

## COVID-19 Resource Desk

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### New Research

\*note, **PREPRINTS** have not undergone formal peer review

**COVID-19 related publications by Providence caregivers – see [Digital Commons](#)**

### Clinical Syndrome

1. **Incidence of 30-Day Venous Thromboembolism in Adults Tested for SARS-CoV-2 Infection in an Integrated Health Care System in Northern California.** Roubinian NH, et al. *JAMA Intern Med.* 2021 Jul 1;181(7):997-1000. doi: 10.1001/jamainternmed.2021.0488.

<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2778371>

The incidence of outpatient VTE among symptomatic patients with positive SARS-CoV-2 test results was similar to that of patients with negative results. In parallel to recent reports, posthospital VTE incidence did not differ by SARS-CoV-2 status and was comparable with that seen in clinical trials of thromboprophylaxis.

### Epidemiology & Public Health

2. **COVID-19 Incidence after Exposures in Shared Patient Rooms, Tertiary Care Center, Iowa, July 2020-May 2021.** Trannel A et al. *Infect Control Hosp Epidemiol.* 2021 Jul 12:1-13. doi: 10.1017/ice.2021.313. <https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/covid19-incidence-after-exposures-in-shared-patient-rooms-tertiary-care-center-iowa-july-2020may-2021/B78B18A3426A8A7BBEF255F69F65E750>

The incidence of COVID-19 exposures in shared patient rooms was low at our institution: 1.8/1,000 shared room patient-days. However, the secondary attack rate (21.6%) was comparable to that reported in household exposures. Lengthier exposures were associated with COVID-19 conversion. Hospitals should implement measures to decrease shared room exposures.

3. **Effect of Physician-Delivered COVID-19 Public Health Messages and Messages Acknowledging Racial Inequity on Black and White Adults' Knowledge, Beliefs, and Practices Related to COVID-19: A Randomized Clinical Trial.** Torres C, et al. *JAMA Netw Open.* 2021 Jul 1;4(7):e21117115. doi: 10.1001/jamanetworkopen.2021.17115. [https://jamanetwork.com/journals/jamanetworkopen/articlepdf/2781934/torres\\_2021\\_oi\\_210\\_514\\_1625605503.50479.pdf](https://jamanetwork.com/journals/jamanetworkopen/articlepdf/2781934/torres_2021_oi_210_514_1625605503.50479.pdf)

A messaging campaign recorded by several physicians of varied age, gender, and race was effective in increasing COVID-19 knowledge, information-seeking, and self-reported protective behaviors among diverse groups.

### Prognosis

- 4. Predictors of mortality in patients with coronavirus disease 2019: a systematic review and meta-analysis.** Shi C, et al. *BMC Infect Dis.* 2021 Jul 8;21(1):663. doi: 10.1186/s12879-021-06369-0. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8264491/>  
Thirty-six observational studies were identified, of which 27 were included in the meta-analysis. A total of 106 potential risk factors were tested, and the following important predictors were associated with mortality: advanced age, male sex, current smoking status, preexisting comorbidities (especially chronic kidney, respiratory, and cardio-cerebrovascular diseases), symptoms of dyspnea, complications during hospitalization, corticosteroid therapy and a severe condition. Additionally, a series of abnormal laboratory biomarkers of hematologic parameters, hepatorenal function, inflammation, coagulation, and cardiovascular injury were also associated with fatal outcome.

### Therapeutics

- 5. Azithromycin versus standard care in patients with mild-to-moderate COVID-19 (ATOMIC2): an open-label, randomised trial.** Hinks TSC et al. *Lancet Respir Med.* 2021 Jul 9:S2213-2600(21)00263-0. doi: 10.1016/S2213-2600(21)00263-0. [https://www.thelancet.com/journals/lanres/article/PIIS2213-2600\(21\)00263-0/fulltext](https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(21)00263-0/fulltext)  
In patients with mild-to-moderate COVID-19 managed without hospital admission, adding azithromycin to standard care treatment did not reduce the risk of subsequent hospital admission or death. Our findings do not support the use of azithromycin in patients with mild-to-moderate COVID-19.
- 6. Evaluation of the Effects of Remdesivir and Hydroxychloroquine on Viral Clearance in COVID-19: A Randomized Trial.** Barratt-Due A et al. *Ann Intern Med.* 2021 Jul 13. doi: 10.7326/M21-0653. <https://www.acpjournals.org/doi/10.7326/M21-0653>  
No significant differences were seen between treatment groups in mortality during hospitalization. There was a marked decrease in SARS-CoV-2 load in the oropharynx during the first week overall, with similar decreases and 10-day viral loads among the remdesivir, HCQ, and SoC groups. Remdesivir and HCQ did not affect the degree of respiratory failure or inflammatory variables in plasma or serum. The lack of antiviral effect was not associated with symptom duration, level of viral load, degree of inflammation, or presence of antibodies against SARS-CoV-2 at hospital admittance. Neither remdesivir nor HCQ affected viral clearance in hospitalized patients with COVID-19.
- 7. Lopinavir-ritonavir and hydroxychloroquine for critically ill patients with COVID-19: REMAP-CAP randomized controlled trial.** Arabi YM et al. *Intensive Care Med.* 2021 Jul 12. doi: 10.1007/s00134-021-06448-5. <https://link.springer.com/article/10.1007/s00134-021-06448-5>

Among critically ill patients with COVID-19, lopinavir-ritonavir, hydroxychloroquine, or combination therapy worsened outcomes compared to no antiviral therapy.

