of Evidence: 4 - Case series

Type of Article: Research

BLUF: CRP was found to be elevated in severe disease early on. This could be utilized to estimate prognosis in patients presenting for care with respiratory symptoms and **could distinguish flu infection from COVID-19 infection** in the setting of limited resources. Additionally, ESR were positively correlated with severe CT findings early in disease. These were distinctive from patients presenting with flu.

Abstract:

BACKGROUND: COVID-19 has developed into a worldwide pandemic; early identification of severe illness is critical for controlling it and improving the prognosis of patients with limited medical resources. The present study aimed to analyze the characteristics of severe COVID-19 and identify biomarkers for differential diagnosis and prognosis prediction.

METHODS: In total, 27 consecutive patients with COVID-19 and 75 patients with flu were retrospectively enrolled. Clinical parameters were collected from electronic medical records. The disease course was divided into four stages: initial, progression, peak, and recovery stages, according to computed tomography (CT) progress.

RESULTS: Compared to mild COVID-19, the lymphocytes in the severe COVID-19 progressively decreased at the progression and the peak stages, but rebound in the recovery stage. The levels of C-reactive protein (CRP) in the severe group at the initial and progression stages were higher than

those in the mild group. Correlation analysis showed that CRP ($R=0.62$, $P<0.01$), erythrocyte sedimentation rate ($R=0.55$, $P<0.01$) and granulocyte/lymphocyte ratio ($R=0.49$, $P<0.01$) were positively associated with the CT severity scores. In contrast, the number of lymphocytes ($R=-0.37$, $P<0.01$) was negatively correlated with the CT severity scores. Receiver-operating characteristic analysis demonstrated that area under the curve of CRP on the first visit for predicting severe COVID-19 was 0.87 (95% CI 0.10-1.00) at 20.42 mg/L cut-off, with sensitivity and specificity 83% and 91%, respectively.

CONCLUSIONS: CRP in severe COVID-19 patients increased significantly at the initial stage, prior to CT findings. Importantly, CRP, which was associated with disease development, predicted early severe COVID-19.

Cardiovascular Disease and Use of Renin-Angiotensin System Inhibitors in COVID-19.

[PMID: 32281055](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Kow, Chia Siang; Zaidi, Syed Tabish Razi; Hasan, Syed Shahzad

Am J Cardiovasc Drugs

Level of Evidence: Level 5 - Expert opinion

Type of Article: Comment

Summarizing excerpt: “The established benefits of ACE inhibitors and ARBs in CVD outweigh the uncertain risks among patients at risk of COVID-19...we echo the position statements of some of the major cardiovascular societies [41] to discourage the discontinuation of ACE inhibitors or ARBs in patients with COVID-19.”

Abstract: There is ongoing debate on the safety of renin-angiotensin system (RAS) inhibitors in COVID-19. Recently published studies highlight a potential relationship between cardiovascular disease (CVD) and COVID-19. This article aims to summarize the evidence on the use of RAS inhibitors in CVD patients with COVID-19, focusing on safety issues of the RAS inhibitors and their relationship with COVID-19.

Clinical Features of COVID-19-Related Liver Damage.

[PMID: 32283325](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Fan, Zhenyu; Chen, Liping; Li, Jun; Cheng, Xin; Jingmao Yang; Tian, Cheng; Zhang, Yajun; Huang, Shaoping; Liu, Zhanju; Cheng, Jilin

Clin Gastroenterol Hepatol

Level of Evidence: 4 - Case Series

Type of Article: Research

Summarizing excerpt:

Background: Some patients with SARS-CoV-2 infection (COVID-19) have abnormal liver function, but little is known about the features of liver injury in these patients.

Findings: More than one third of patients admitted to the hospital with SARSCoV-2 infection have abnormal liver function; significantly higher proportions of patients with abnormal liver function are male and have high fever and prolonged length of stay. **48.4% of patients with normal liver function had liver injury after admission, with a higher proportion of those receiving lopinavir/ritonavir.**

Implications for patient care: Lopinavir/ritonavir should be given with caution in patients with COVID-19.

In-hospital cardiac arrest outcomes among patients with COVID-19 pneumonia in Wuhan, China.

[PMID: 32283117](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Shao, Fei; Xu, Shuang; Ma, Xuedi; Xu, Zhouming; Lyu, Jiayou; Ng, Michael; Cui, Hao; Yu, Changxiao; Zhang, Qing; Sun, Peng; Tang, Ziren

Resuscitation

Level of Evidence: 4 - Observational study

Type of Article: Research

BLUF: In this single-center observational study of 136 COVID-19 patients with in-hospital cardiac arrest, most patients experienced unfavorable outcomes with only 18 (13.2%) achieving return of spontaneous circulation and 4 (2.9%) surviving for at least 30 days despite initiation of resuscitation in less than 1 minute after cardiac arrest in most patients (89%).

Abstract:

Objective: To describe the characteristics and outcomes of patients with severe COVID-19 and in-hospital cardiac arrest (IHCA) in Wuhan, China.

Methods: The outcomes of patients with severe COVID-19 pneumonia after IHCA over a 40-day period were retrospectively evaluated. Between January 15 and February 25, 2020, data for all cardiopulmonary resuscitation (CPR) attempts for IHCA that occurred in a tertiary teaching hospital in Wuhan, China were collected according to the Utstein style. The primary outcome was restoration of spontaneous circulation (ROSC), and the secondary outcomes were 30-day survival, and neurological outcome.

Results: Data from 136 patients showed 119 (87.5%) patients had a respiratory cause for their cardiac arrest, and 113 (83.1%) were resuscitated in a general ward. The initial rhythm was asystole in 89.7%, pulseless electrical activity (PEA) in 4.4%, and shockable in 5.9%. Most patients with IHCA were monitored (93.4%) and in most resuscitation (89%) was initiated <1min. The average length of hospital stay was 7 days and the time from illness onset to hospital admission was 10 days. The most frequent comorbidity was hypertension (30.2%), and the most frequent symptom was shortness of breath (75%). Of the patients receiving CPR, ROSC was achieved in 18 (13.2%) patients, 4 (2.9%) patients survived for at least 30 days, and one patient achieved a favourable neurological outcome at 30 days. Cardiac arrest location and initial rhythm were associated with better outcomes.

Conclusion: Survival of patients with severe COVID-19 pneumonia who had an in-hospital cardiac arrest was poor in Wuhan.

Early nutritional supplementation in non-critically ill patients hospitalized for the 2019 novel coronavirus disease (COVID-19): Rationale and feasibility of a shared pragmatic protocol.

[PMID: 32280058](#)

Publication Date: Apr 3, 2020; Apr 14, 2020 (LitCovid)

Caccialanza, Riccardo; Laviano, Alessandro; Lobascio, Federica; Montagna, Elisabetta; Bruno, Raffaele; Ludovisi, Serena; Corsico, Angelo Guido; Di Sabatino, Antonio; Belliato, Mirko; Calvi, Monica; Iacona, Isabella; Grugnetti, Giuseppina; Bonadeo, Elisa; Muzzi, Alba; Cereda, Emanuele Nutrition

Level of Evidence: 5 - Expert opinion, mechanism-based reasoning and protocols

Type of Article: Special Report

BLUF: Protocols for nutrition in non-ICU COVID-19 patients must be in place to decrease underfeeding. This includes: “we decided to start with a systematic supplementation of oral whey proteins (20 g/d) and intravenous multivitamin, multimineral, trace elements solutions (target: satisfaction of recommended dietary allowance [RDA]) upon admission” and Vitamin D if the patient is deficient.

Abstract:

OBJECTIVES: Beginning in December 2019, the 2019 novel coronavirus disease (COVID-19) has caused a pneumonia epidemic that began in Wuhan, China, and is rapidly spreading throughout the whole world. Italy is the hardest hit country after China. Considering the deleterious consequences of malnutrition, which certainly can affect patients with COVID-19, the aim of this article is to present a pragmatic protocol for early nutritional supplementation of non-critically ill patients hospitalized for COVID-19 disease. It is based on the observation that most patients present at admission with severe inflammation and anorexia leading to a drastic reduction of food intake, and that a substantial percentage develops respiratory failure requiring non-invasive ventilation or even continuous positive airway pressure.

METHODS: High-calorie dense diets in a variety of different consistencies with highly digestible foods and snacks are available for all patients. Oral supplementation of whey proteins as well as intravenous infusion of multivitamin, multimineral trace elements solutions are implemented at admission. In the presence of 25-hydroxyvitamin D deficit, cholecalciferol is promptly supplied. If nutritional risk is detected, two to three bottles of protein-calorie oral nutritional supplements (ONS) are provided. If <2 bottles/d of ONS are consumed for 2 consecutive days and/or respiratory conditions are worsening, supplemental/total parenteral nutrition is prescribed.

CONCLUSION: We are aware that our straight approach may be debatable. However, to cope with the current emergency crisis, its aim is to promptly and pragmatically implement nutritional care in patients with COVID-19, which might be overlooked despite being potentially beneficial to clinical outcomes and effective in preventing the consequences of malnutrition in this patient population.

AT ADMISSION

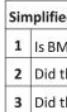
Record:

- Body weight and height*
- Relevant biochemical parameters†



Start systematic supplementation with:

- Whey proteins 20 g/d (in once or twice, preferably during meals)
- Daily infusion of RDA tailored multivitamin, multimineral and trace elements solutions (e.g., in 100/250 mL of physiological saline solution)
- Cholecalciferol - 50 000 UI or 25 000 UI/wk if 25-hydroxyvitamin D is <20 or ≥20<30 ng/mL, respectively.



Simplified nutritional risk screening‡		Yes	No
1	Is BMI <22 kg/m ² ?		
2	Did the patient lose weight in the past 3 mo?		
3	Did the patient reduce food intake or is expected to reduce it in the next few days?		



DURING HOSPITAL STAY

If patient does not tolerate ONS (i.e., <2 bottles/d are consumed for 2 consecutive days) or respiratory conditions worsen, contact the Clinical Nutrition and Dietetics Unit for the prescription of parenteral nutrition or start it implementing strict biochemical monitoring†

* Use referred or estimated values if scales are not available or cannot be used due to hygiene reasons.

** Albumin, transferrin, prealbumin, glucose, kidney (creatinine and blood urea nitrogen) and liver (cholinesterase, aspartate amino-transferase, alanine amino-transferase, γ-glutamyl transferase) function, electrolytes (sodium, potassium, chloride, calcium, phosphorus, magnesium), TG, folic acid, vitamin B₁₂, 25-hydroxyvitamin D, C-reactive protein.

† If any answer is “Yes,” start supplementation (between or immediately after meals) with high-protein, high-calorie ONS (2–3 bottles [125/200 mL each] providing 600–900 kcal and 35–55 g of protein).

Fig. 1 Protocol for early nutritional supplementation in non-critically ill COVID-19 patients. ONS, oral nutritional supplements; RDA, recommended dietary allowance; TG, triacylglyceride.

COVID-19 Lung Injury is Not High Altitude Pulmonary Edema.

[PMID: 32281877](#)

Publish Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Luks, Andrew; Freer, Luanne; Grissom, Colin; McIntosh, Scott E; Schoene, Robert B; Swenson, Erik; Hackett, Peter H

High Alt Med Biol

Level of Evidence: 5- Expert opinion

Type of Article: Letter

BLUF: COVID-19 lung injury and HAPE are distinct physiological processes that require distinct treatment and management.

Summary: In comparing COVID-19 lung injury to other forms of acute respiratory failure, a widely spread notion is that it is similar to high altitude pulmonary edema. The authors stress that this is not the case.

- HAPE is *caused* by excess hypoxic pulmonary vasoconstriction leading to high pulmonary pressures that cause leakage of vascular fluid into the alveolar space.
- ARDS due to COVID-19 is characterized by viral-mediated inflammation leading to impaired surfactant function and alveolar fluid clearance.
- Due to these distinctions, treatment of HAPE with supplemental oxygen is curative, whereas in **COVID-19 it may improve hypoxemia, but will not resolve underlying lung injury.**
- In addition, pulmonary vasodilators (nifedipine, sildenafil) can be used to treat HAPE whereas effective vasodilator use is limited to the inhalation route in COVID-19.

Anesthesia Management and Perioperative Infection Control in Patients With the Novel Coronavirus.

[PMID: 32279934](#)

Publication Date: Mar 29, 2020; Apr 14, 2020 (LitCovid)

Li, Weixia; Huang, Jiapeng; Guo, Xiangyang; Zhao, Jing; Mandell, M Susan

J Cardiothorac Vasc Anesth

Level of Evidence: Level 5 - Expert opinion

Type of Article: Review

Summary: The authors describe identifying and categorizing infected (or suspected) patients and provide recommendations for preoperative and perioperative management including intubation and extubation. Specific recommendation highlights:

- “In the operating room, anesthesiologists should use closed circuits and take all measures to minimize coughing after extubation.”
- **“Rapid induction with expedient intubation is recommended to reduce aerosolized spread of viral particles.** Video-laryngoscope with a disposable blade works well with a transparent plastic cover to protect the screen and handle.”
- “A full dose of muscle relaxant should be injected at 1 time and tracheal intubation performed only when muscle relaxants are fully active to prevent coughing”
- For extubation: “[options include] deep extubation in the appropriate patients or use of analgesic narcotics to facilitate a smooth extubation. Laryngeal mask airways provide a relatively smoother emergence in many patients and can be used in appropriate circumstances.”

Abstract: Anesthesiologists have a high risk of infection with COVID-19 during perioperative care and as first responders to airway emergencies. The potential of becoming infected can be reduced by a

systematic and integrated approach that assesses infection risk. The latter leads to an acceptable choice of materials and techniques for personal protection and prevention of cross-contamination to other patients and staff. The authors have presented a protocolized approach that uses diagnostic criteria to clearly define benchmarks from the medical history along with clinical symptoms and laboratory tests. Patients can then be rapidly assigned into 1 of 3 risk categories that direct the choice of protective materials and/ or techniques. Each hospital can adapt this approach to develop a system that fits its individual resources. Educating medical staff about the proper use of high-risk areas for containment serves to protect staff and patients.

Novel Approach to Reduce Transmission of COVID-19 During Tracheostomy.

[PMID: 32283268](#)

Publication Date: Apr 6, 2020

Foster, Peter; Cheung, Tiffany; Craft, Patrick; Baran, Kelsey; Kryskow, Mark; Knowles, Ross; Toia, Alyssa; Galvez, Christian; Bowling, Adam; DiSiena, Michael

J Am Coll Surg

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Letter

BLUF: A novel approach for better protection and thus reduced transmission for tracheostomy in a COVID-19 positive patient.

1. Patient is placed in supine position on operating table and draped in usual sterile fashion with a thyroid drape.
2. Magnetic instrument mat is placed overlying the patient's upper chest.
3. Omni-Tract retractor is mounted to the bed at the level of mid-abdomen, opposite the surgeon.
4. Retractor arms are placed in a wide-V configuration, over the upper body.
5. Ecolab Scope Pillow Warmer Drape is stretched over retractor arms forming a barrier between the operative field and surgeon, while allowing for good visualization of the operative field
6. Drape is then secured with snaps to the self-retaining retractor to maintain tightness.
7. Buffalo filter smoke evacuator tubing is connected to 2 heat moisture exchange filters and placed under the drape to provide further air filtration.
8. Operator and assistant proceed with hands underneath the drape, allowing technician to pass instruments under the additional protection and anesthesia team to access the airway



Application and effects of fever screening system in the prevention of nosocomial infection in the only designated hospital of coronavirus disease 2019 (COVID-19) in Shenzhen, China.

PMID: 32279675

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Huang, Ting; Guo, Yinsheng; Li, Shaxi; Zheng, Yanqun; Lei, Lin; Zeng, Xianhu; Zhong, Qiao; Liu, Yingxia; Liu, Lei

Infection Control & Hosp Epidemiology

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Letter to the Editor

Summary: Presentation of the application and effects of fever screening system in the prevention of nosocomial infection in the only designated hospital of COVID-19 in Shenzhen, China. The system contained three levels of triaging with strict screening, no crossover infections with independent patient and medical staff channels, and a division of treatment zones between suspected patients and ordinary patients.

Fig.2. The flowchart for three-stage triages system and Healthy-QR codes. The blue boxes represent the triage table or consulting room, and the red boxes represent the inspection method.

