



## COVID-19 Digest Issue 38

January 13, 2021

### CLINICAL PEARL

- **Antibodies and COVID-19** (adapted from a JAMA article): **It is not yet known if detection of anti-SARS-CoV-2 antibodies by commercial clinical laboratory assays is associated with protective immunity.** It may be that protection requires achieving a specific quantity of a specific subtype of antibody. It is also possible that to achieve protection, antibodies must bind to specific epitopes on the virus, which may differ from the epitopes that are targeted in the commercial assays. Therefore, at this point, **we don't know if the seroprevalence of antibodies to SARS-CoV-2 that are detected by commercial assays will ultimately translate into protective herd immunity.**

Conversely, **it may be that people exposed to SARS-CoV-2 are protected against future infection regardless of whether they have measurable antibody titers or not.** The role of T cells in protective immunity against COVID-19, and the association between immunity based on antibodies and memory T cells, remains undefined. Indeed, there are reasons to be optimistic that prior exposure to the virus does lead to protective immunity. To date, there have been only a few documented cases of reinfection with SARS-CoV-2. **If natural infection did not lead to a high degree of protection, many more reinfections would be expected.** Furthermore, analysis of convalescent plasma reveals that most individuals with symptomatic COVID-19 mount neutralizing antibody responses to SARS-CoV-2. **Based on immunological experience with other viruses, the presence of neutralizing antibodies is likely associated with protection.** Thus, until more data become available, it is reasonable to assume that natural infection with SARS-CoV-2 may lead to protective immunity and prior infection may be closely associated with protection. Furthermore, protection from natural infection suggests that vaccines should induce protective immunity.

[The decline over time of the seroprevalence of antibodies to SARS-CoV-2 in the study by Bajema et al](#) is neither unexpected nor alarming. **For all infectious diseases, the waning of antibody titers is normal and does not necessarily indicate the loss of protective long-term immunity.** Immunoglobulin G titers rise during the weeks following infection as active plasma cells secrete antibody into systemic circulation. Those titers then wane as the plasma cells actively secreting the antibodies senesce, whereas **resting memory B and T lymphocytes** continue to circulate for years to decades. These **memory lymphocytes can mediate long-term immunity to infection even in the face of waning antibody titers.** Thus, at present, no conclusions can be drawn from seroprevalence studies about the duration of immunity to SARS-CoV-2 infection. **Experience with other respiratory tract viruses suggests that immunity to specific viral serotypes lasts for many years.** This was the case with the H1N1 virus that caused the 1918 influenza pandemic, in which adolescent survivors experienced protection from reinfection into the tenth decade of their lives.

### PUBLIC HEALTH UPDATES

- FDA: [Genetic Variants of SARS-CoV-2 May Lead to False Negative Results with Molecular Tests for Detection of SARS-CoV-2](#) Letter to Clinical Laboratory Staff and Health Care Providers
- FDA: [Alert Regarding SARS-CoV-2 Viral Mutation](#) to Health Care Providers and Clinical Laboratory Staff
- FDA: [Statement on Following the Authorized Dosing Schedules for COVID-19 Vaccines](#)





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## PUBLIC HEALTH, POLICY & PLANNING

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#### GUIDANCE/GUIDELINES

- Infectious Diseases Society of America (IDSA) [Guidelines on the Diagnosis of COVID-19: Molecular Diagnostic Testing](#)

#### RESOURCES

- HHS Protect Public Data Hub [Therapeutics Distribution](#) Locations Map
- American Society of Health System Pharmacists [COVID-19 Vaccine Candidates Tracking Sheet](#)
- CDC
  - [US COVID-19 Cases Caused by Variants](#)
  - [COVID Data Tracker – Vaccinations](#)
- CDC/IDSA COVID-19 Clinician Call: [Ask the Experts - Q&A with IDSA's COVID-19 Testing Guidelines Panel](#)
- CDC/IDSA COVID-19 Real Time Learning Network:
  - [Post-Acute COVID-19 Syndrome](#)
  - [Vaccination FAQ](#)
  - [Vaccines in Development](#)
  - [Caring for Multicultural Patient Populations](#)
- [IDSA Media Briefing: January 6, 2021](#)
- American Medical Association JN Learning Audio Clinical Review
  - [COVID-19 Vaccine Safety–Anaphylaxis and Allergic Reactions](#)
  - [Nursing Homes and COVID-19](#)
- California Vaccinate All 58 [When Can I Get Vaccinated](#)