8. **Effect of Bamlanivimab vs Placebo on Incidence of COVID-19 among Residents and Staff of Skilled Nursing and Assisted Living Facilities: A Randomized Clinical Trial.** Cohen MS et al. *JAMA*. 2021 Jul 6;326(1):46-55. doi: 10.1001/jama.2021.8828. <https://jamanetwork.com/journals/jama/fullarticle/2780870>  
Among residents and staff in skilled nursing and assisted living facilities, treatment during August-November 2020 with bamlanivimab monotherapy reduced the incidence of COVID-19 infection. Further research is needed to assess preventive efficacy with current patterns of viral strains with combination monoclonal antibody therapy.
9. **Bamlanivimab plus Etesevimab in Mild or Moderate Covid-19.** BLAZE-1 Investigators. *N Engl J Med*. 2021 Jul 14. doi: 10.1056/NEJMoa2102685. <https://doi.org/10.1056/nejmoa2102685>  
Among high-risk ambulatory patients w/ underlying medical conditions, bamlanivimab plus etesevimab led to a lower incidence of Covid-19-related hospitalization and death than did placebo and accelerated the decline in the SARS-CoV-2 viral load.

#### Transmission / Infection Control

10. **SARS-CoV-2 Transmission Risk Among National Basketball Association Players, Staff, and Vendors Exposed to Individuals with Positive Test Results After COVID-19 Recovery during the 2020 Regular and Postseason.** Mack CD, et al. *JAMA Intern Med*. 2021 Jul 1;181(7):960-966. doi:10.1001/jamainternmed.2021.2114. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2779287>  
In this retrospective cohort study of the 2020 NBA closed campus occupational health program, recovered individuals who continued to test positive for SARS-CoV-2 following discontinuation of isolation were not infectious to others. These findings support time-based US Centers of Disease Control and Prevention recommendations for ending isolation.

#### Vaccines / Immunology

11. **Efficacy and safety of an inactivated whole-virion SARS-CoV-2 vaccine (CoronaVac): interim results of a double-blind, randomised, placebo-controlled, phase 3 trial in Turkey.** Tanriover MD et al. *Lancet*. 2021 Jul 8:S0140-6736(21)01429-X. doi: 10.1016/S0140-6736(21)01429-X. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)01429-X/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)01429-X/fulltext)  
CoronaVac has high efficacy against PCR-confirmed symptomatic COVID-19 with a good safety and tolerability profile. During a median follow-up period of 43 days, vaccine efficacy was 83.5%.
12. **BNT162b2 vaccine breakthrough: clinical characteristics of 152 fully-vaccinated hospitalized COVID-19 patients in Israel.** Brosh-Nissimov T et al. *Clin Microbiol Infect*. 2021 Jul 7:S1198-743X(21)00367-0. doi: 10.1016/j.cmi.2021.06.036. [https://www.clinicalmicrobiologyandinfection.com/article/S1198-743X\(21\)00367-0/fulltext](https://www.clinicalmicrobiologyandinfection.com/article/S1198-743X(21)00367-0/fulltext)

We found that severe COVID-19 infection, associated with a high mortality rate, might develop in a minority of fully-vaccinated individuals with multiple comorbidities. Our patients had a higher rate of comorbidities and immunosuppression compared to previously reported non-vaccinated hospitalized COVID-19 patients. Further characterization of this vulnerable population may help to develop guidance to augment their protection, either by continued social-distancing, or by additional active or passive vaccinations.