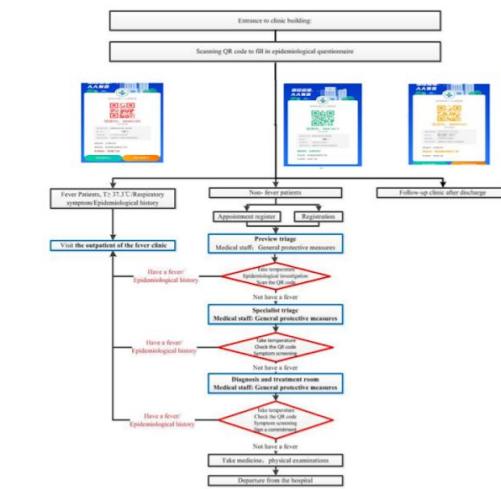
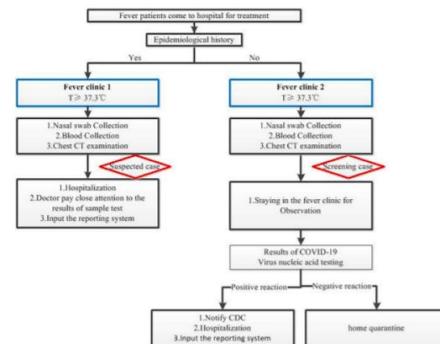


Fig.3. The flowcharts for fever clinics. The blue boxes represent the consulting room, and the red boxes represent the patient classification.



Preparing to Perform Trauma and Orthopaedic Surgery on Patients with COVID-19.

PMID: 32282412

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Rodrigues-Pinto, Ricardo; Sousa, Ricardo; Oliveira, Antonio

Journal of Bone & Joint Surgery

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Guidelines

Summarizing Excerpts:

- Protocol on how to “assemble an OR for a patient with COVID-19 and how the surgical staff should be protected when performing surgical procedures on these patients”, especially for trauma and orthopaedic surgical procedures.
- One satellite complex “exclusively dedicated to treat patients with COVID-19 for the duration of the epidemic to reduce the risk of contaminating other ORs and other patients.”

- “This satellite complex has a separate access and separate dressing rooms and 3 independent surgical rooms. Each room has an anteroom, usually used for anesthesia induction, which, in this case, will be used as a scrub room, and an exit room, leading to an outside corridor.”
- Zone 1: Entry dressing room, where the basic PPE is donned
- Zone 2: Anteroom, where the disinfection and surgical dressing take place
- Zone 3: OR (COVID-19 room)
- Zone 4: Exit room, where the PPE is removed
- Zone 5: Exit dressing room, where the staff showers

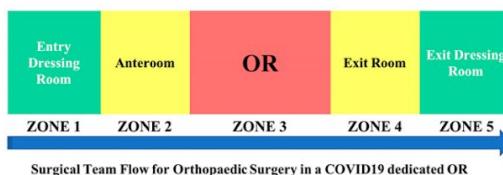


Fig. 1
OR diagram and workflow.

Staying active in isolation: Telerehabilitation for individuals with the SARS-CoV-2 infection.

[PMID: 32282339](#)

Publication Date: Apr 8, 2020; Apr 14, 2020 (LitCovid)

Mukaino, Masahiko; Tatemoto, Tsuyoshi; Kumazawa, Nobuhiro; Tanabe, Shigeo; Kato, Masaki; Saitoh, Eiichi; Otaka, Yohei

Am J Phys Med Rehabil

Level of Evidence: 5 - Expert opinion, qualitative data

Type of Article: Letter to the Editor

Summary: Telerehabilitation can be used to meet the rehabilitation needs of isolated COVID-19 patients during the pandemic. Utilizing videoconferencing, physical therapists can direct patients in treatment while monitoring oxygen saturation using a pulse oximeter worn by the patient. Patients reported 8/10 on satisfaction and whether they would recommend the program.

Home and Community-Based Physical Therapist Management of Adults With Post-Intensive Care Syndrome.

[PMID: 32280993](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Smith, James M; Lee, Alan C; Zeleznik, Hallie; Coffey Scott, Jacqueline P; Fatima, Arooj; Needham, Dale M; Ohtake, Patricia

JPhys Ther

Level of Evidence: 5 - Expert opinion, guidelines

Type of Article: Perspective

BLUF: Post-intensive care syndrome (PICS) often results in physical complications that could benefit from physical therapy. Evaluation and outcome measures include: spirometry, pulmonary function testing, manual muscles testing, 6 minute walk test, 4m walk test, functional gait assessment, Katz index of independence in ADL (Activities of Daily Living), Lawton IADL (Instrumental Activities of Daily Living), return to driving and employment. Mental health screening tools evaluate cognition, depression, anxiety, and PTSD. To optimize outcomes safety must be continually monitored during exercise and exercise titrated with a team-based approach.

Abstract: More than 4 million adults survive a stay in the intensive care unit each year, with many experiencing new or worsening physical disability, mental health problems, and/or cognitive impairments, known as the **post-intensive care syndrome (PICS)**. Given the prevalence and magnitude of physical impairments after critical illness, **many survivors, including those recovering from COVID-19, could benefit from physical therapist services after hospital discharge**. However, due to the relatively recent recognition and characterization of PICS, there may be limited awareness and understanding of PICS among physical therapists practicing in home healthcare and community-based settings. This lack of awareness may lead to inappropriate and/or inadequate rehabilitation service provision. While this perspective article provides information relevant to all physical therapists, it is aimed toward those providing rehabilitation services outside of the acute and post-acute inpatient settings. This article reports **the prevalence and clinical presentation of PICS and provides recommendations for physical examination and outcomes measures, plan of care, and intervention strategies**. The importance of providing patient and family education, coordinating community resources including referring to other healthcare team members, and community.

Management of other conditions during COVID-19

Care of the Pregnant Woman with COVID-19 in Labor and Delivery: Anesthesia, Emergency cesarean delivery, Differential diagnosis in the acutely ill parturient, Care of the newborn, and Protection of the healthcare personnel.

[PMID: 32283073](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Ashokka, Balakrishnan; Loh, May-Han; Tan, Cher Heng; Su, Lin Lin; Young, Barnaby Edward; Lye, David Chien; Biswas, Arijit; E Illanes, Sebastian; Choolani, Mahesh
Am J Obstet Gynecol

Level of Evidence: Level 5 - Expert opinion

Type of Article: Review

Summarizing excerpt: “Pregnant women at all gestational ages will count among this increase, and greatest at risk would be the gravida in labor, and the acutely ill parturient....We present here the best evidence available to address many of these challenges, from making the diagnosis in symptomatic cases, to the debate between nucleic acid testing and chest imaging, to the management of the unwell patient in labor. There is reasonably good evidence that vertical transmission is unlikely, and efforts must be taken to prevent infection of the neonate.”

“Highlights:

- COVID-19 in pregnancy can cause severe maternal morbidity in up to 9%
- Chest imaging is helpful in pregnant women who have a high pretest probability of COVID19, but are RT-PCR negative
- Vertical transmission is unlikely, but active measures are needed to prevent neonatal infection”

Figure 3: Stepwise Approach to the Care of Acutely Ill Parturient

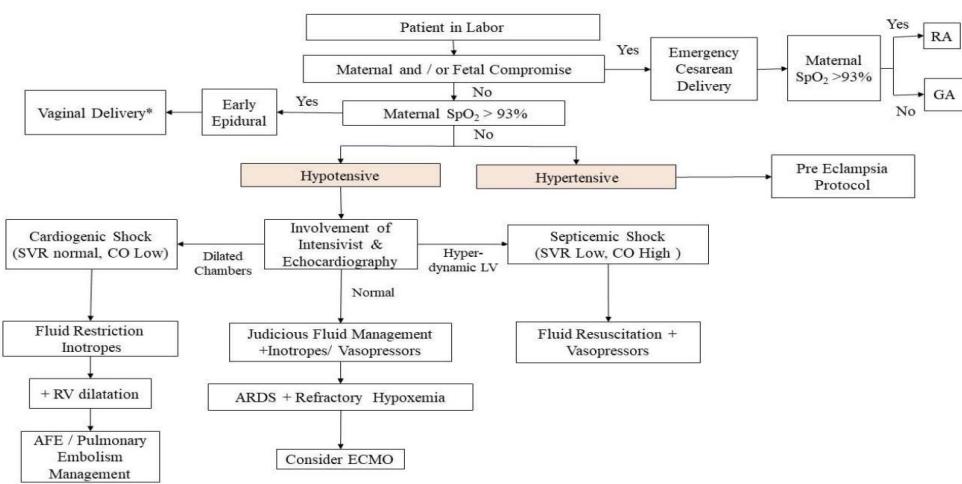


Figure 3 Legend: At all times, maternal and fetal compromise have to be assessed and acted upon as per standard intrapartum obstetric management.

*Exclude obstetric contraindication to vaginal delivery. SpO₂: percentage saturation of hemoglobin with oxygen; RA: regional anesthesia; GA: general anesthesia; SVR: systemic vascular resistance; CO: cardiac output measured by non-invasive pulse contour methodology from intra-arterial waveform analysis; LV: left ventricle; RV: right ventricle; ARDS: adult respiratory distress syndrome; AFE: amniotic fluid embolism; ECMO: extracorporeal membrane oxygenation.

Cancer Center Recommendations to Mitigate COVID-19 Impact in Patients With Cancer: Low-Resource Settings Version.

[PMID: 32282234](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Pino, Luis; Perez, Carlos; Cardona, Andres; Triana, Ivan

JCO Glob Oncol

Level of Evidence: Level 5 – Expert opinion

Type of Article: Letter

BLUF: Despite the limited number of cases, guidance for COVID-19 cancer patient care is as follows: to mitigate via social containment, transition tumor board meetings and patient visits to virtual formats, treatment modification, limit patient in-hospital chemo, and data collection to enhance future COVID-19 positive cancer patient care.

Summarizing Excerpt: “Liang et al¹ described a Chinese cohort of patients with cancer during the COVID-19 outbreak. The clinical characteristics and outcomes were relevant to our clinical practice. As a whole, patients with cancer have a higher risk for severe events (39% v 8%; $P = .0003$), including death. Outcomes are even worse in patients who received active treatment in the first month before infection (75% v 43%; odds ratio, 5.34). These patients also had a faster evolution to deterioration (13 v 43 days; $P = .0001$). These data are relevant for cancer institutions. In the COVID-19 scenario, and especially in low- and middle-income settings, prioritization of adequate pathways for these patients is critical.”

COVID-19 or Lung Cancer: what should we treat?

[PMID: 32283315](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Russano, Marco; Citarella, Fabrizio; Vincenzi, Bruno; Tonini, Giuseppe; Santini, Daniele
J Thorac Oncol

Level of Evidence: Level 5 - Expert opinion

Type of Article: Letter to the editor

Summarizing excerpt: “There is no clear evidence supporting the interactions between SARS-CoV-2 and ICIs. However, based on the limited data available, a mutual and detrimental effect cannot be excluded...Clinicians must consider several variables on the risk/benefit assessment.

Continuation of targeted therapies in COVID-19 patients could be safe if clinical conditions permit. Contrariwise, temporary suspension of anticancer treatment pending recovery from SARS-CoV-2 may be reasonable in patients who have had long-term control of the disease with maintenance chemotherapy or ICIs. Pending further evidence, the dramatic COVID-19 outbreak requires extreme caution on making therapeutic decisions for lung cancer patients.”

Reperfusion of STEMI in the COVID-19 Era - Business as Usual?

[PMID: 32282225](#)

Publication Date: Apr 13, 2020 ;Apr 14, 2020 (LitCovid)

Daniels, Matthew J; Cohen, Mauricio G; Bavry, Anthony A; Kumbhani, Dharam JCirculation

Level of Evidence: 5 - Expert Opinion

Type of Article: Letter

BLUF: Traditional preference of PPCI over FT for STEMI reperfusion will need to be re-evaluated in the COVID-19 era. Hospitals may not have the capabilities to perform these procedures as usual. PPCI has shown to be a safe alternative to FT in a situation where PPCI is not attainable or ideal in the majority of patients. The whole patient picture must be considered during the pandemic and non-pandemic care pathways cannot be followed blindly.

Summarizing Excerpt: “Experts dealing with the COVID-19 epidemic in China recommend fibrinolytic therapy (FT) over primary percutaneous coronary intervention (PPCI) for STEMI...Collectively, we feel that this is a reasonable consideration, as fibrinolysis may be the best compromise of prompt reperfusion for the patient with the least resource implications for the institution...when delays in PPCI are unavoidable, a pharmacoinvasive approach is not worse than PPCI in the P2Y12 inhibitor era...The resource implications for PPCI and thrombolysis are different. Single-bolus FT is easy to administer, overcoming the inescapable delays and resource-intensive requirements of PPCI during the COVID-19 era. Additionally, for patients with both STEMI and COVID-19, the shorter length of stay promised by PPCI is negated by the time required to treat hospitalized COVID-19 infections...Patients without extensive infarcts who present early (< 3 hours) may be well-suited for FT, but careful monitoring and consideration for rescue PCI in case of failed reperfusion after one hour of FT administration is essential. Poor candidates for FT include delayed presentations, large infarcts, hemodynamic or electrical instability, or FT contraindications.”

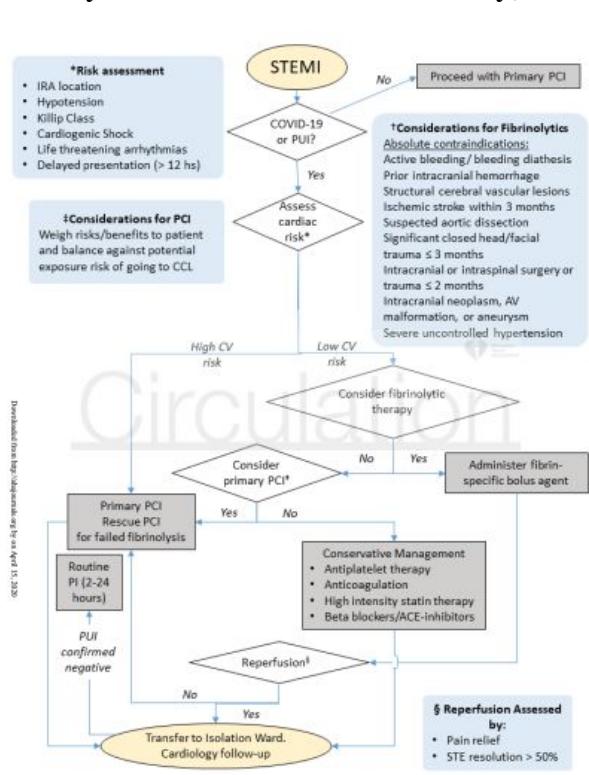


Figure. Proposed STEMI reperfusion algorithm for COVID-19 positive/presumed positive patients. Contraindications to fibrinolytic therapy as listed in 2013 AHA/ACC STEMI guidelines. ACE = angiotensin converting enzyme; CCL = cardiac catheterization laboratory; CV = cardiovascular; IRA = infarct related artery; PCI = percutaneous coronary intervention; PI = pharmacoinvasive strategy; PUI = person under investigation; STE = ST-elevation; STEMI = ST-elevation myocardial infarction.

Catheterization Laboratory Activations in the United States during COVID-19 Pandemic.

[PMID: 32283124](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Garcia, Santiago; Albaghddadi, Mazen S; Meraj, Perwaiz M; Schmidt, Christian; Garberich, Ross; Jaffer, Farouc A; Dixon, Simon; Rade, Jeffrey J; Tannenbaum, Mark; Chambers, Jenny; Huang, Paul P; Henry, Timothy D

J Am Coll Cardiol

Level of Evidence: Level 5 - mechanism-based reasoning

Type of Article: Research Correspondence

Summary: In the “After COVID” era since March 1st, primary percutaneous coronary intervention rates after STEMI activation in a group of major American hospitals has **declined 38%** relative to the 14-month period “Before COVID”. The authors note that this may be due to anxiety decreasing the likelihood of someone presenting to the hospital for medical care and should be further investigated.