#### ACADEMIC/RESEARCH PAPERS

- *bioRxiv*
  - [Neutralization of N501Y mutant SARS-CoV-2 by BNT162b2 vaccine-elicited sera](#)
- *Science*
  - [Immunological memory to SARS-CoV-2 assessed for up to 8 months after infection](#)
- *Nature*
  - [High affinity nanobodies block SARS-CoV-2 spike receptor binding domain interaction with human angiotensin converting enzyme](#)
- *Annals of Internal Medicine*
  - [Alternative Dose Allocation Strategies to Increase Benefits From Constrained COVID-19 Vaccine Supply](#)
  - [Speed Versus Efficacy: Quantifying Potential Tradeoffs in COVID-19 Vaccine Deployment](#)
  - [A Public Health COVID-19 Vaccination Strategy to Maximize the Health Gains for Every Single Vaccine Dose](#)
- *medRxiv*
  - [COVID-19 severity impacts on long-term neurological manifestation after hospitalisation](#)
- *Journal of Internal Medicine*
  - [Prevalence and 6-month recovery of olfactory dysfunction: a multicentre study of 1363 COVID-19 patients](#)





## COVID-19 Digest Issue 38

- *ATS Journals*
  - [Persistent Poor Health Post-COVID-19 Is Not Associated with Respiratory Complications or Initial Disease Severity](#)
  - [Occurrence of Invasive Pulmonary Fungal Infections in Severe COVID-19 Patients Admitted to the ICU](#)
- *The Lancet*
  - [6-month consequences of COVID-19 in patients discharged from hospital: a cohort study](#)
  - [Prevalence and risk factors for delirium in critically ill patients with COVID-19 \(COVID-D\): a multicentre cohort study](#)
  - [Continuation versus discontinuation of renin-angiotensin system inhibitors in patients admitted to hospital with COVID-19: a prospective, randomised, open-label trial](#)
- *Critical Care Explorations*
  - [Integral Use of Thromboelastography With Platelet Mapping to Guide Appropriate Treatment, Avoid Complications, and Improve Survival of Patients With Coronavirus Disease 2019-Related Coagulopathy](#)
- *Fundamental and Clinical Pharmacology*
  - [Remdesivir potently inhibits carboxylesterase-2 through covalent modifications: signifying strong drug-drug interactions](#)
- *Stem Cells Translational Medicine*
  - [Umbilical cord mesenchymal stem cells for COVID-19 acute respiratory distress syndrome: A double-blind, phase 1/2a, randomized controlled trial](#)
- *New England Journal of Medicine*
  - [Early High-Titer Plasma Therapy to Prevent Severe Covid-19 in Older Adults](#)
  - [Open Schools, Covid-19, and Child and Teacher Morbidity in Sweden](#)
- *Eurosurveillance*
  - [Minimal transmission of SARS-CoV-2 from paediatric COVID-19 cases in primary schools, Norway, August to November 2020](#)
  - [Special Edition: Children and COVID-19](#)
- *Pediatrics*
  - [Incidence and Secondary Transmission of SARS-CoV-2 Infections in Schools](#)
- *CEDR/CALDER/EPIC*
  - [To What Extent Does In-Person Schooling Contribute to the Spread of COVID-19? EVIDENCE FROM MICHIGAN AND WASHINGTON](#)
- *National Center for Research on Education Access and Choice (REACH)*
  - [The Effects of School Reopenings on COVID-19 Hospitalizations](#)
- *JAMA*
  - [SARS-CoV-2 Transmission From People Without COVID-19 Symptoms](#)
  - [Diagnostic Value of Patient-Reported and Clinically Tested Olfactory Dysfunction in a Population Screened for COVID-19](#)
  - [Media Portrayals of Outcomes After Extracorporeal Membrane Oxygenation](#)
  - [A 7-Point Action Agenda to End the COVID-19 Pandemic for President-elect Biden](#)
  - [Africa Succeeded Against COVID-19's First Wave, but the Second Wave Brings New Challenges](#)
  - [Impact of COVID-19 Pandemic on Global Poliovirus Surveillance](#)
  - [Estimation of US SARS-CoV-2 Infections, Symptomatic Infections, Hospitalizations, and Deaths Using Seroprevalence Surveys](#)
- *The Journal of Infectious Diseases*
  - [SARS-CoV-2 Seroprevalence and Antibody Kinetics Among Health Care Workers in a Spanish Hospital After 3 Months of Follow-up](#)