13. **Single-dose mRNA vaccine effectiveness against SARS-CoV-2, including Alpha and Gamma variants: a test-negative design in adults 70 years and older in British Columbia, Canada.** Skowronski DM et al. *Clin Infect Dis*. 2021 Jul 9:ciab616. doi: 10.1093/cid/ciab616. <https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciab616/6318435>  
A single dose of mRNA vaccine reduced the risk of SARS-CoV-2 by about two-thirds in adults ≥70-years-old, with protection only minimally reduced against Alpha and Gamma variants.
14. **Effect of 2 Inactivated SARS-CoV-2 Vaccines on Symptomatic COVID-19 Infection in Adults: A Randomized Clinical Trial.** Al Kaabi N et al. *JAMA*. 2021 Jul 6;326(1):35-45. doi:10.1001/jama.2021.8565. <https://jamanetwork.com/journals/jama/fullarticle/2780562>  
In this prespecified interim analysis of a randomized clinical trial, treatment of adults with either of 2 inactivated SARS-CoV-2 vaccines significantly reduced the risk of symptomatic COVID-19, and serious adverse events were rare. Data collection for final analysis is pending.
15. **Association of BNT162b2 mRNA and mRNA-1273 Vaccines with COVID-19 Infection and Hospitalization among Patients with Cirrhosis.** John BV, et al. *JAMA Intern Med*. 2021 Jul 13. doi: 10.1001/jamainternmed.2021.4325. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2782121>  
This cohort study of US veterans found that mRNA vaccine administration was associated with a delayed but modest reduction in COVID-19 infection but an excellent reduction in COVID-19-related hospitalization or death in patients with cirrhosis.
16. **Heterologous ChAdOx1 nCoV-19 and mRNA-1273 Vaccination.** Normark J, et al. *N Engl J Med*. 2021 Jul 14. doi: 10.1056/NEJMc2110716. <https://www.nejm.org/doi/10.1056/NEJMc2110716>  
We conclude that the mRNA-1273 vaccine can efficiently stimulate the SARS-CoV-2-specific B-cell memory that has been generated by a prime dose of ChAdOx1 nCoV-19 vaccine 9 to 12 weeks earlier and that it may provide better protection against the B.1.351 variant than a ChAdOx1 nCoV-19 boost. These data also suggest that mRNA vaccines (here in the form of mRNA-1273) may be useful for vaccination strategies in which a third dose is to be administered to persons who have previously received two doses of ChAdOx1 nCoV-19.
17. **Neutralisation of SARS-CoV-2 lineage P.1 by antibodies elicited through natural SARS-CoV-2 infection or vaccination with an inactivated SARS-CoV-2 vaccine: an immunological study.** Souza WM, et al. *Lancet Microbe*. 2021 Jul 8. doi: 10.1016/S2666-5247(21)00129-4. <http://www.thelancet.com/article/S2666524721001294/pdf>  
SARS-CoV-2 lineage P.1 might escape neutralisation by antibodies generated in response to polyclonal stimulation against previously circulating variants of SARS-CoV-2. Plasma from

individuals previously infected with SARS-CoV-2 had an 8.6 times lower neutralising capacity against the P.1 isolates. Plasma collected after a second dose of CoronaVac, neutralising capacity against P.1 isolates was significantly decreased compared with that against the lineage B isolate. Continuous genomic surveillance of SARS-CoV-2 combined with antibody neutralisation assays could help to guide national immunisation programmes.

## Women & Children

18. **Association between BNT162b2 Vaccination and Incidence of SARS-CoV-2 Infection in Pregnant Women.** Goldshtein I, et al. *JAMA*. 2021 Jul 12. doi: 10.1001/jama.2021.11035. <https://jamanetwork.com/journals/jama/fullarticle/2782047>  
The cohort included 7530 vaccinated and 7530 matched unvaccinated women, 46% and 33% in the second and third trimester, respectively, with a mean age of 31.1 years. BNT162b2 mRNA vaccination compared with no vaccination was associated with a significantly lower risk of SARS-CoV-2 infection. Interpretation of study findings is limited by the observational design.
19. **Titres and neutralising capacity of SARS-CoV-2-specific antibodies in human milk: a systematic review.** Low JM, et al. *Arch Dis Child Fetal Neonatal Ed*. 2021 Jul 13:fetalneonatal-2021-322156. doi: 10.1136/archdischild-2021-322156. <https://fn.bmj.com/content/fetalneonatal/early/2021/07/12/archdischild-2021-322156.full.pdf>  
Human milk of lactating individuals after COVID-19 infection contains anti-SARS-CoV-2-specific IgG, IgM and/or IgA, even after mild or asymptomatic infection. Current evidence demonstrates that these antibodies can neutralise SARS-CoV-2 virus in vitro. Holder pasteurisation deactivates SARS-CoV-2-specific IgA, while high-pressure pasteurisation preserves the SARS-CoV-2-specific IgA function.

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## GUIDELINES & CONSENSUS STATEMENTS

[Considerations from the College of American Pathologists for implementation of an assay for SARS-CoV-2 testing after a change in regulatory status.](#) *J Clin Microbiol*. 2021 Jul 14:JCM0116721. doi: 10.1128/JCM.01167-21.

[Update Alert: Should Remdesivir Be Used for the Treatment of Patients With COVID-19? Rapid, Living Practice Points From the American College of Physicians \(Version 2\).](#) Scientific Medical Policy Committee of the American College of Physicians. *Ann Intern Med*. 2021 Jul 13. doi: 10.7326/L21-0389.

[Update Alert 6: Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings.](#) Chou R, et al. *Ann Intern Med*. 2021 Jul 13. doi: 10.7326/L21-0393.

[Multisociety Statement on COVID-19 Vaccination as a Condition of Employment for Healthcare Personnel.](#) Weber DJ et al. *Infect Control Hosp Epidemiol*. 2021 Jul 13:1-46. doi: 10.1017/ice.2021.322.

FDA - [announces revisions to the vaccine recipient and vaccination provider fact sheets for the Johnson & Johnson COVID-19 Vaccine to include information pertaining to an observed increased risk of Guillain-Barré Syndrome.](#)

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**Commentary / Press Releases**

[The Case for Mandating COVID-19 Vaccines for Health Care Workers.](#) Klompas M, et al. *Ann Intern Med.* 2021 Jul 13. doi: 10.7326/M21-2366.

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