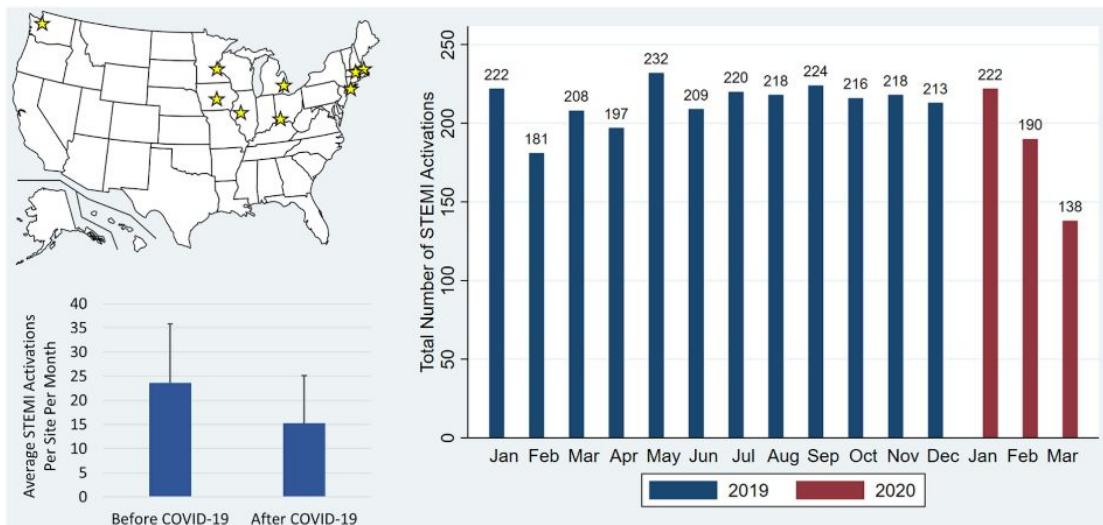


Figure 1. STEMI activations during COVID-19 Pandemic (A) Top left panel: Map of the United States (US) showing the 9 high-volume STEMI centers participating in this registry (yellow stars). (B) Lower left panel: Bar chart displaying average number of STEMI activations per site per month before and after COVID-19 pandemic impacted the US healthcare system. (C) Right panel: Bar chart displaying total number of STEMI activations per month (blue: 2019 red: 2020)

Airborne precautions recommended in Wuhan, China for bedside fiberoptic bronchoscopy examination of patients with COVID-19.

[PMID: 32283160](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

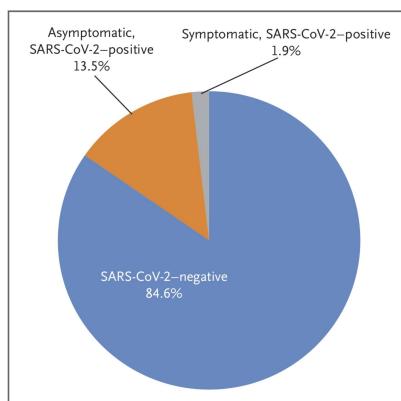
Mei, He; Jie, Xiong; Sufang, Huang; Yi, Bian; Peng, Yan; Redding, Sharon R

J Infect

Level of Evidence: Level 5 - Expert opinion

Type of Article: Editorial

Summarizing excerpt: “Retention of secretions represents an important challenge to health caregivers, but fiberoptic bronchoscopy examination might be valuable in optimiz[ing] the prognosis of COVID-19 patients. It has already show[n] existing value in diagnosis and treatment. However, the potential risk to the health care givers during this procedure should be considered. This study explain[s] detailed preparation, precaution strategies and decontamination of bronchoscope and environment and respective rationales. Our results proved its effectiveness in diagnosis and safety in staff protection both.”



Procedures	Traditional methods ^[6]	Revised methods	Rationales
Preprocess	Preprocess at bedside	Packed in disposable biocontainment bag and preprocess occurs in designated room	Reduce the spread of pathologic organisms
Manual cleaning	Bronchoscope immersed in enzyme solution for 5-10 minutes	Bronchoscope immersed in enzyme solution for 15-20 minutes	Promote enhanced breakdown of microorganism protein
	Brush inserted to clean bronchoscope	Large syringe filled with enzyme solution is used to repeatedly flush the bronchoscope and tubing	Avoid spills during cleaning
Drying	Inflated with air for 30 seconds to dry		
Machine cleaning	Machine specially used for fiberoptic bronchoscope cleaning and disinfection		
Flushing	Sterile purified water used to flush bronchoscope		
Drying	75% alcohol used to flush bronchoscope followed by inflation with air for 30 seconds	Bronchoscope flushed with 75% alcohol then immersed in alcohol for 10 minutes followed by inflation with air for 30 seconds	To prolong disinfection time
Storage	Placed in cabinet	Exposure to ultraviolet lamp for one hour prior to storage in cabinet	Ultraviolet rays inactivate the virus

Highlights for management of patients with Autoimmune Liver Disease during COVID-19 pandemic.

[PMID: 32283134](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Lleo, Ana; Invernizzi, Pietro; Lohse, Ansgar W; Aghemo, Alessio; Carbone, Marco
J Hepatol

Level of Evidence: Level 5 - Expert opinion

Type of Article: Letter to the editor

Summary: Due to the lack of evidence based treatment recommendations for patients with autoimmune liver disease, the authors present a management protocol highlighting guidelines for acute and chronic autoimmune liver disease patients and taking into account their cirrhosis status, shown in the figure below.

ACUTE AUTOIMMUNE LIVER DISEASE		CHRONIC AUTOIMMUNE LIVER DISEASE	
NON-CIRRHOSIS	<p>CURRENT KNOWLEDGE:</p> <ul style="list-style-type: none"> - AIH may present acute onset and jaundice in non cirrhotic patients - Mild alteration of liver tests in non cirrhotic patients are not associated with a high risk of progression <p>LIVER CLINIC:</p> <ul style="list-style-type: none"> - Avoid invasive diagnostic procedures that require access to the hospital (i.e. liver biopsy) - Start empiric therapy using web-based consultation - Establish a short term web-based follow-up to define drug efficacy <p>PATIENTS:</p> <ul style="list-style-type: none"> - Avoid contact with anybody who has symptoms of a respiratory infection - Minimise the time any infected household spend in shared spaces - Wash your hands often - Strictly respect isolation protocols - Contact your GP and/or hepatologist in case respiratory symptoms or fever 	<p>CURRENT KNOWLEDGE:</p> <ul style="list-style-type: none"> - Immunosuppressed patients do not seem to be at increased risk of acute respiratory distress syndrome - A flare of autoimmune liver disease would require a high dose of steroids and potentially increased risk <p>LIVER CLINIC:</p> <ul style="list-style-type: none"> - Postpone medical visits until the emergency is over - Send general information and recommendations to your patients (i.e. mailing list, medical association, ERN) - Use web-based consultation upon request - Organize drug dispensation with the local pharmacy <p>PATIENTS:</p> <ul style="list-style-type: none"> - Continue immunosuppressive drugs in unchanged doses - Wash your hands often - Avoid contact with anybody who has symptoms of a respiratory infection - Strictly respect isolation protocols - Minimise the time any infected household spend in shared spaces - Contact your GP/hepatologist in case of respiratory symptoms or fever 	
	<p>CURRENT KNOWLEDGE:</p> <ul style="list-style-type: none"> - Acute onset AIH can rapidly progress and requires urgent care - Acute complications in AI LD, e.g. obstructive jaundice and severe cholangitis in PSC, GI bleeding, are associated with high short-term mortality. <p>LIVER CLINIC:</p> <ul style="list-style-type: none"> - Organize an independent flow for urgent access to the hospital; if possible, use separate ER access - Avoid endoscopy if possible, follow local protocols if needed - Start steroids at the usual dose for treatment and Coordinate with the Transplant Center - In case of infection be timely in tapering steroids and immunosup. <p>PATIENTS:</p> <ul style="list-style-type: none"> - In case of jaundice, bleeding or ascites contact the Local Emergency Number and your hepatologist - Strictly respect isolation protocols - Minimise the time any infected household spend in shared spaces - Wash your hands often - Strictly respect isolation protocols 	<p>CURRENT KNOWLEDGE:</p> <ul style="list-style-type: none"> - Decompensated cirrhotic patients (ascites, GI bleeding, hepatic encephalopathy, and jaundice) present a poor prognosis - Decompensated patients require strict monitoring in order to avoid further complications <p>LIVER CLINIC:</p> <ul style="list-style-type: none"> - Postpone non-urgent medical visits until the emergency is over - Organize an independent flow for urgent procedures (i.e. paracentesis); if possible, use separate (COVID-free) facility or home care - Monitor your patients using a web-based system <p>PATIENTS:</p> <ul style="list-style-type: none"> - Wash your hands often - Strictly respect isolation protocols - Minimise the time any infected household spend in shared spaces - Continue immunosuppressive drugs in unchanged doses - Contact your GP in case of any symptoms - Monitor weight and urinary quantity and keep a diary 	

General Practitioner (GP), European Reference Network (ERN), Autoimmune Liver Diseases (AILD), Autoimmune Hepatitis (AIH), Primary Sclerosing Cholangitis (PSC), Gastrointestinal (GI), Emergency Room (ER)

COVID-19 - Considerations for the paediatric rheumatologist.

[PMID: 32283324](#)

Publication Date: Apr 10, 2020

Hedrich, Christian M

Clin Immunol

Level of Evidence: Level 2 – Systematic review

Type of Article: Research

Summary: In the absence of symptoms, immune modulating treatment should be continued and changes should only be made under close monitoring by the responsible clinical service. Though children receiving immunosuppressive treatment may be at increased risk for SARS-CoV2 infections, immunosuppression may protect from cytokine-mediated complications by weakening innate immune activation.

Telemedicine for Pediatric Inflammatory bowel disease in the Era of COVID-19.

[PMID: 32282624](#)

Publication Date: Apr 8, 2020

Verstraete, Sofia G; Sola, Ana Marija; Ali, Sabina A

J Pediatr Gastroenterol Nutr

Level of Evidence: Level 6 – No Data Cited

Type of Article: Letter

Summary: The Pediatric IBD Center located in the Bay Area implemented a telemedicine program that included screening patients prior to infusion appointments, injection teaching, urgent evaluations during flares to minimize emergency room visits and admissions and routine multidisciplinary visits.

AGA Clinical Practice Update on Management of Inflammatory Bowel Disease During the COVID-19 Pandemic: Expert Commentary.

PMID: 32283100

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Rubin, David T; Feuerstein, Joseph D; Wang, Andrew Y; Cohen, Russell D
Gastroenterology

Level of Evidence: 5 - Expert opinion, clinical guidelines

Type of Article: Research Correspondence

BLUF: IBD management should not change for patients without SARS-CoV-2 infection. Those infected but asymptomatic should decrease prednisone dose or change to budesonide, “hold” thiopurines, methotrexate, and tofacitinib. Dosing of biological therapies should be delayed for 2 weeks monitoring for symptoms of COVID-19.” Symptomatic patients should also hold biologics, steroids, thiopurines, methotrexate, tofacitinib, Anti-TNF therapies and ustekinumab. Therapies may be resumed when symptoms resolve, viral testing is negative, or serology is negative.

Abstract:

DESCRIPTION: The purpose of this AGA Institute Clinical Practice Update is to rapidly review the emerging evidence and provide timely expert recommendations regarding the **management of patients with inflammatory bowel disease during the COVID-19 pandemic**.

METHODS: This expert commentary was commissioned and approved by the AGA Institute Clinical Practice Updates Committee (CPUC) and the AGA Governing Board to provide timely perspective on a topic of high clinical importance to the AGA membership, and underwent internal peer review by the CPUC and external peer review through standard procedures of Gastroenterology.

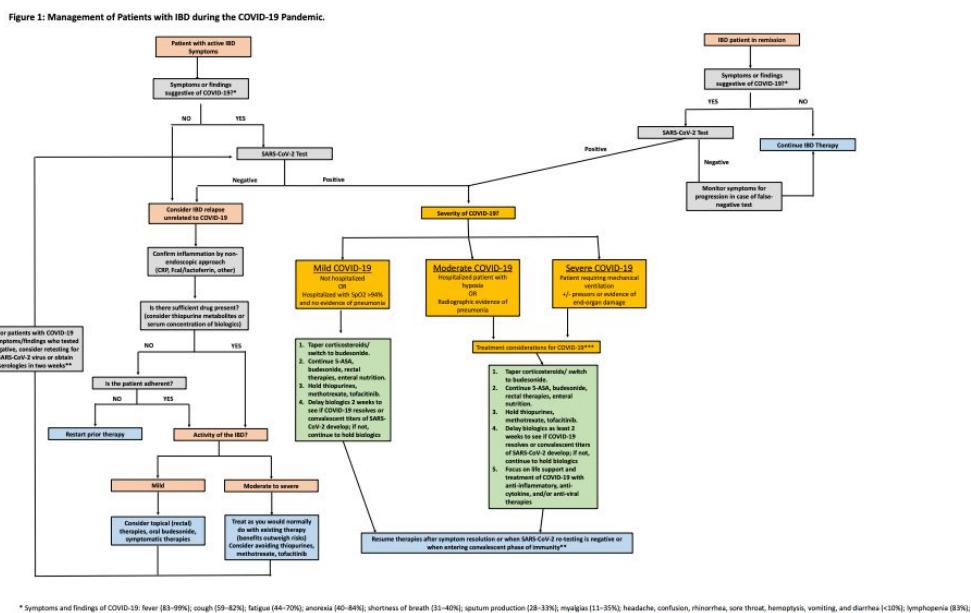


Figure 1. Management of Patients with IBD during the COVID-19 Pandemic. Abbreviations: IBD = inflammatory bowel disease, SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2, COVID-19 = CoRonavirus Disease 2019, mAbs = monoclonal antibodies, 5-ASA = 5-aminosalicylic acid medications Figure legend: * Symptoms and findings of COVID-19: fever (83–99%), cough (59–82%), fatigue (44–70%), anorexia (40–84%), shortness of breath (31–40%), sputum production (28–33%), myalgias (11–35%), headache, confusion, rhinorrhea, sore throat, hemoptysis, vomiting, and diarrhea (<10%); lymphopenia (83%); CT chest: bilateral peripheral ground glass opacities. Reference: CDC - Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease (COVID-19). <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-managementpatients.html>. Accessed April 2, 2020. ** Clearance of SARS-CoV-2 may enable resumption of IBD therapy; role of serologic antibody testing unclear at the current time. (Viral clearance testing may or may not be possible or appropriate, given local testing capabilities and health system-approved epidemiological testing strategies during the COVID-19 pandemic.) *** Treatment of COVID-19 under investigation, consider therapies that have safety and efficacy in IBD.

Impact of COVID 19: perspectives from gastroenterology.

[PMID: 32279480](#)

[**Publication Date: Apr 13, 2020; Apr 14, 2020 \(LitCovid\)**](#)

Tay, Shu Wen; Teh, Kevin Kim Jun; Wang, Lai Mun; Ang, Tiing Leong
Singapore Med J

Level of Evidence: 5 - Expert Opinion

Type of Article: Commentary

Summarizing excerpt: “Patients requiring long term immunosuppression such as those with inflammatory bowel disease and autoimmune hepatitis, as well as patients who are immunocompromised due to chronic disease states such as liver cirrhosis, are a vulnerable group during the current COVID-19 pandemic. **These patients need to be counselled on risk mitigation and avoidance of exposure. Immunosuppression needs to be tailored on an individualised basis.** For infected patients with GI symptoms, one needs to recognise the possibility of GI symptoms being part of the [COVID-19] manifestation and avoid excessive investigations. **Noncrucial invasive tests should be deferred till recovery to minimise the risk of disease transmission.”**

The daily impact of COVID-19 in gastroenterology.

[PMID: 32281517](#)

[**Publication Date: Apr 11, 2020; Apr 14, 2020 \(LitCovid\)**](#)

Magro, Fernando; Abreu, Candida; Rahier, Jean-Francois
United European Gastroenterol J

Level of Evidence: Level 5 - Expert opinion

Type of Article: Review

Summary: The article gives recommendations such as postponing endoscopic procedures, promoting telehealth services for IBD patients, and implementing individualized strategies for patients with liver disease and/or those who are immunosuppressed from biologics.

Abstract: A new strain of coronavirus, called SARS-CoV-2, emerged in Wuhan, China, in December 2019, probably originating from a wild-animal contamination. Since then, the situation rapidly evolved from a cluster of patients with pneumonia, to a regional epidemic and now to a pandemic called COrona VIrus Disease 2019 (COVID-19). This evolution is related to the peculiar modes of transmission of the disease and to the globalization and lifestyle of the 21st century that created the perfect scenario for virus spread. Even though research has not evidenced particular susceptibility of inflammatory bowel disease (IBD) patients to SARS-CoV-2 infection, **immunosuppressive and immunomodulatory treatments were considered potential risk factors.** In this context, **initiating treatments with these agents should be cautiously weighted and regular ongoing treatments shall be continued, while the dose of corticosteroids should be reduced whenever possible.** Due to the increased risk of contamination, elective endoscopic procedures and surgeries should be postponed and IBD online appointments shall be considered. IBD patients shall also follow the recommendations provided to the general population, such as minimization of contact with infected or suspected patients and to wash hands frequently. In the absence of effective treatments and vaccines, this pandemic can only be controlled through prevention of SARS-CoV-2 transmission with the main objectives of providing patients the best healthcare possible and reduce mortality.