## COVID-19 Digest Issue 38

- [Role of IgM and IgA Antibodies in the Neutralization of SARS-CoV-2](#)
- *PLOS*
  - [Seroprevalence and asymptomatic carrier status of SARS-CoV-2 in Wuhan City and other places of China](#)
- *Emerging Infectious Diseases*
  - [COVID-19 Outbreak in a Large Penitentiary Complex, April–June 2020, Brazil](#)
- *Open Forum Infectious Diseases*
  - [Self-rated smell ability enables highly specific predictors of COVID-19 status: a case control study in Israel](#)
- *BMJ Journals*
  - [Current smoking and COVID-19 risk: results from a population symptom app in over 2.4 million people](#)
- *Clinical Gastroenterology*
  - [The Prevalence of Gastrointestinal Symptoms, Abnormal Liver Function, Digestive System Disease and Liver Disease in COVID-19 Infection - A Systematic Review and Meta-Analysis](#)
- *The Journal of Clinical Endocrinology and Metabolism*
  - [Full Inequities in Diabetic Ketoacidosis among Patients with Type 1 diabetes and COVID-19: Data from 52 US Clinical Centers](#)
- *Arthritis Care and Research*
  - [Pregnancy and Rheumatic Disease: Experience at a Single Center in New York City During the COVID-19 Pandemic](#)
- *Clinical Infectious Diseases*
  - [Previous dengue infection and mortality in COVID-19](#)
- *British Dental Journal*
  - [Correction to: Toothpaste and mouthwash inactivate 99.9% of the virus that causes COVID-19](#)
- *Preventing Chronic Disease*
  - [An Ounce of Prevention Is Still Worth a Pound of Cure, Especially in the Time of COVID-19](#)
- *PNAS*
  - [The impact of COVID-19 nonpharmaceutical interventions on the future dynamics of endemic infections](#)

## MMWR

- [Assessment of Day-7 Postexposure Testing of Asymptomatic Contacts of COVID-19 Patients to Evaluate Early Release from Quarantine — Vermont, May–November 2020](#)
- [Opening of Large Institutions of Higher Education and County-Level COVID-19 Incidence — United States, July 6–September 17, 2020](#)
- [Participation in Fraternity and Sorority Activities and the Spread of COVID-19 Among Residential University Communities — Arkansas, August 21–September 5, 2020](#)
- [Time from Start of Quarantine to SARS-CoV-2 Positive Test Among Quarantined College and University Athletes — 17 States, June–October 2020](#)
- [Rates of COVID-19 Among Residents and Staff Members in Nursing Homes — United States, May 25–November 22, 2020](#)
- [Candida auris Outbreak in a COVID-19 Specialty Care Unit — Florida, July–August 2020](#)
- [Mitigation Policies and COVID-19–Associated Mortality — 37 European Countries, January 23–June 30, 2020](#)





## COVID-19 Digest Issue 38

### HOT OFF THE (LAY) PRESS

- *The Hill*
  - [WHO panel approves delaying time between coronavirus vaccine doses](#)
- *Reuters*
  - [Explainer - How safe is it to switch and space COVID-19 vaccine doses?](#)
  - [Pfizer/BioNTech vaccine appears effective against mutation in new coronavirus variants -study](#)
- *Pfizer Press Release*
  - [AN IN VITRO STUDY SHOWS PFIZER-BIONTECH COVID-19 VACCINE ELICITS ANTIBODIES THAT NEUTRALIZE SARS-COV-2 WITH A MUTATION ASSOCIATED WITH RAPID TRANSMISSION](#)
- *AP News*
  - [Pfizer study suggests vaccine works against virus variant](#)
  - [Kaiser San Jose fined \\$43,000 for deadly post-holiday outbreak](#)
  - [24-hour NYC vaccine sites open as eligibility is expanding](#)
- *Fortune*
  - [Will the vaccines work against the South African variant of COVID-19?](#)
- *Politico*
  - [Hospitals say syringes supplied by feds waste vaccine doses](#)
- *The New York Times*
  - [Trump Administration Will Recommend Vaccinating All Americans Over 65](#)
  - [All international air travelers to the U.S. will have to show proof of a negative virus test before leaving, in a policy taking effect on Jan. 26.](#)
  - [Overshadowed by events in Washington, the virus was deadlier than ever](#)
  - [A Riot Amid a Pandemic: Did the Virus, Too, Storm the Capitol?](#)
  - [Biden plans to release nearly all available vaccine doses in an attempt to speed delivery](#)
  - [Biden Plans Coronavirus Vaccination Blitz After Inauguration](#)
  - [Here's how the wealthy are trying to jump the line in the vaccine rollout](#)
  - [At Elite Medical Centers, Even Workers Who Don't Qualify Are Vaccinated](#)
  - [Some doctors in Britain plan to defy instructions to delay vaccine booster shots.](#)
  - [In Europe, more countries delay second vaccine doses or mull plans to do so.](#)
  - [A second Chinese vaccine was found to be effective by Brazilian researchers, bolstering chances it could be rolled out in the developing world.](#)
  - [Gorillas at Zoo in San Diego Test Positive for Coronavirus](#)
  - [Rapid virus testing will ramp up, as F.D.A. approves three new at-home kits](#)
  - [How Restaurants Have Weathered the Pandemic](#)
  - ['Our New York Moment': Southern California Reels as Virus Surges](#)
  - [A Stark Divide in California's Surge](#)
- *The Atlantic*
  - [The Most Reliable Pandemic Number Keeps Getting Worse](#)
- *Science Speaks: Global ID News*
  - [COVID carnage spreads in U.S. with 4,180 people dead in one day](#)
- *National Geographic*
  - [Experts torn over changing vaccine doses to speed up lagging rollout](#)
  - [What the data show about allergic reactions to COVID-19 vaccines](#)
  - [What vaccines mean for the return of travel](#)