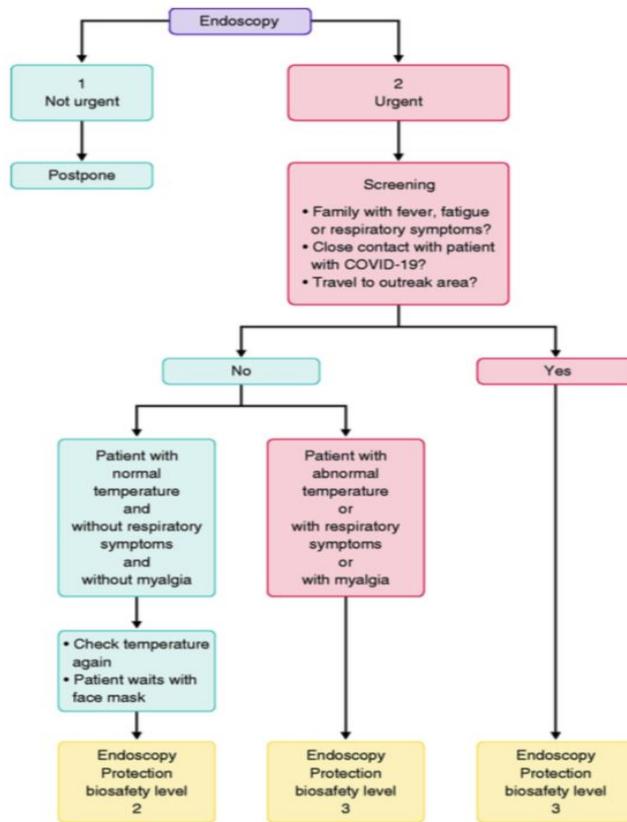


Figure 2. IBD unit's strategy during COVID-19 infection.

Endoscopy units and the COVID-19 Outbreak: A Multi-Center Experience from Italy.

[PMID: 32283102](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Repici, Alessandro; Pace, Fabio; Gabbiadini, Roberto; Colombo, Matteo; Hassan, Cesare; Dinelli, Marco; Maselli, Roberta; Spadaccini, Marco; Mutignani, Massimiliano; Gabbrielli, Armando; Signorelli, Clementina; Spada, Cristiano; Leoni, Piera; Fabbri, Carlo; Segato, Sergio; Gaffuri, Nicola; Mangiavillano, Benedetto; Radaelli, Franco; Salerno, Raffaele; Bargiggia, Stefano; Maroni, Luca; Benedetti, Antonio; Occhipinti, Pietro; De Grazia, Federico; Ferraris, Luca; Cengia, Gianpaolo; Greco, Salvatore; Alvisi, Costanza; Scarcelli, Antonella; De Luca, Luca; Cereatti, Fabrizio; Testoni, Pier Alberto; Mingotto, Roberto; Aragona, Giovanni; Manes, Gianpiero; Beretta, Paolo; Amvrosiadis, Georgios; Cennamo, Vincenzo; Lella, Fausto; Missale, Guido; Lagoussis, Pavlos; Triossi, Omero; Giovanardi, Mauro; De Roberto, Giuseppe; Cantu, Paolo; Buscarini, Elisabetta; Anderloni, Andrea; Carrara, Silvia; Fugazza, Alessandro; Galtieri, Piera Alessia; Pellegatta, Gaia; Antonelli, Giulio; Rosch, Thomas; Sharma, Prateek

Gastroenterology

Level of Evidence: Level 5 - Descriptive study

Type of Article: Research

Summary Excerpt: A survey was done “to investigate the burden of COVID-19 on endoscopic activity in a high risk area of COVID-19 outbreak, approaches to evaluating patients, adoption and compliance of HCP with protective measures, and initial possible viral transmission outcomes from

endoscopy units within a large, community-based setting (both between patients and healthcare personnel and between healthcare personnel)."

Results showed:

- a dramatic burden for endoscopy units related to COVID-19 outbreak in a high risk area;
- at least one in every 2 endoscopy units was directly involved in emergent or urgent procedures in COVID-19 cases;
- and there is a very limited risk of known patient to healthcare personnel transmission within the endoscopy unit setting, but there is a presence of possible transmission from healthcare providers to other healthcare providers.

The consequences of COVID-19 for gastroenterology nursing.

[PMID: 32279545](#)

Publication Date: Apr 11, 2020; Apr 14, 2020 (LitCovid)

Burch, Jennie

Br J Nurs

Level of Evidence: 5 – Expert Opinion

Type of Article: Discussion

BLUF: Gastroenterological procedures as well as treatments should be altered to minimize risk of ICU admission and reduce rates of immunosuppression.

Summary:

Discussion of implications for gastroenterology nursing in Britain includes suggestions of:

- Fecal testing of SARS-CoV-2 remain positive for a longer period than respiratory swabs implicating infection risk during endoscopy procedures. Due to this, non-emergent endoscopic procedures have been cancelled.
- Alterations to surgery risk analysis to lower likelihood of needing ICU space.
- Immunosuppression for patients with chronic inflammatory bowel diseases reassessed.

DOACs and 'newer' haemophilia therapies in COVID-19.

[PMID: 32282993](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Thachil, Jecko; Tang, Ning; Gando, Satoshi; Falanga, Anna; Cattaneo, Marco; Levi, Marcel; Clark, Cary; Iba, Toshiaki

J Thromb Haemost

Level of Evidence: 5 - Expert opinion

Type of Article: Letter to the Editor

BLUF/Summary: DOACs (Direct oral anticoagulants) should be considered as an alternative to vitamin K antagonists and low molecular weight heparin in appropriate patients due to decreased monitoring needs. DOACs may also be considered in unusual-site thromboses for this same reason. Caution is advised in patients with COVID-19 due to risk of drug interaction with anti-virals and the importance of kidney function in drug excretion. Extended half-life haemophilia products and emicizumab may also be considered.

Abstract: We would like to thank the authors for their insightful thoughts on the consideration of anticoagulants and treatment for haemophilia A and B during the COVID-19 pandemic. They highlight some important practical points which certainly should be adopted by the thrombosis and

haemostasis community in the current situation of restricted mobility, which reduces the possibility for patients to access general practitioners and hospitals.

What We Know So Far (As of March 26, 2020) About COVID-19-An MRT Point of View.

[PMID: 32279977](#)

Publication Date: Apr 14, 2020 (LitCovid)

Huang, Shao Hui

J Med Imaging Radiat Sci

Level of Evidence: Level 5 - Expert opinion

Type of Article: Letter

Summary: This article provides answers to general questions relating to pathogenesis, symptoms, recovery time, infection prevention and disinfection, and treatment of COVID-19. Radiation therapy is also addressed and the authors provide the following recommendations:

- “Zoning: A radiotherapy center should be divided into a “clean zone,” “semi-soiled/semi-contaminated zone,” and “soiled/contaminated zone” with clearly defined protection measures for each zone.
- Special consideration should be paid to disinfection of immobilization devices.
- It is important to communicate with the treating Radiation Oncology to triage COVID-19 suspicious or confirmed cases to consider:
 - Whether postponing/withholding radiotherapy is acceptable
 - When to restart radiotherapy
 - Whether to modify the radiotherapy regimen to use a shorter course
- For a suspicious COVID-19 patient, some cancer centers in Wuhan have asked patients to wear a mask under their thermoplastic mask for head and neck and central nervous system radiotherapy.”

Should anti-diabetic medications be reconsidered amid COVID-19 pandemic?

[PMID: 32283128](#)

Publication Date: Apr 4, 2020 (accepted date); Apr 14, 2020 (LitCovid)

Pal, Rimesh; Bhadada, Sanjay K

Diabetes Res Clin Pract

Level of Evidence: 5- Expert opinion

Type of Article: Correspondence

BLUF: Due to concerns of ACEi-mediated upregulation of ACE-2, many practitioners may reconsider ACEi use in diabetic treatment due to the pandemic, **though there is limited evidence to support this.**

Summarizing excerpt: “[R]obust human studies in the field of COVID19 and anti-diabetic medications are lacking. Hence, in the absence of strong evidence, it would be extremely unwise to consider one drug over the other. **Good glycemic control should be the goal, no matter what drugs are being used.** However, considering the low-cost, widespread availability, modest HbA1c reduction, once-daily dosing and relatively good tolerability, **hydroxychloroquine may be a good add-on drug** during this outbreak for patients with poor glucose control.

Recommendations on dermatologic surgery during the COVID-19 pandemic.

[PMID: 32283242](#)

Publication Date: Apr 8, 2020

Der Sarkissian, Samuel Antranig; Kim, Leo; Veness, Michael; Yiasemides, Eleni; Sebaratnam, Deshan Frank

J Am Acad Dermatol

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Letter

BLUF: Deferring planned surgeries to mitigate the spread of COVID-19 must be balanced with the risk of disease progression, increasing tumor burden, increasing risk of metastasis and ultimate burden on the healthcare system. See Table 1 in article for full guidelines proposed.

Summary:

- BCC: defer surgery for 3-6 months.
- SCC: guided by prognostic variables – location, size >2cm, depth.
- Invasive melanoma: defer wide excision and/or sentinel lymph node biopsy for 3 months if histological clearance obtained.
- Locally aggressive tumors: proceed ASAP with consideration of patient and tumor variables.
- Procedures which alleviate significant morbidity (e.g. I&D of hidradenitis suppurativa abscesses) may proceed as soon as feasible.

The management of biologics in dermatologic patients in the 2019-nCoV era.

[PMID: 32281897](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Plachouri, Kerasia-Maria; Georgiou, Sophia

J Dermatolog Treat

Level of Evidence: Level 5 - Expert opinion

Type of Article: Letter to the editor

Summary: While multiple dermatologic and rheumatologic bodies have suggested continuing biologic therapy for patients during this pandemic, there are no clear guidelines for initiating biologic treatment amidst COVID-19. Due to the potentially severe complications that could occur in patients with iatrogenic immunosuppression from biologics, their need for frequent monitoring and labs, and the lack of evidence regarding interactions between these drugs and SARS-CoV-2, **the author argues that initiation of biologic treatment should be postponed if possible.**

Treatment considerations for patients with pemphigus during the COVID-19 pandemic.

[PMID: 32283243](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Shakshouk, Hadir; Daneshpazhooh, Maryam; Murrell, Dedee F; Lehman, Julia S

J Am Acad Dermatol

Level of Evidence: 5 - Expert Opinion

Type of Article: Letter

Summary: The authors **recommend stopping the use of Rituximab and tapering**

glucocorticoids to the lowest effect dose to prevent the immunosuppressive effects of these agents during the COVID-19 pandemic. They also discuss several other agents that may potentially be used for the treatment of pemphigus without the immunosuppressive effects of the aforementioned agents.

Adalimumab for Treatment of Hidradenitis Suppurativa During the COVID-19 Pandemic: Safety Considerations.

[PMID: 32283230](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Blaszczak, Alecia; Trinidad, John C L; Cartron, Alexander M

Journal of American Academy of Dermatology

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Letter to the Editor (Notes and Comments)

Summarizing Excerpt: “[...] [There is] risk of total infections, upper respiratory tract infections and nasopharyngitis in patients with psoriasis on immunomodulating biologic therapy. Similar to psoriasis, hidradenitis suppurativa (HS) is an inflammatory skin disease managed effectively with biologic agents when disease burden is high. Adalimumab, a TNF-alpha inhibitor, is currently the only Food and Drug Administration (FDA) approved drug for moderate-to-severe HS. In comparison to patients with psoriasis, patients with HS generally require higher doses of adalimumab, especially during treatment initiation. **While current data are not available for COVID-19 risk in patients with HS, data from the PIONEER I and II phase 3 clinical trials may provide important insight into the risk of infectious complications in this unique patient population.”**

Table 1: Risks of total infections, upper respiratory infections and nasopharyngitis in hidradenitis suppurativa patients taking adalimumab versus placebo. Data from period 1 of the PIONEER I and II trials.

	Total Infections Adalimumab/Placebo n (%)	Upper Respiratory Tract Infections Adalimumab/Placebo n (%)	Nasopharyngitis Adalimumab/Placebo n (%)
PIONEER I (n=152/153)	40 (26)/32 (21)	4 (2.6)/5 (3.3)	16 (10.5)/9 (5.9)
PIONEER II (n=163/163)	37 (23) /36 (22)	9 (5.5)/8 (4.9)	10 (6.1)/9 (5.5)
Total (n=315/316)	77 (24)/68 (21.5)	13 (4.1)/ 13 (4.1)	26 (8.2)/ 18 (5.7)

Guidelines for Ambulatory Surgery Centers for the Care of Surgically Necessary/Time-Sensitive Orthopaedic Cases during the COVID-19 Pandemic.

[PMID: 32282420](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

DePhillipo, Nicholas N; Larson, Christopher M; O'Neill, Owen R; LaPrade, Robert F

Journal of Bone & Joint Surgery

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Guidelines

Summarizing Excerpt: Table 1 outlines the orthopaedic cases that should be deemed surgically necessary and their justifications in times when PPE are limited, elective surgeries are postponed, and physical distancing is a necessity.

TABLE I Types of Acute Orthopaedic Injuries Recommended as "Surgically Necessary" for Elective-Urgent Procedures, Stratified by Joint *		
Joint Location	Acute Injury Details	Justification
Shoulder	<ul style="list-style-type: none"> Locked labral tears Unstable glenohumeral joints following dislocation Grade 3 acromioclavicular joint separations with severe pain or tearing of the skin Acute/severe rotator cuff tears Pectoralis major ruptures 	Inreducible joint dislocations, patients with high risk of recurrent instability/dislocation causing further injury, young patients with chondral injuries that are repairable, large tendon ruptures that are susceptible to retracting and becoming irreparable with delayed surgical treatment, any injury with neurovascular compromise
Elbow	<ul style="list-style-type: none"> Digital biceps tendon tears Unstable elbow subluxations or dislocations Locked osteochondral defects of the elbow Triceps tendon tears 	Young patients with chondral injuries that can be repaired, any patient who has high risk of compromised or unrepairable tendon rupture with delayed surgical treatment
Hand/wrist	<ul style="list-style-type: none"> Carpal subluxations or dislocations Unstable scaphoid fractures Acute tendon tears Unstable wrist/carpal or phalangeal subluxations or dislocations 	Unstable scaphoid fractures that cannot be treated in a cast/conservative manner, patients with high risk of recurrent instability of carpal, metacarpal, or phalangeal dislocations/subluxations that would lead to loss of function
Foot/ankle	<ul style="list-style-type: none"> Dislodged or unstable osteochondritis dissecans lesions Ankle dislocation or subluxation Syndesmosis disruption Jones fracture Acute tendon tears (e.g., Achilles) Acute unstable ligament tears 	Young patients with chondral injuries that are repairable, irreducible joint dislocations, severe/acute unstable ankle sprains with low likelihood of success with nonoperative management, fractures susceptible to nonunion with conservative treatment
Knee	<ul style="list-style-type: none"> Locked knees Buckled/handled tears of the meniscus Young patients with vulnerable/repairable meniscal tears Meniscal root tears Acute osteochondral fractures Ligament knee instability due to a patellar dislocation or multiple ligamentous injuries Acute tendon ruptures (patellar or quadriceps) Dislodged osteochondritis dissecans lesions Anterior/posterior cruciate ligament撕断, avulsion fractures Manipulations after total knee replacement or ligament reconstructions 	Young patients with chondral injuries or acute meniscal tears that would lead to long-term decreased function, meniscal root tears that would lead to long-term increased risk of bucket-handle meniscal tears, acute patellar dislocation with loose body/chondral fracture, knee dislocation, high risk of lower function or unrepairable tendon rupture with delayed surgical treatment, locked knee
Hip	<ul style="list-style-type: none"> Dislocated/unstable arthrodeses Hip subluxation or dislocation that is not reducible or is unstable postoperatively Acute proximal hamstring ruptures Acute disability due to a locked hip secondary to intra-articular loose body/bodies or an incarcerated femur 	Inreducible hip subluxation/dislocation, high risk of unrepairable proximal hamstring rupture with delayed surgical treatment, locked hip
Spine	<ul style="list-style-type: none"> Neurological deficit or impending deficit that can be prevented by decompression Spinal instability such as fractures 	Cauda equina syndrome, loss of bladder/bowel control, persistent nerve compression, unstable vertebral fracture or spondylolisthesis that could lead to permanent dysfunction

*Accordingly, this list is advisory in nature. It is not nor should be considered a medical directive or standard of care in and of itself.

A Review of State Guidelines for Elective Orthopaedic Procedures During the COVID-19 Outbreak.

[PMID: 32282419](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Sarac, Nikolas J; Sarac, Benjamin A; Schoenbrunner, Anna R; Janis, Jeffrey E; Harrison, Ryan K; Phieffer, Laura S; Quatman, Carmen E; Ly, Thuan V

Journal of Bone & Joint Surgery

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Guidelines

BLUF: With most orthopaedic procedures being elective and in postponement during the pandemic, there is a vague understanding of which ones should be done now. This article looks at the various guidelines that have been published from various organizations as a means to synthesize the data.

Abstract:

Background: The SARS-CoV-2 (COVID-19) pandemic has resulted in widespread cancellation of elective orthopaedic procedures. The guidance coming from multiple sources frequently has been difficult to assimilate as well as dynamic, with constantly changing standards. We seek to communicate the current guidelines published by each state, to discuss the impact of these guidelines on orthopaedic surgery, and to provide the general framework used to determine which procedures have been postponed at our institution.

Methods: An internet search was used to identify published state guidelines regarding the cancellation of elective procedures, with a publication cutoff of March 24, 2020, 5:00 P.M. Eastern Daylight Time. Data collected included the number of states providing guidance to cancel elective procedures and which states provided specific guidance in determining which procedures should continue being performed as well as to orthopaedic-specific guidance.

Results: Thirty states published guidance regarding the discontinuation of elective procedures, and 16 states provided a definition of "elective" procedures or specific guidance for determining which procedures should continue to be performed. Only 5 states provided guidelines specifically mentioning orthopaedic surgery; of those, 4 states explicitly allowed for trauma-related procedures and 4 states provided guidance against performing arthroplasty. Ten states provided guidelines allowing for the continuation of oncological procedures.

Conclusions: Few states have published guidelines specific to orthopaedic surgery during the COVID-19 outbreak, leaving hospital systems and surgeons with the responsibility of balancing the benefits of surgery with the risks to public health.

Peri-operative Considerations in Urgent Surgical Care of Suspected and Confirmed COVID-19 Orthopedic Patients: Operating rooms protocols and recommendations in the Current COVID-19 Pandemic.

[PMID: 32282441](#)

Publication Date: Apr 14, 2020

Awad, Mohamed E; Rumley, Jacob C L; Vazquez, Jose A; Devine, John G

J Am Acad Orthop Surg

Level of Evidence: Level 5 – Expert Opinion

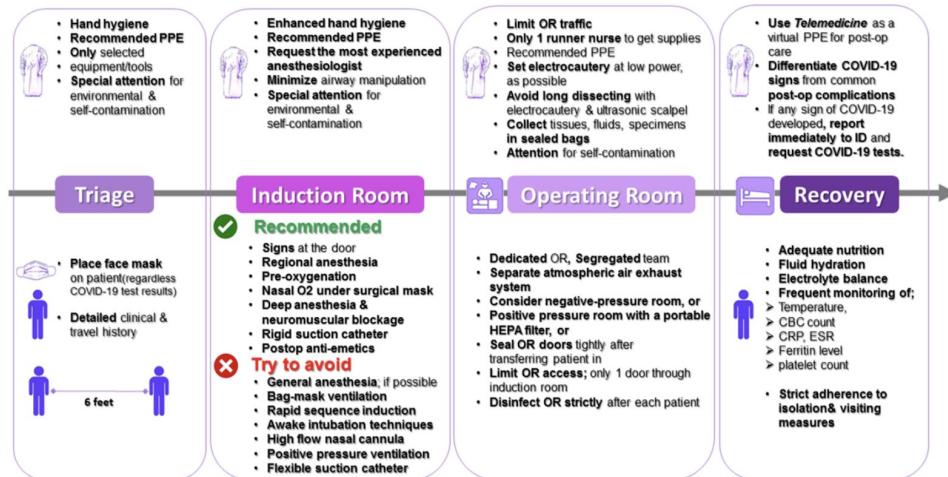
Type of Article: Letter

Summary: To reduce the occupational risk in treating suspected or confirmed COVID-19 urgent orthopaedic patients, recommended precautions and preventive actions (triage area, ED consultation room, induction room, operating room, and recovery room) are reviewed.

The recommended use of Personal protective equipment for different activities at various settings managing suspected/confirmed COVID-19 patients.

	Hygiene before	Facemask& Respirators	Protective Eyewear	Head covering	Gowns	Gloves	Shoes	Hygiene after
Triage			Any				Any	
ED consultation rooms		or 	Any				Any	
Procedure rooms		or 	Any				Any	
Induction rooms		or 	Any					
Operating room		or 	Any					
Aerosolized-blood generating procedures		or 	Any					

Recommendation and measures for Urgent Peri-operative Pathway of clinically suspected/confirmed COVID-19 patients



Letter to the Editor: How to Deal with Suspended Oral Treatment during the COVID-19 Epidemic.

[PMID: 32282258](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Guo, J; Wu, H; Xie, H

J Dent Res

Level of Evidence: Level 5 - Expert opinion

Type of Article: Letter to the editor

Summary: The authors describe strategies on dealing with suspended oral diseases during COVID-19 that were implemented at their hospital, including a 24 advice hotline, video consultations, and online training to patients with non-acute dental disease. They also suggest putting popular science articles on WeChat (a Chinese messaging application), in order to improve patient education.

Laparoscopy at all costs? Not now during COVID-19 and not for acute care surgery and emergency colorectal surgery: a practical algorithm from a Hub Tertiary teaching hospital in Northern Lombardy, Italy.

[PMID: 32282750](#)

Published Date: Apr 7, 2020

Di Saverio, Salomone; Khan, Mansoor; Pata, Francesco; Ietto, Giuseppe; De Simone, Belinda; Zani, Elia; Carcano, Giulio

J Trauma Acute Care Surg

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Letter

BLUF: The authors of this paper advise avoiding laparoscopy and use of electrical devices to minimize aerosolization of blood borne viruses.

Summary: Recent documents from SAGES state that although laparoscopy can lead to aerosolization of blood borne viruses, there is currently no evidence to indicate that this effect is seen with COVID-19, nor that it would be isolated to minimally invasive surgical procedures. However, the authors of this paper still advise avoiding laparoscopy and use of electrical devices to decrease risk of COVID-19 infection. The authors provide guidelines for management of colorectal conditions presenting as emergencies.

Coronavirus disease 2019: Utilizing an ethical framework for rationing absolutely scarce healthcare resources in transplant allocation decisions.

[PMID: 32282992](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Wall, Anji E; Pruett, Timothy; Stock, Peter; Testa, Giuliano

American Journal of Transplantation

Level of Evidence: Level 6- No data Cited

Type of Article: Opinion

BLUF: This paper discusses ethical issues with regard to the shift in transplant allocation decisions that are limited by resources due to the pandemic including how to bolster the ethical framework of transplant allocation and in doing so states it is important to maximize benefits, treat people equally, promote and reward instrumental value, and prioritize the worst off.

Abstract:

The novel Coronavirus disease 2019 (COVID-19) is impacting transplant programs around the world, and, as the center of the pandemic shifts to the United States, we have to prepare to make decisions about which patients to transplant during times of constrained resources. In this paper, we discuss how to transition from the traditional justice versus utility consideration in organ allocation to a more nuanced allocation scheme based on ethical values that drive decisions in times of absolute scarcity. We recognize that many decisions are made based on the practical limitations that transplant programs face, especially at the extremes. As programs make the transition from a standard approach to a resource constrained approach to transplantation, we utilize a framework for ethical decisions in settings of absolutely scarce resources to help guide programs in deciding which patients to transplant, which donors to accept, how to minimize risk, and how to ensure the best utilization of transplant team members.

Organ Donation During the Coronavirus Pandemic: An Evolving Saga in Uncharted Waters.

[PMID: 32281124](#)

[Publication Date: Apr 12, 2020; Apr 14, 2020 \(LitCovid\)](#)

Moris, Dimitrios; Shaw, Brian I; Dimitrokallis, Nikolaos; Barbas, Andrew S

Transplant International

Level of Evidence: Level 6 - No evidence

Type of Article: Letter to the Editor

BLUF: Transplantation during the COVID-19 pandemic should be done with caution but current guidelines are broad and difficult to implement. The authors advocate for “individualized decision-making regarding transplantation, including honest discussion about the risk of death on waiting list, the risk of donor derived SARS-CoV-2 transmission, the lack of therapies for COVID-19, and the possibility of severe COVID-19 disease post-transplant.” They also advocate for weighing in patient preference.

Abstract:

Coronavirus 2 (SARS-CoV-2) is the cause of an ongoing pandemic of respiratory illness, known as coronavirus disease 2019 (COVID-19).[1] The risk of developing COVID-19 from a SARS-CoV-2 infected organ donor is unknown. Therefore, extreme caution is necessary when considering transplantation. Transmission is affected by epidemiological risk factors, incubation period, degree of viraemia, and viability of SARS-CoV-2 in blood and organ compartments. Recent guidelines from NHSBT[2] recommend that all potential donors be tested for SARS-CoV-2 and donation suspended from those who test positive. Donation is discouraged for asymptomatic individuals who have been in a COVID-19-affected area in the last 28 days.

Clinical characteristics and immunosuppressants management of coronavirus disease 2019 in solid organ transplant recipients.

[PMID: 32282986](#)

[Publication Date: Apr 13, 2020; Apr 14, 2020 \(LitCovid\)](#)

Zhong, Zibiao; Zhang, Qiuyan; Xia, Haoyang; Wang, Aiping; Liang, Wenjin; Zhou, Wei; Zhou, Lihua; Liu, Xiao; Rao, Lingzhang; Li, Zhifeng; Peng, Zhiyong; Mo, Pingzheng; Xiong, Yong; Shaojun, Ye; Wang, Yanfeng; Ye, Qifa

American Journal of Transplantation

Level of Evidence: Level 4 - Case Reports

Type of Article: Research

BLUF: Based on two solid organ transplant cases presented, it is recommended that the regimen should be adjusted for COVID-19 positive recipients based on infection level, immunosuppressant concentration, immune status, and side effects and the therapeutic regimen should have a **reduction in calcineurin inhibitors and MMF, combined with low-dose methylprednisolone.**

Abstract:

Over 1,000,000 cases of coronavirus disease 2019 (COVID-19) have been confirmed since the worldwide outbreak began. Not enough data on infected solid organ transplant (SOT) recipients are available, especially data about the management of immunosuppressants. We report two cases of COVID-19 in two transplant recipients, with different treatments and prognoses. The first patient received liver transplantation due to hepatitis B virus-related hepatocellular carcinoma and was confirmed to have COVID-19 nine days later. Following a treatment regimen consisting of discontinued immunosuppressant use and low-dose methylprednisolone-based therapy, the patient developed acute rejection but eventually recovered. The other patient had undergone a renal transplant from a living related donor 17 years ago, and was admitted to the hospital because of persistent fever. This patient was also diagnosed with COVID-19. His treatment regimen consisted of reduced immunosuppressant use. No signs of rejection were observed during the regimen. In the end, the patient successfully recovered from COVID-19. These effectively treated cases can provide a basis for immunosuppressant management of COVID-19-positive SOT recipients.

COVID-19: Thoughts and comments from a Tertiary Liver Transplant Center in France.

[PMID: 32282972](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Tzedakis, Stylianios; Jeddou, Heithem; Houssel-Debry, Pauline; Sulpice, Laurent; Boudjema, Karim
Am J Transplant

Level of Evidence: 6 - Data not cited

Type of Article: Letter to the Editor

BLUF: Liver transplant patients have died after receiving contaminated livers from past coronavirus outbreaks and also had longer periods of viral shedding. Currently, at the University Hospital Pontchaillou in France COVID-19 patients are not eligible for organ donation. They also mandate testing of recipient and donor before transplant may take place. As most recipients are in hospitals already, transplant timing has not been impacted.

Abstract: We read with interest the analysis on **modern approaches to organ transplantation during the COVID-19 pandemic** by Kumar et al.(1) . Following the December 2019 SARS-CoV-2 outbreak in China, France is now fifth in number of deaths worldwide while at the same time hosting one of the biggest European liver transplantation programs.

Immunosuppressive therapy maintenance in a kidney transplant recipient SARS-CoV-2 pneumonia: a case report.

[PMID: 32282991](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Bussalino, Elisabetta; De Maria, Andrea; Russo, Rodolfo; Paoletti, Ernesto
Am J Transplant

Level of Evidence: Level 4 - Case report

Type of Article: Research

Summarizing excerpt: “Maintaining immunosuppression could be beneficial in stopping, or at least mitigating the ‘cytokine storm’ that usually leads to poor function in these patients and, only secondarily, in preventing graft rejection.”

Abstract: The role of systemic inflammation is proving crucial in determining unfavorable outcome in SARS-CoV-2 infected patients. Limited data are available regarding immunosuppression management in kidney transplant recipients (KTRs) with SARS-CoV-2 pneumonia. We report a case of a 32-year-old KTR who developed SARS-CoV-2 infection and fully recovered in 15 days while maintaining standard immunosuppressive therapy.

First case of COVID-19 in a kidney transplant recipient treated with belatacept.

[PMID: 32282977](#)

Publication Date: Apr 13, 2020; Apr 14, 2020

Marx, David; Moulin, Bruno; Fafi-Kremer, Samira; Benotmane, Ilies; Gautier, Gabriela; Perrin, Peggy; Caillard, Sophie

Am J Transplant

Level of Evidence: 4 - Case report

Type of Article: Letter to the Editor

BLUF: Belatacept may have been involved in a blockade of cytokine storm which led the patient to experience a milder clinical case than feared with chronic immunosuppression. Further investigation into this possibility is needed.

Abstract: Coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an ongoing public health emergency of international concern. **Acute respiratory distress syndrome (ARDS) develops in 3-30% of patients with COVID-19** (1,2), because of direct virus-induced cytopathic effects in the respiratory tract or cytokine storms triggered by the host's immune response. **Comorbidities are known to increase the risk of ARDS in SARS-CoV-2-infected patients .**

Loopholes in Current Infection Control and Prevention Practices Against COVID-19 in Radiology Department and Improvement Suggestions.

[PMID: 32281391](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Yu, Juan; Ding, Ning; Chen, Huan; Liu, Xia-Jing; Pu, Zu-Hui; Xu, Hua-Jian; Lei, Yi; Zhang, Han-Wen
Canadian Association of Radiologists Journal

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Comment

BLUF: In identifying loopholes that result in transmission, the main aspect of protection practices is to “establish 3 isolation zones and an additional sterilization zone. Patients who cannot be fully cleared of the possibility of COVID-19 infection (type B) are placed in the orange zone for examination. This simple measurement is proven to be effective in reducing transmission in the early stages of the outbreak when we only have very little understanding of the pathogen characteristics.”

Abstract:

Objectives: To improve the infection control and prevention practices against coronavirus disease 2019 (COVID-19) in radiology department through loophole identification and providing rectifying measurements.

Methods: Retrospective analysis of 2 cases of health-care-associated COVID-19 transmission in 2 radiology departments and comparing the infection control and prevention practices against COVID-19 with the practices of our department, where no COVID-19 transmission has occurred.

Results: Several loopholes have been identified in the infection control and prevention practices against COVID-19 of the 2 radiology departments. Loopholes were in large part due to our limited understanding of the highly contagious coronavirus severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which is characterized by features not observed in other SARS viruses. We recommend to set up an isolation zone for handling patients who do not meet the diagnostic criteria of COVID-19 but are not completely cleared of the possibility of infection.

Conclusions: Loopholes in the infection control and prevention practices against COVID-19 of the 2 radiology departments are due to poor understanding of the emerging disease which can be fixed by establishing an isolation zone for patients not completely cleared of SARS-CoV-2 infection.

Performance of Electrophysiology Procedures at an Academic Medical Center Amidst the 2020 Coronavirus (COVID-19) Pandemic.

[PMID: 32281214](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Rubin, Geoffrey A; Biviano, Angelo; Dizon, Jose; Yarmohammadi, Hirad; Ehlert, Frederick; Saluja, Deepak; Rubin, David A; Morrow, John P; Waase, Marc; Berman, Jeremy; Kushnir, Alexander; Abrams, Mark P; Garan, Hasan; Wan, Elaine YJ

Cardiovascular Electrophysiology

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Comment

BLUF: An outline of protocol changes that the electrophysiology department made during the pandemic with regards to the following topics: indications for procedures from the outpatient setting, indications for procedures from the in-patient or unstable out-patient setting, urgent/emergent procedures in COVID-19 infected patients, pre-procedure workflow, and performing the EP procedure.