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- *NPR/KQED*
  - [Doctors Encouraged By Antibody Treatments For COVID-19](#)
  - [Coronavirus FAQ: How Do I Protect Myself From The U.K. Variant?](#)
- *The Washington Post*
  - [UK approves anti-inflammatory drugs to treat sickest covid-19 patients after strong results in clinical trial](#)
  - [Coronavirus shutdowns have quashed nearly all other common viruses. But scientists say a rebound is coming.](#)
- *Tampa Bay Times*
  - [China clamps down in hidden hunt for coronavirus origins](#)
- *Berkeley Lab News*
  - [This Anti-COVID Mask Breaks the Mold](#)
- *Medpage Today*
  - ['America's Frontline Doctors' Continue to Misinform on COVID](#)
- *The San Diego Union-Tribune*
  - [Growing consensus that schools do not contribute to COVID-19 spread is complicated by worsening surge](#)
- *CalMatters*
  - [California's new goal: Vaccinate a million people in 10 days](#)
- *Los Angeles Times*
  - [These researchers predicted California's COVID-19 surge. Here's when they think it will end](#)
- *CNBC*
  - [LA County hospitals forced to make 'tough decisions' as Covid kills someone about every 15 minutes](#)
- *San Francisco Chronicle*
  - [Record deaths in California as coronavirus surges; Bay Area stay-at-home order remains](#)
  - [Bay Area hospitals slammed by COVID-19 surge: 'The E.R. is full'](#)
  - [Santa Clara County is the center of the Bay Area's COVID-19 surge. Here's what it's like inside its ICUs](#)
  - [Bay Area ICU availability plummets to 0.7% as California tops 30,000 deaths](#)
  - [Bay Area seeing more COVID-19 patients with no underlying health conditions](#)
  - [Bay Area ICU availability falls to lowest level yet, as state tries to speed up vaccinations](#)
  - [Here's California's plan to speed up coronavirus vaccinations. Will it be enough?](#)
  - [California, Bay Area opening mass vaccination sites](#)

## EPIDEMIOLOGY UPDATES

- **US Leads the World in Confirmed COVID-19 Cases** per [Johns Hopkins University Center for Systems Science and Engineering Dashboard Website](#)
- **Johns Hopkins COVID-19 in the USA** – daily summary of key data on COVID-19 in the U.S.
- **California COVID-19 by the numbers** are available on the [CDPH Website](#) and the [NYT Map and Table](#) (includes data by county)
  - **California [COVID-19 Statewide Update](#) as of January 13, 2021**
- [San Mateo County COVID-19 Dashboard](#)
- [Santa Clara County COVID-19 Dashboard](#)





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#### ADDITIONAL COVID-19 RESOURCES

- [San Mateo County COVID-19 Guidance and Resources for Clinicians and Facilities – COVID-19 Digests](#)
- [Palo Alto Online tracking the coronavirus in San Mateo and Santa Clara counties](#)
- [California COVID-19 Data and Tools](#)
- [CDPH COVID-19 Assessment and Modeling Tool](#)
- [California Department of Corrections and Rehabilitations Population COVID-19 Tracking Dashboards](#)
- [COVID-19 Nursing Home Data](#)
- [CDC Interactive Serology Dashboard for Commercial Laboratory Surveys](#)
- [CDC COVID-19 Forecasts: Deaths](#)
- [HHS Coronavirus Data Hub](#)