Abstract

A global coronavirus (COVID-19) pandemic occurred at the start of 2020 and is already responsible for more than 74,000 deaths worldwide, just over 100 years after the influenza pandemic of 1918. At the center of the crisis is the highly infectious and deadly SARS-CoV-2, which has altered everything from individual daily lives to the global economy and our collective consciousness. Aside from the pulmonary manifestations of disease, there are likely to be several electrophysiologic (EP) sequelae of COVID-19 infection and its treatment, due to consequences of myocarditis and the use of QT-prolonging drugs. Most crucially, the surge in COVID-19 positive patients that have already overwhelmed the New York City hospital system requires conservation of hospital resources including personal protective equipment (PPE), reassignment of personnel, and reorganization of institutions, including the EP laboratory. In this proposal, we detail the specific protocol changes that our EP department has adopted during the COVID-19 pandemic, including performance of only urgent/emergent procedures, afterhours/7-day per week laboratory operation, single attending-only cases to preserve PPE, appropriate use of PPE, telemedicine and video chat follow-up appointments, and daily conferences to collectively manage the clinical and ethical dilemmas to come. We also

discuss how we perform EP procedures on presumed COVID positive and COVID tested positive patients in order to highlight issues that others in the EP community may soon face in their own institution as the virus continues to spread nationally and internationally.

Considerations in the Triage of Urologic Surgeries During the COVID-19 Pandemic.

[PMID: 32279903](#)

Publication Date: Apr 9, 2020; Apr 14, 2020 (LitCovid)

Stensland, Kristian D; Morgan, Todd M; Moinzadeh, Alireza; Lee, Cheryl T; Briganti, Alberto; Catto, James W F; Canes, David

European Urology

Level of Evidence: Level 5 - Expert Opinion

Type of Article: Editorial

Summary: Preliminary recommendations for triaging urological surgeries in the setting of many elective surgeries being cancelled but the definition remaining vague (for comprehensive list, see Table 1 in article).

R&D: Diagnosis & Treatments

A Dermatologic Manifestation of COVID-19: Transient Livedo Reticularis.

[PMID: 32283229](#)

Publication Date: Apr 6, 2020 (accepted date); Apr 14, 2020 (LitCovid)

Manalo, Iviensan F; Smith, Molly K; Cheeley, Justin; Jacobs, Randy

J Am Acad Dermatol

Level of Evidence: 4-Case Series

Type of Article: Correspondence

Summary: The authors present two cases of transient unilateral livedo reticularis in COVID-19 positive, non-ICU patients and “hypothesize that the microthromboses that manifest in other organs (e.g. cardiopulmonary) and as DIC in critically ill COVID-19 patients are the most plausible etiology to our patients' LR presentations.”



Figure 1. Patient described in Case 1 with transient unilateral livedo reticularis patch on the right thigh.

A Case of COVID-19 Pneumonia in a Young Male with Full Body Rash as a Presenting Symptom.

[PMID: 32282312](#)

Publication Date: Mar 28, 2020; Apr 14, 2020 (LitCovid)

Hunt, Madison; Koziatek, Christian

Clin Pract Cases Emerg Med

Level of Evidence: 5 - Case report

Type of Article: Research

Summary: A 20-year-old patient presented with a fever, respiratory distress, and morbilliform rash consistent with viral exanthem, and tested positive for SARS-CoV-2. In a study quoted in the article, rash was present in only 2/1099 patients. “Rash may be a rare presenting symptom of COVID-19 and should be kept in mind by front-line providers.”

Encephalitis as a clinical manifestation of COVID-19.

[PMID: 32283294](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Ye, Mingxiang; Ren, Yi; Lv, Tangfeng

Brain Behav Immun

Level of Evidence: 5- Expert Opinion

Type of Article: Correspondence

BLUF: Encephalitis due to COVID-19 infection is difficult to identify with serologic testing. Physical exam and clinical judgement must be utilized.

Summarizing excerpt: “This letter describes a COVID-19 case who presented as encephalitis...Fortunately, encephalitic associate with SARS-CoV-2 is self-limited. Although the definitive diagnosis of viral encephalitis largely depends on virus isolation, this is difficult for COVID-19 because **SARS-CoV-2 dissemination is transient and its CSF titer may be extremely low**. Consistently, **anti-SARS-CoV-2 IgM and IgG were not detectable** in the patient’s CSF sample (unpublished data). Therefore, physical evaluation of neurological symptom is important to lead a presumptive diagnosis.”

High-resolution computed tomographic imaging disclosing COVID-19 pneumonia: a powerful tool in diagnosis.

[PMID: 32283148](#)

Publication Date: March 26, 2020 (acceptance date); Apr 14, 2020 (LitCovid)

Zhang, Zili; Shen, Yin; Wang, Haijun; Zhao, Lei; Hu, Desheng

J Infect

Level of Evidence: 5 – Expert opinion

Type of Article: Letter

Summary: Based on a number of studies characterizing CT findings in confirmed cases of COVID-19, the authors propose a CT imaging score system to aid in diagnosis of COVID-19:

Table 1. CT imaging score system to quantify the severity of COVID-19 patients.

No.	Performance	Score
(1)	Unilateral patchy shadows or ground glass opacity	5
(2)	Bilateral patchy shadows or ground glass opacity	7
(3)	Diffuse changes for (1) or (2)	2
(4)	Unilateral solid shadow, striped shadow	2
(5)	Bilateral solid shadow, striped shadow	4
(6)	Unilateral pleural effusion	2
(7)	Bilateral pleural effusion	4
(8)	Increased or enlarged mediastinal lymph nodes	1

Coronavirus Disease 2019 (COVID-19) CT Findings: A Systematic Review and Meta-analysis.

[PMID: 32283052](#)

Publication Date: Mar 25, 2020; Apr 14, 2020 (LitCovid)

Bao, Cuiping; Liu, Xuehuan; Zhang, Han; Li, Yiming; Liu, Jun

J Am Coll Radiol

Level of Evidence: 3 - Systematic review of case series

Type of Article: Research

BLUF: The researchers performed a meta-analysis of 13 studies with sample sizes ranging from 9-1099 patients to study. The analysis found that rates of CT chest findings in COVID-19 patients is very high in symptomatic patients. Findings include ground glass opacities and consolidation in a bilateral distribution.

Abstract:

Purpose: To date, considerable knowledge gaps remain regarding the chest CT imaging features of COVID-19. We performed a systematic review and meta-analysis of results from published studies to date to provide a summary of evidence on detection of COVID19 by chest CT and the expected CT imaging manifestations.

Methods: Studies were identified by searching PubMed database for articles published between December 2019 and February 2020. Pooled CT positive rate of COVID-19 and pooled incidence of CT imaging findings were estimated using a random-effect model.

Results: A total of 13 studies met inclusion criteria. The pooled positive rate of the CT imaging was 89.76% and 90.35% when only including thin-section chest CT. **Typical CT signs were ground glass opacities (83.31%), ground glass opacities with mixed consolidation (58.42%), adjacent pleura thickening (52.46%), interlobular septal thickening (48.46%), and air bronchograms (46.46%).** Other CT signs included crazy paving pattern (14.81%), pleural effusion (5.88%), bronchiectasis (5.42%), pericardial effusion (4.55%), and lymphadenopathy (3.38%). The **most anatomic distributions were bilateral lung infection (78.2%) and peripheral distribution (76.95%).** The incidences were highest in the right lower lobe (87.21%), left lower lobe (81.41%), and bilateral lower lobes (65.22%). The right upper lobe (65.22%), right middle lobe (54.95%), and left upper lobe (69.43%) were also commonly involved. The incidence of bilateral upper lobes was 60.87%. A considerable proportion of patients had three or more lobes involved (70.81%).

Conclusions: The detection of COVID-19 chest CT imaging is very high among symptomatic individuals at high risk, especially using thin-section chest CT. The most common CT features in patients affected by COVID-19 included ground glass opacities and consolidation involving the bilateral lungs in a peripheral distribution.

A potential inhibitory role for integrin in the receptor targeting of SARS-CoV-2.

[PMID: 32283163](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Luan, Junwen; Lu, Yue; Gao, Shan; Zhang, Leiliang

J Infect

Level of Evidence: 5 - Expert opinion, mechanism-based research

Type of Article: Letter to the Editor

BLUF: Integrin binding motifs RGD/KGD on S protein and KGD on ACE2 receptor may be targets for integrin based inhibition of viral entry into cells. The RGD motif present in SARS-CoV-2 recognizes more integrins and could be more easily inhibited, explaining why it infects fewer organs than SARS-CoV.

Summary: Integrins have been theorized to be involved in COVID-19 entry into cells. The authors identify an RGD/KGD motif present in S protein and an KGD motif on the ACE2 receptor. The suggest that these integrin motifs could be utilized as a therapeutic target. "Potential association of S protein and integrins provide mechanistic insights for the pathogenesis of SARS-CoV-2 and SARS-CoV. Because RGD recognized a broader spectrum of integrins than KGD, more integrins could

block receptor binding of SARS-CoV-2 S than that of SARS-CoV S. Consequently, SARS-CoV-2 would infect fewer organs than SARS-CoV, which might partially explain why SARSCoV-2 caused less mortality than SARS-CoV.”

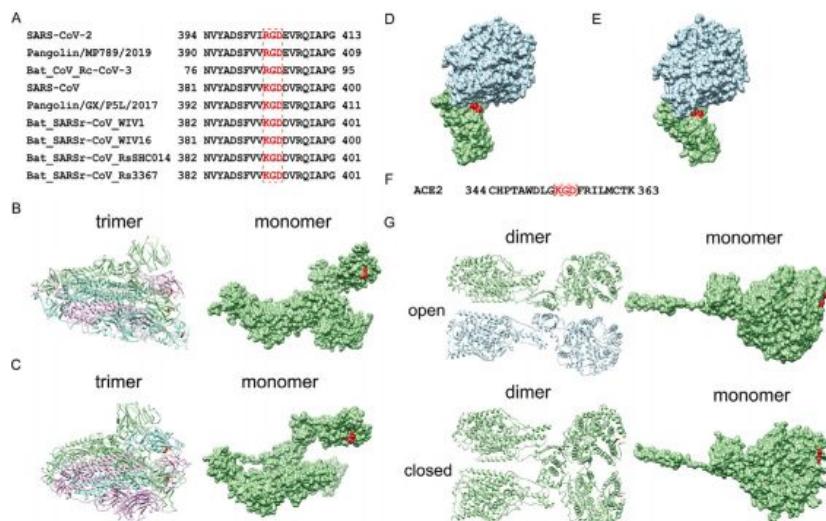


Fig. 1. Identification of integrin-binding motifs in S proteins from SARS-CoV-2/SARS-CoV and ACE2 protein. (A) RGD/KGD is present in S protein from SARS-CoV-2, SARS-CoV, pangolin coronaviruses, and some bat coronaviruses. RGD/KGD motif is in red box. (B) RGD is in an exposed loop of SARS-CoV-2 S protein. Left: trimer of SARS-CoV-2 S protein (PDB: 6VSB). Right: monomer of SARS-CoV-2 S protein. RGD motif is colored red. (C) KGD is in an exposed loop of SARS-CoV S protein. Left: trimer of SARS-CoV S protein (PDB: 5XLR). Right: monomer of SARS-CoV S protein. KGD motif is colored red. (D) RGD of SARS-CoV-2 S protein locates near the groove of the complex of ACE2 and SARS-CoV-2 RBD (PDB: 6LZG). Red: RGD motif. Grey: ACE2, Green: SARS-CoV-2 RBD. (E) KGD of SARS-CoV S protein locates near the groove of the complex of ACE2 and SARS-CoV RBD (PDB: 2AJF). Red: KGD motif. Grey: ACE2, Green: SARS-CoV RBD. (F) KGD presents in human ACE2. KGD motif is in red box. (G) KGD locates in an exposed loop of ACE2. Left: dimer of full-length human ACE2 in complex with B⁰AT1. Right: monomer of human ACE2. Upper: open conformation (PDB: 6M1D). Lower: closed conformation (PDB: 6M18). KGD motif is colored red.

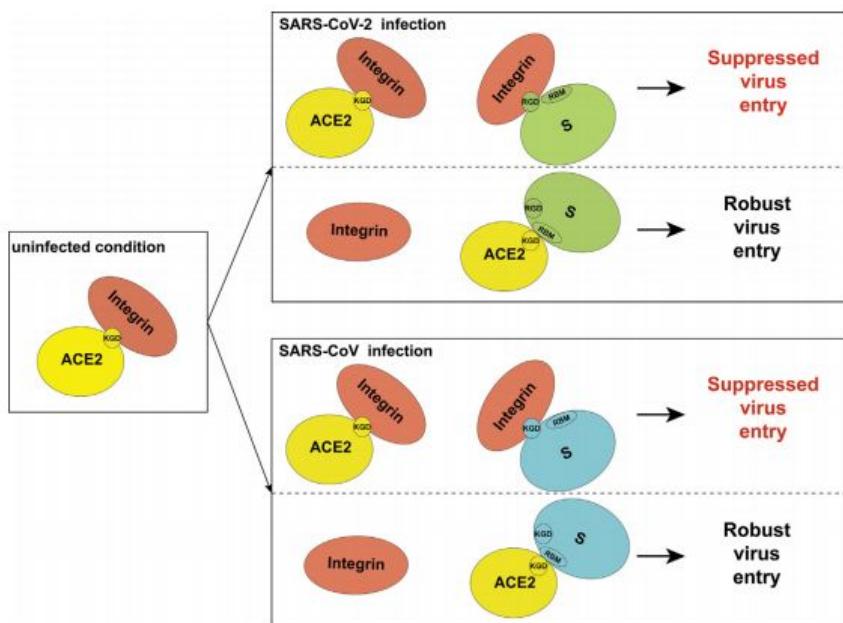


Fig. 2. Proposed model for the inhibitory role of integrin in SARS-CoV-2 and SARS-CoV. In uninfected condition, integrin could associate with ACE2 through KGD motif. Upon SARS-CoV-2 or SARS-CoV infection, integrin could interact with ACE2 (through KGD) and S protein (through RGD/KGD) individually, which will mask the interface between S protein and ACE2. Thus, ACE2 could not recognize S protein, leading to a suppressed viral entry. When ACE2 associates with S protein, a robust virus entry will occur.

Use of Convalescent Plasma Therapy in Two COVID-19 Patients with Acute Respiratory Distress Syndrome in Korea.

PMID: 32281317

Publication Date: Apr 9, 2020; Apr 14, 2020

Ahn, Jin Young; Sohn, Yujin; Lee, Su Hwan; Cho, Yunsuk; Hyun, Jong Hoon; Baek, Yae Jee; Jeong, Su Jin; Kim, Jung Ho; Ku, Nam Su; Yeom, Joon Sup; Roh, Juhye; Ahn, Mi Young; Chin, Bum Sik; Kim, Young Sam; Lee, Hyukmin; Yong, Dongeun; Kim, Hyun Ok; Kim, Sinyoung; Choi, Jun Yong
J Korean Med Sci

Level of Evidence: 4 - Case report

Type of Article: Case Report

BLUF: Convalescent plasma transfusion from recovered COVID-19 patients with detectable IgG levels should be considered as a therapeutic option in critical condition COVID-19 patients with bacterial pneumonia and ARDS that is unresponsive to methylprednisolone, lopinavir/ritonavir, and hydroxychloroquine.

Abstract: Coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus-2 not yet has established its treatment, but convalescent plasma has been expected to increase survival rates as in the case with other emerging viral infections. We describe two cases of **COVID-19 treated with convalescent plasma infusion**. Both patients presented **severe pneumonia with acute respiratory distress syndrome** and showed a **favorable outcome** after the use of convalescent plasma in addition to systemic corticosteroid. To our knowledge, this is the **first report of the use of convalescent plasma therapy for COVID-19 in Korea**.

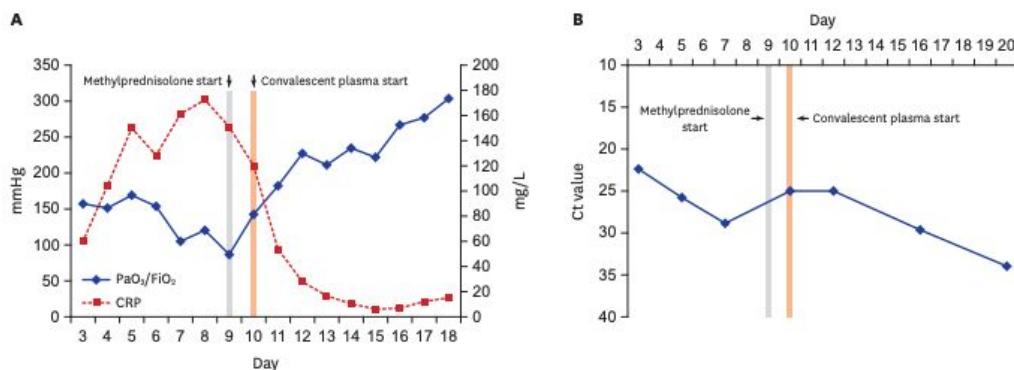


Fig. 1. Case 1, responses to treatment. (A) Timelines of changes in $\text{PaO}_2/\text{FiO}_2$ and CRP during hospitalization. (B) Timelines of detection of the RNA-dependent RNA polymerase region of the ORF1b gene of severe acute respiratory syndrome coronavirus-2 in sputum by real-time reverse transcription polymerase chain reaction; cycle threshold is shown.
CRP = C-reactive protein.

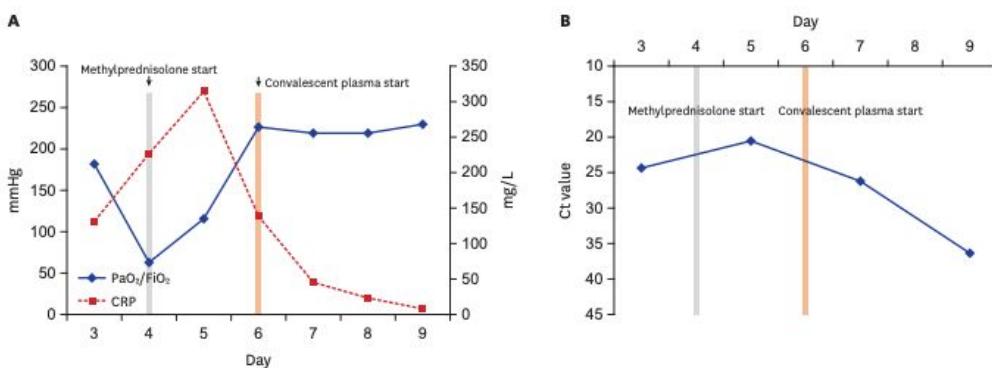


Fig. 3. Case 2, responses to treatment. (A) Timelines of changes in $\text{PaO}_2/\text{FiO}_2$ and CRP during hospitalization. (B) Timelines of detection of the RNA-dependent RNA polymerase region of the ORF1b gene of severe acute respiratory syndrome coronavirus-2 in sputum by real-time reverse transcription polymerase chain reaction; cycle threshold is shown.
CRP = C-reactive protein.

Is There a Role for Tissue Plasminogen Activator (tPA) as a Novel Treatment for Refractory COVID-19 Associated Acute Respiratory Distress Syndrome (ARDS)?

[PMID: 32281766](#)

Publication Date: March 20, 2020 (acceptance date); Apr 14, 2020 (LitCovid)

Moore, Hunter B; Barrett, Christopher D; Moore, Ernest E; McIntyre, Robert C; Moore, Peter K;

Talmor, Daniel S; Moore, Frederick A; Yaffe, Michael B

J Trauma Acute Care Surg

Level of Evidence: 5- Expert Opinion

Type of Article: Letter

Summary: The authors propose the use of tPA as a treatment for ARDS due to COVID-19 on the basis that “A consistent finding in ARDS is the deposition of fibrin in the airspaces and lung parenchyma, along with fibrin-platelet microthrombi in the pulmonary vasculature, which contribute to the development of progressive respiratory dysfunction and right heart failure.”

Hydroxychloroquine and ivermectin: a synergistic combination for COVID-19 chemoprophylaxis and/or treatment?

[PMID: 32283237](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Patri, Angela; Fabbrocini, Gabriella

J Am Acad Dermatol

Level of Evidence: 5 - Expert Opinion

Type of Article: Letter

Summary: Hydroxychloroquine and ivermectin have both been shown to inhibit SARS-CoV-2 *in vitro* through different mechanisms. The authors hypothesize that “...HCQ and ivermectin could act in a consequential and synergistic manner. Indeed, HCQ would behave as a first level barrier by inhibiting the entry of the virus into the host cell, while ivermectin could reduce viral replication if the virus could get in, strengthening HCQ antiviral effects.”

Cytokine Storm in COVID-19 and Treatment.

[PMID: 32283152](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Ye, Qing; Wang, Bili; Mao, Jianhua

Journal of Infection

Level of Evidence: Level 5 – Mechanism based reasoning

Type of Article: Research

BLUF:

- Reviews mechanisms of how SARS-CoV-2 induces cytokine storm and options for inhibiting it for clinical diagnosis and treatment of COVID-19 (outlined in Figure 1).
- “[...] delayed release of cytokines and chemokines occurs in respiratory epithelial cells, dendritic cells (DCs), and macrophages at the early stage of SARS-CoV infection. Later, the cells secrete low levels of the antiviral factors interferons (IFNs) and high levels of proinflammatory cytokines (interleukin (IL)-1 β , IL-6, and tumor necrosis factor (TNF)) and chemokines (C-C motif chemokine ligand (CCL)-2, CCL-3, and CCL-5)(18-20)”
- The following theoretical treatment strategies for inflammatory cytokine storm were explored (overall conclusion stated for each): **IFN- λ** (with the exception of early administration, no

added benefit), **corticosteroid therapies** (situational, timing and dosage are important for critically ill patients, dosages outlined in paper), **intravenous immunoglobulin** (dual effects of immune substitution and immunomodulation need further studies), **IL-1 family antagonists** (improved survival rate, needs verification through clinical trials and in vivo experiments), **IL-6 antagonists** (effective in treating severely ill patients with extensive bilateral lung lesions), **TNF blockers** (have not been suggested, but efficacy requires further exploration), **IFN- $\alpha\beta$ inhibitors** (“should be administered in the later stages of severe disease to prevent excessive inflammatory responses”), **Chloroquine** (recommended by new coronavirus trial in China, dosages outlined in paper), **Ulinastatin** (“has great application prospects”), **the inhibitory effect of oxidized phospholipids** (may alleviate inflammatory response), **Sphingosine-1-phosphate receptor 1 agonist therapy** (potential therapeutic drug, further clinical trials needed to verify as alternative treatment), **stem cell therapy** (many functions of mesenchymal stem cells are expected to make it an effective method for the treatment), **blood purification treatments** (for severe and critical patients in the early and middle stages of the disease), **inhibitors of mononuclear macrophage recruitment and function** (Toll-like receptor 7 (TLR7) agonists have potential), and **increased vascular permeability** (activation of the endothelial Slit-Robo4 pathway could reduce occurrence of cytokine storm).

Abstract:

Cytokine storm is an excessive immune response to external stimuli. The pathogenesis of the cytokine storm is complex. The disease progresses rapidly, and the mortality is high. Certain evidence shows that, during the coronavirus disease 2019 (COVID-19) epidemic, the severe deterioration of some patients has been closely related to the cytokine storm in their bodies. This article reviews the occurrence mechanism and treatment strategies of the COVID-19 virus-induced inflammatory storm in attempt to provide valuable medication guidance for clinical treatment.

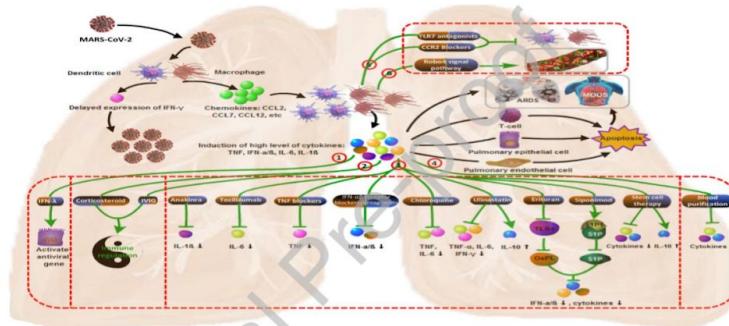


Figure 1. Mechanism of cytokine storm in COVID-19 and potential therapy

- ① Supplement with IFN- λ to activate the innate immunity; ② Using immunomodulator to restore immune balance; ③ Inhibiting the production of cytokines; ④ Scavenging cytokines; ⑤ Inhibiting mononuclear macrophage recruitment and function; ⑥ Strengthening the vascular barrier by activating of the endothelial Slit-Robo4 signal pathway.

Effect of regular intravenous immunoglobulin therapy on prognosis of severe pneumonia in patients with COVID-19.

[PMID: 32283154](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Xie, Yun; Cao, Song; Li, Qingyun; Chen, Erzhen; Dong, Hui; Zhang, Wenkai; Yang, Luyu; Fu, Shouzhi; Wang, Ruilan

J Infect

Level of Evidence: Level 4 - Observational study

Type of Article: Research

Summarizing excerpt: “Initiation of IVIG as adjuvant treatment for COVID-19 pneumonia within 48 hours of admission to the ICU can reduce the use of mechanical ventilation, shorten the hospital length of stay, promote the early recovery of patients, and improve the effective treatment of patients to achieve significant clinical efficacy.”

Existing bitter medicines for fighting 2019-nCoV-associated infectious diseases.

[PMID: 32281695](#)

Publication Date: Apr 13, 2020

Li, Xiangqi; Zhang, Chaobao; Liu, Lianyong; Gu, Mingjun

FASEB J

Level of Evidence: Level 5 – Mechanism-based reasoning

Type of Article: Research

Summary: The authors suggest a cocktail-like recipe of existing bitter drugs and recommend consumption of bitter teas and foods to reduce risk of infection. Type 2 taste receptors (TAS2Rs) may be involved in controlling infectious diseases caused by bacteria, viruses and parasites, and may be activated by bitter substances. They identified currently available drugs that are agonists of TAS2Rs.

Neprilysin inhibitor-angiotensin II receptor blocker combination (sacubitril/valsartan): rationale for adoption in SARS-CoV-2 patients.

[PMID: 32282032](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Acanfora, Domenico; Ciccone, Marco Matteo; Scicchitano, Pietro; Acanfora, Chiara; Casucci, Gerardo
Eur Heart J Cardiovasc Pharmacother

Level of Evidence: 5 - Expert opinion, mechanism based reasoning

Type of Article: Correspondence

Summary: The pathogenesis of SARS-CoV-2 infections requires angiotensin-converting enzyme 2 (ACE2) as a receptor to bind the virus to the bronchial cell membrane. The authors also present that neprilysin inhibitor (sacubitril) reduces the concentration of pro-inflammatory cytokines and neutrophil count, while increasing lymphocyte count. Therefore, they argue that **combination therapy with valsartan and sacubitril will limit the progression of the virus by blocking the actions of ACE2 and maximizing anti-inflammatory effects, respectively.**

Mesenchymal Stem Cell Therapy for COVID-19: Present or Future.

[PMID: 32281052](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Golchin, Ali; Seyedjafari, Ehsan; Ardestirylajimi, Abdolreza

Stem Cell Rev Rep

Level of Evidence: 5 - Expert opinion, mechanism-based reasoning

Type of Article: Article

BLUF: Mesenchymal stem cell (MSC) therapy is proposed as a possible treatment for CVOID-19 due to its easy accessibility and safety. The authors suppose that MSC could prevent the cytokine storm seen in critically ill patients and promote immune system and tissue restoration. Case reports have shown clinical improvement using MSC and cell-based studies have begun in many countries.

Abstract: "COVID-19" is the word that certainly isn't forgotten by everybody who lives in the first half of the twenty-first century. COVID-19, as a pandemic, has led many researchers from different biomedical fields to find solutions or treatments to manage the pandemic. However, no standard treatment for this disease has been discovered to date. Probably, preventing the severe acute respiratory infection form of COVID-19 as the most dangerous phase of this disease can be helpful for the treatment and reduction of the death rate. In this regard, **mesenchymal stem cells (MSCs)-based immunomodulation treatment has been proposed as a suitable therapeutic approach and several clinical trials have begun.** Recently, MSCs according to their immunomodulatory and regenerative properties attract attention in clinical trials. After the intravenous transplantation of MSCs, **a significant population of cells accumulates in the lung, which they alongside immunomodulatory effect could protect alveolar epithelial cells, reclaim the pulmonary microenvironment, prevent pulmonary fibrosis, and cure lung dysfunction.** Given the uncertainties in this area, we reviewed reported clinical trials and hypotheses to provide useful information to researchers and those interested in stem cell therapy. In this study, we considered this new approach to improve patient's immunological responses to COVID-19 using MSCs and discussed the aspects of this proposed treatment. However, currently, **there are no approved MSC-based approaches for the prevention and/or treatment of COVID-19 patients but clinical trials ongoing.**

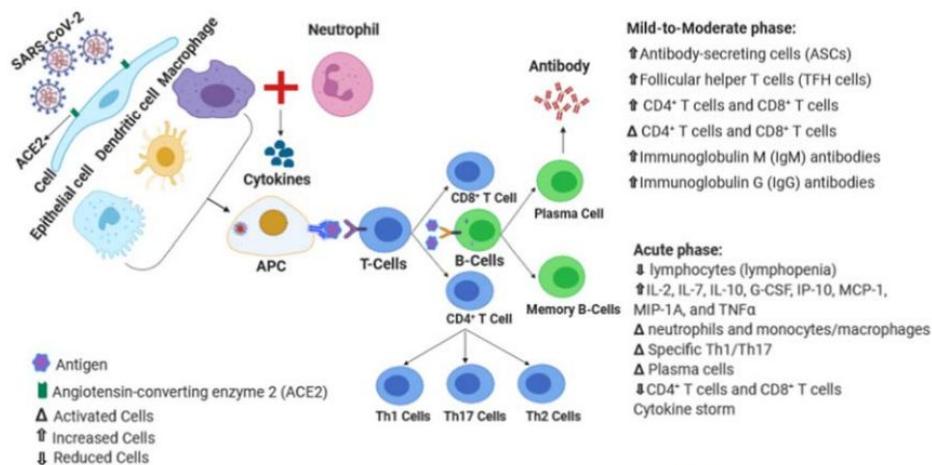
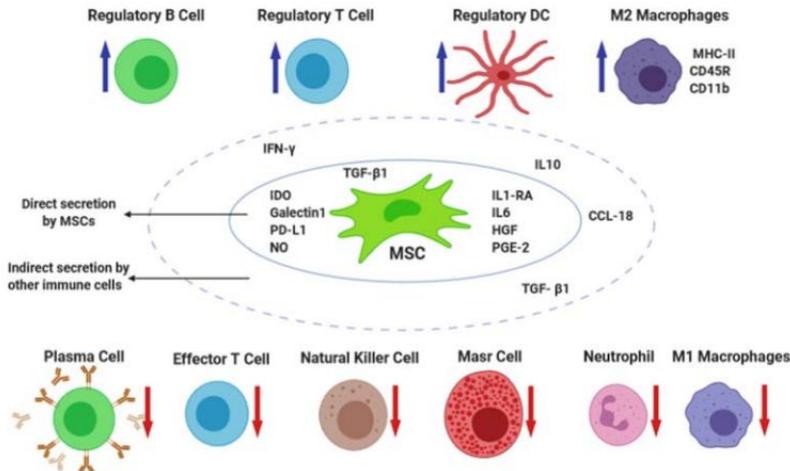


Fig. 1 Schematic of host immune system responses during SARS-CoV-2 infection; Data obtained from [31, 32] (Figure is made with biorender: <https://biorender.com/>)

Fig. 2 Proposed interaction of MSCs with host immune cells and released cytokines; Data obtained from [33, 34]. The figure is made with biorender (<https://biorender.com/>)



Mental Health & Resilience

COVID-19: Considering the prevalence of schizophrenia in the coming decades.

[PMID: 32283449](#)

Publication Date: Apr 5, 2020; Apr 14, 2020 (LitCovid)

Zandifar, Atefeh; Badrfam, Rahim

Psychiatry Research

Level of Evidence: N/A

Type of Article: Letter to the Editor

Summary: Historically there has been a temporal association between viral infections and schizophrenia, including the 1957 influenza epidemic. In a recent study on human coronavirus in patients with new psychotic symptoms, “higher levels of antibodies [were] found in this group ((especially anti-NL63 antibodies in patients with schizophrenia spectrum).” So, different aspects of psychiatric status should be considered in those infected.

Preventing Suicide in Rural Communities During the COVID-19 Pandemic

[PMID: 32282968](#)

Publication Date: Apr 13, 2020; Apr 14, 2020 (LitCovid)

Lindsey L. Monteith PhD; Ryan Holliday PhD; Talia L. Brown PhD; Lisa A. Brenner PhD; Nathaniel V. Mohatt PhD

Journal of Rural Health

Level of Evidence: Level 5 – Expert opinion

Type of Article: Comment

BLUF: Rural communities are vulnerable to an exacerbation of pre-existing factors that may increase risk of suicide during the COVID-19 pandemic. These include interpersonal factors, increased access to firearms, and limited access to mental health and medical care. Strategies for mitigation include maintaining social connections in creative ways, telehealth, firearm safety, and firearm access awareness.

Abstract: “Individuals in rural communities are at increased risk for suicide. While the impact of Coronavirus Disease (2019) COVID-19 continues to unfold, it is likely that the suicide risk factors in rural areas will be exacerbated and suicide rates may increase. Awareness of these factors is essential to ensure that appropriate steps are taken to prevent suicide in rural communities, both during and in the aftermath of this pandemic. In this commentary, we delineate key considerations for doing so with potential solutions summarized in Table 1... Ensuring that rural communities are adequately equipped to prevent suicide while managing the spread and impact of COVID-19 is critical.”

Table 1. Challenges and Potential Strategies for Mitigating Suicide Risk in Rural Communities During the COVID-19 Pandemic

Challenge	Potential Solutions
Exacerbation of interpersonal risk factors for suicide due to physical distancing requirements and psychosocial stressors during COVID-19 (eg, social isolation, loneliness, lack of connection, perceived burdensomeness, interpersonal violence)	<ul style="list-style-type: none"> Maintain social connectedness through virtual and phone communications or while outdoors (eg, in nature) Engage in meaningful, value-driven activities that promote “pulling together” as communities (eg, remote volunteering, helping more vulnerable community members) Ensure that COVID-19 survivors are not stigmatized or discriminated against Disseminate information regarding free web-based applications to cope with interpersonal stress (eg, AIMS for Anger Management, Mood Coach, Parenting2Go, Stair Coach *) Messaging about interpersonal violence resources within rural communities and nationally (eg, National Domestic Violence Hotline, National Sexual Assault Telephone Hotline, Childhelp National Child Abuse Hotline) and actions (eg, safety planning) Disseminate resources and support to facilitate parental coping and appropriate disciplinary strategies during periods of stress Increase interpersonal violence screening by healthcare providers
Increased access to firearms when acute suicide risk may be elevated	<ul style="list-style-type: none"> Educate regarding safe firearm storage practices and potential risks for new firearm owners Public health messaging that communicates the risks of firearm access when suicide risk is elevated, as well as the benefits of safe firearm storage (eg, locked, unloaded) Increase options for temporarily reducing firearm access for individuals at elevated risk for suicide (eg, adding and communicating options for safe temporary storage in rural communities) Ensure that healthcare providers are assessing firearm access among individuals at increased risk for suicide Increasing access to free firearm locks and safes
Onset or exacerbation of mental health symptoms due to COVID-19 related concerns and distancing, while access to mental healthcare may be decreased.	<ul style="list-style-type: none"> Desemphasize of mental health care (eg, public health messaging about the importance) Public health messaging regarding how to obtain mental health care (eg, telehealth) and crisis support (eg, national and local crisis lines) Virtual or telehealth individual or group sessions Disseminate free web-based applications to facilitate psychoeducation and treatment (eg, Life Armor), symptom management (eg, PTSD Coach, CBT-i Coach*), stress reduction and coping (eg, Mindfulness Coach, Breathe2Relax, Moving Forward), and suicide prevention (eg, Virtual Hope Box, Safety Plan Mobile App).

*Intended to be used in conjunction with professional treatment. CBT-I = Cognitive Behavioral Therapy for Insomnia.

Provider Burnout and Fatigue During the COVID-19 Pandemic: Lessons Learned from a High-Volume Intensive Care Unit.

[PMID: 32282389](#)

Publication Date: Apr 9, 2020; Apr 14, 2020 (LitCovid)

Sasangohar, Farzan; Jones, Stephen L; Masud, Faisal N; Vahidy, Farhaan S; Kash, Bita A
Anesthesia & Analgesia

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Guidelines

Summary (with excerpts):

- “Recommendation to prevent burnout and mitigate occupational stress especially among ICUS providers:
- “national and regional disaster mitigation plans for future epidemics have to incorporate mechanisms to allow rapid and agile transformation of relevant industry to support massively increased demand” for certain medical equipment/products.
- “Access to updated information about availability of COVID_19 testing kits and PPE for health care workers may reduce the anxiety [...]”

- “Provide structured training on large-scale disaster management and response.”
- “Disasters necessitate innovation.”
- “[...] it is imperative that willing and able individuals, [from the well-trained yet largely untapped resource of medical professionals], be periodically trained to maintain a medical reserve corps at the regional, state, and national level.”

[...] there is a need for feasible and practical methods to assess health care workers' fatigue and burnout.”

COVID-19 CRISIS: we must care for ourselves as we care for others

[PMID: 32289124](#)

[Publication Date: Apr 15, 2020](#)

Sutton, Aaron; Skolnik, Neil

Journal of Family Practice

Level of Evidence: Level 6 - Expert Opinion

Type of Article: Editorial

Summarizing Excerpt: “Family physicians are being asked to work at an increased speed in unfamiliar terrain as our environments change by the hour. The challenge is to answer the call—and take care of ourselves—in unprecedented ways... So, too, must we anticipate the things we will need to be attentive to in the coming months in order to sustain the effort that will be required of us. With this in mind, we would be wise to consider developing plans in 3 domains: physical, mental, and social.”

Summary: The authors offer self-care advice for primary care clinicians within three domains: 1) physical: home exercise regimens, youtube workouts, and healthy home-cooked meal options; 2) mental: being mindful, managing workload, delegating, and taking regular breaks; 3) social: social distancing but not emotionally isolating by checking in on loved ones, co-workers, and patients.

A comparison of burnout frequency among oncology physicians and nurses working on the front lines and usual wards during the COVID-19 epidemic in Wuhan, China.

[PMID: 32283221](#)

[Publication Date: Apr 7, 2020; Apr 14, 2020](#)

Wu, Yuan; Wang, Jun; Luo, Chenggang; Hu, Sheng; Lin, Xi; Anderson, Aimee E; Bruera, Eduardo; Yang, Xiaoxin; Wei, Shaohong; Qian, YuJ

Pain Symptom Manage

Level of Evidence: 5 - Qualitative data

Type of Article: Research

BLUF: Healthcare providers in non-COVID-19 wards in Wuhan were 26% more likely to experience burnout and 22% more likely to have concern for infection than frontline workers. Wellness efforts should be directed at providers in all work environments during the pandemic.

Abstract:

CONTEXT: The epidemic of Coronavirus Disease 2019 (COVID-19) was first identified in Wuhan, China and has now spread worldwide. In the affected countries, physicians and nurses are under heavy workload conditions and are at high risk of infection.

OBJECTIVES: The aim of this study was to **compare the frequency of burnout between physicians and nurses on the front line and those working in usual wards.**

METHODS: A survey with 49 questions total was administered to 220 medical staff members from the COVID-19 front lines and usual wards, with a ratio of 1:1. General information such as age, gender, marriage status, and the Maslach Burnout Inventory-Medical Personnel (MBI), were gathered and compared.

RESULTS: The group working on the front lines had a lower frequency of burnout (13% versus 39%, $P < .0001$), and were less worried about being infected compared to the usual ward group.

CONCLUSION: Compared to medical staff working on their usual wards for uninfected patients, medical staff working on the COVID-19 front line had a lower frequency of burnout. These results suggest that in the face of the COVID-19 crisis, **both front line and usual ward staff should be considered when policies and procedures to support the well-being of health care workers are devised.**

Mental health of medical workers in Pakistan during the pandemic COVID-19 outbreak.

[PMID: 32283512](#)

Publication date: Apr 3, 2020, Apr 14, 2020 (LitCovid)

Rana, Waleed; Mukhtar, Sonia; Mukhtar, Shamim

Asian J Psychiatr

Level of Evidence: 5 – Expert Opinion

Type of Article: Correspondence

Summarizing excerpt: In Pakistan, “A detailed psychological crisis intervention plan should be developed: a) by building a mental health intervention medical team to provide online courses for awareness of psychological impact of stressful events to guide medical workers, b) and a psychological assistance hotline intervention for medical workers to discuss their psychological concerns

Mental Health and Emotional Impact of COVID-19: Applying Health Belief Model for Medical Staff to General Public of Pakistan.

[PMID: 32283289](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Mukhtar, Sonia
Brain Behav Immun

Level of Evidence: 6 - No data cited

Type of Article: Comment

BLUF: Evidence-based methods such as the Health Belief Model may be applied to the general public during the pandemic to improve mental and social health. By addressing fear and anxiety based behaviors, their negative impacts can be mitigated and overall health and well-being improved. Clear public distribution of valuable health information, evidence-based data, and strategies to cope with the disruption of normal life are necessary for the maintenance of society.

Summarizing Excerpt: “This commentary provides an overview of the mental health and Health Belief Model (perceived susceptibility, perceived severity, perceived threat, perceived barriers, perceived benefits, perceived self-efficacy) in terms of perceived stress, stress appraisal and coping strategies for general public and medical staff during COVID-19...**It is possible that anxiety of falling sick or fear of death could amplify the sense of helplessness** (nothing- can-be-done conviction and inability to mobilize effort), hopelessness (the feeling that any effort for constructive change is not worthwhile), **exhaustion and burnout** (continuous stressors’ psychological strain

hamper coping-mechanisms over long-term) and nervous anticipation (what may yet to come), negative emotions, work-life balance, and personal life stressors further compromise physical, mental and emotional wellbeing – which requires resilience (interactive and dynamic process of adjusting, dealing and adapting to adversity by cultivating a sense of empowerment and belongingness, and nurturing mindfulness) (see Fig. 1)....Evidence-based model **Health Belief Model** (HBM) can explain and predict health-related behaviors with the regard of modification of patients' up-taking health services to mitigate threat to health (Champion and Skinner, 2008). This paper suggests the **applying HBM to COVID-19 in mitigating behaviors which provokes anxiety and fear and converts individual beliefs informed by preconceived impressions of a perceived threat and direct cues of perceived benefits from perceived barriers to action inform behaviors** (through perceived self-efficacy)....Effective mitigation of disease and COVID-19 mitigating behaviors require significant efforts to strengthen beliefs about disease which includes the severity and susceptibility of threat, eliminate barriers to act and reinforce self-efficacy beliefs. **Empirical findings are salient features at this state of COVID-19 outbreak – addressing the general public regarding health risks and perceived threats; reiterating mental health concerns predispose to fixation on the unempirical views; and encouraging lifestyle modification and motivate behavior change helps stress appraisal and coping strategies.”**

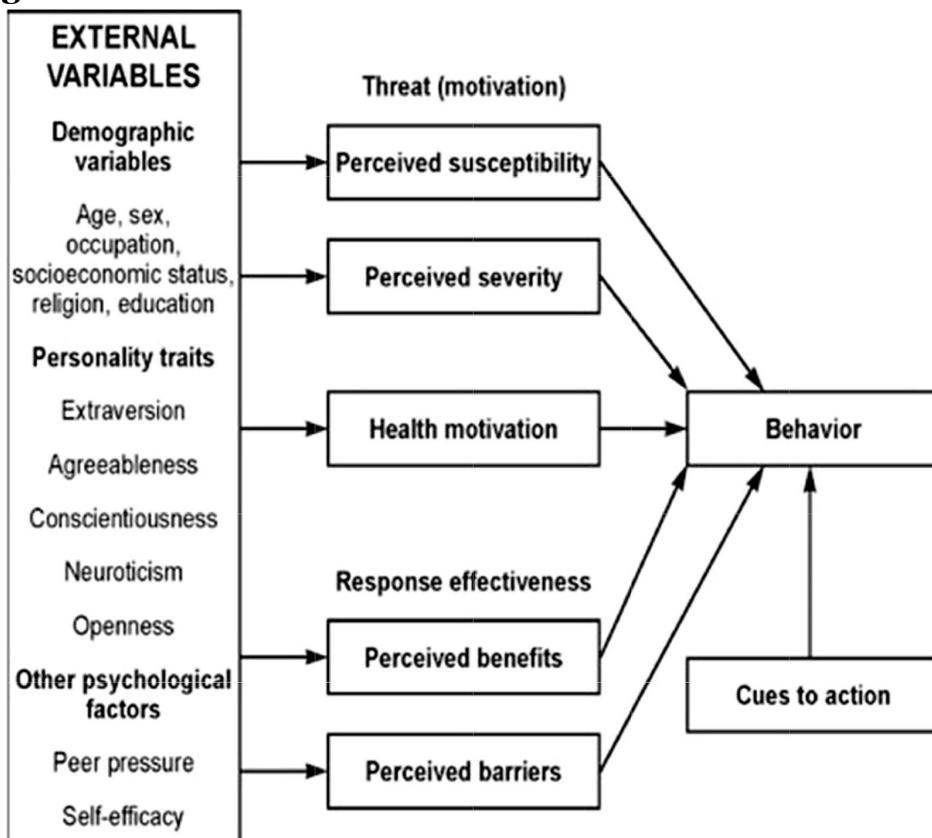


Fig. 1. The Health Belief Model.

Treating the Mental Health Effects of COVID-19: The Need for At-Home Neurotherapeutics Is Now.

[PMID: 32283246](#)

Publication Date: Apr 7, 2020

Caulfield, Kevin A; George, Mark S

Brain Stimul

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Letter

Summary: There is a growing need to expand at-home mental health treatment, particularly in the setting of the anticipated mental health ripple effects from COVID-19. The most appealing current potential option for at-home brain stimulation is transcranial direct current stimulation which has already been self-administered for multiple conditions including Parkinson's Disease.

Psychiatry hospital management facing COVID-19: from medical staff to patients.

[PMID: 32283291](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Shao, Ying; Shao, Yang; Fei, Jian-Ming

Brain Behav Immun

Level of Evidence: Level 5 - Expert opinion

Type of Article: Letter to the editor

Summary: Given the unique functions and patient population of psychiatric hospitals, the authors provide recommendations for preventing infection and limiting spread of COVID-19 based on implementations at a large psychiatric center in Shanghai. Specifically, they endorse limiting face-to-face patient visitation, establishing a fever report system, carefully monitoring staff and quarantining those who leave the city, and providing online mental health services and courses to staff and the public.

COVID-19 as a psychological contagion: A new Pandora's box to close?

[PMID: 32279677](#)

Publication Date: Apr 13, 2020

Azim, Dua; Kumar, Sohail; Nasim, Sundus; Arif, Taha Bin; Nanjiani, Deedar

Infect Control Hosp Epidemiol

Level of Evidence: Level 5 – Expert Opinion

Type of Article: Letter

Summarizing Excerpt: “Governments and other authorities should assemble a task force consisting of psychiatrists, and other mental health care workers to provide psychological first aid to the people, advise the government in matters of psychiatric health issues and create policies to intervene in such situations. If such measures are not taken on priority then at the end of this pandemic, nations will be dealing with the suffering of a massively detrimental psychiatric nature.”

Silver linings

The indirect benefit on respiratory health from the world's effort to reduce transmission of SARS-CoV-2.

[PMID: 32283062](#)

Publication Date: Apr 10, 2020; Apr 14, 2020 (LitCovid)

Dutheil, Frederic; Navel, Valentin; Clinchamps, MaelysChest

Level of Evidence: 5 - Expert Opinion

Type of Article: Commentary

Summary: Numerous respiratory illnesses, like COPD, asthma, and pneumonia, occur due to ambient air pollution. With a 6% decrease in global pollution following the decrease of global activity to prevent the transmission of SARS-CoV-2, unintended health benefits may arise.

Innovation in Response to the COVID-19 Pandemic Crisis.

[PMID: 32282372](#)

Publication Date: Apr 8, 2020; Apr 14, 2020 (LitCovid)

Woolliscroft, James O

Acad Med

Level of Evidence: 5 – Expert Opinion

Type of Article: Invited Commentary

BLUF: The COVID-19 pandemic has fundamentally changed how we care for patients and educate future doctors. These changes may have long term implications.

Summary: The author summarizes academic medicine innovations during COVID-19:

- Virtual Care: wide expansion the use of telemedicine.
- Self-care/treatment: encouragement of self-treatment and quarantine unless seriously ill
- Diagnosis and Therapy: Diagnostic tests and treatment analysis have been developed at an unprecedented rate.
- Virtual Learning: with medical schools switching to remote learning, the utility of virtual learning is exemplified.