



COVID-19 Digest Issue 77

May 5, 2022

CLINICAL PEARL

- **Sensitivity of home COVID-19 rapid antigen tests**

[According to a recent study](#), the sensitivity of home rapid antigen COVID-19 tests peaks 4 days after symptom onset, suggesting that a negative antigen test should be followed by a second test in 1 or 2 days.

The study studied test sensitivity in 225 adults and children from 107 households who tested positive for COVID-19 in San Diego County, California, and metropolitan Denver from January to May 2021.

Participants used antigen tests for 15 days and had at least one same-day reverse-transcription (RT) PCR test and viral culture. A total of 3,044 antigen tests and 642 PCR tests were performed. Average participant age was 29 years, 52% were female, and 91% had COVID-19 symptoms.

Antigen tests were less sensitive than PCR, but more sensitive than viral culture. During the first few days of illness, antigen test sensitivity was 50% (95% confidence interval [CI], 45% to 55%). Overall antigen test sensitivity was 64% (95% CI, 56% to 70%) and 84% (95% CI, 75% to 90%) compared to PCR and viral culture, respectively.

Sensitivity of the antigen tests peaked at 77% (95% CI, 69% to 83%) 4 days after symptom onset and was 81% to 85% on a second test 1 or 2 days later. PCR positivity peaked at 95% 3 days after illness onset, while viral cultures peaked at 64% on day 2. **Six days after symptom onset, antigen test positivity was 61% (95% CI, 53% to 68%), falling to less than 20% by day 11.**

Of note, the study authors pointed out that **antigen test performance may differ in vaccinated and unvaccinated people and among infections with different SARS-CoV-2 variants.**

PUBLIC HEALTH UPDATES

- CDC Health Advisory: [Updated Information on Availability and Use of Treatments for Outpatients with Mild to Moderate COVID-19 Who are at Increased Risk for Severe Outcomes of COVID-19](#)
- [FDA Announces Tentative Advisory Committee Meeting Schedule Regarding COVID-19 Vaccines](#)
- [FDA Approves First COVID-19 Treatment for Young Children](#)
- [WHO recommends highly successful COVID-19 therapy and calls for wide geographical distribution and transparency from originator](#)

GUIDANCE/GUIDELINES

- [CDC Interim Clinical Considerations for COVID-19 Vaccines](#)
- NIH COVID-19 Treatment Guidelines Update: [What's New in the Guidelines](#)

RESOURCES

- IDSA
 - COVID-19 Podcast: [The Latest on Long COVID](#)
 - Vaccine Education Roundtable Series: [The Future of Minoritized Communities in the COVID-19 Pandemic, Part 1 – Data and the Impact of COVID-19](#)
- Kaiser Family Foundation [COVID-19 mortality preventable by vaccines](#)
- Center for Infectious Disease Research and Policy (CIDRAP) Osterholm Update:
 - [Episode 100: You Can't Stop the Wind](#)
 - [Episode 101: Class in Complicated Times](#)





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ACADEMIC/RESEARCH PAPERS

- *Nature*
 - [Daily longitudinal sampling of SARS-CoV-2 infection reveals substantial heterogeneity in infectiousness](#)
 - [Effectiveness of a second BNT162b2 booster vaccine against hospitalization and death from COVID-19 in adults aged over 60 years](#)
 - [Comparative effectiveness over time of the mRNA-1273 \(Moderna\) vaccine and the BNT162b2 \(Pfizer-BioNTech\) vaccine](#)
 - [Increased Memory B Cell Potency and Breadth After a SARS-CoV-2 mRNA Boost](#)
 - [Risk factors for severe COVID-19 differ by age for hospitalized adults](#)
- *bioRxiv*
 - [P681 mutations within the polybasic motif of spike dictate fusogenicity and syncytia formation of SARS CoV-2 variants](#)
- *medRxiv*
 - [Omicron sub-lineages BA.4/BA.5 escape BA.1 infection elicited neutralizing immunity](#)
 - [Determinants of SARS-CoV-2 anti-spike antibody levels following BNT162b2 vaccination: cross-sectional analysis of 6,000 SIREN study participants](#)
 - [Continued Emergence and Evolution of Omicron in South Africa: New BA.4 and BA.5 lineages](#)
- *The Lancet*
 - [Durability of BNT162b2 vaccine against hospital and emergency department admissions due to the omicron and delta variants in a large health system in the USA: a test-negative case-control study](#)
 - [Severity of omicron variant of concern and effectiveness of vaccine boosters against symptomatic disease in Scotland \(EAVE II\): a national cohort study with nested test-negative design](#)
 - [The displacement of the SARS-CoV-2 variant Delta with Omicron: An investigation of hospital admissions and upper respiratory viral loads](#)
 - [Risk of hospitalisation associated with infection with SARS-CoV-2 omicron variant versus delta variant in Denmark: an observational cohort study](#)
 - [Sustainability of surveillance systems for SARS-CoV-2](#)
 - [An online breathing and wellbeing programme \(ENO Breathe\) for people with persistent symptoms following COVID-19: a parallel-group, single-blind, randomised controlled trial](#)
 - [Multivariate profile and acute-phase correlates of cognitive deficits in a COVID-19 hospitalised cohort](#)
 - [Policy stringency and mental health during the COVID-19 pandemic: a longitudinal analysis of data from 15 countries](#)
 - [Effect of lockdown on mental health in Australia: evidence from a natural experiment analysing a longitudinal probability sample survey](#)
- *New England Journal of Medicine*
 - [Intramuscular AZD7442 \(Tixagevimab-Cilgavimab\) for Prevention of Covid-19](#)
- *JAMA*
 - [Assessment of T-cell Reactivity to the SARS-CoV-2 Omicron Variant by Immunized Individuals](#)
 - [Association of SARS-CoV-2 Infection During Pregnancy With Maternal and Perinatal Outcomes](#)
 - [SARS-CoV-2 Vaccination and Myocarditis in a Nordic Cohort Study of 23 Million Residents](#)
 - [Comparison of Home Antigen Testing With RT-PCR and Viral Culture During the Course of SARS-CoV-2 Infection](#)
 - [Effect of Androgen Suppression on Clinical Outcomes in Hospitalized Men With COVID-19 - The HITCH Randomized Clinical Trial](#)





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- [Association of Short-term Air Pollution Exposure With SARS-CoV-2 Infection Among Young Adults in Sweden](#)
- [COVID-19 Vaccination and Estimated Public Health Impact in California](#)
- [Association of Large Financial Incentives With COVID-19 Vaccination Uptake Among Employees of a Large Private Company](#)
- [Stress-Related Disorders of Family Members of Patients Admitted to the Intensive Care Unit With COVID-19](#)
- *Emerging Infectious Diseases*
 - [Duration of Infectious Virus Shedding by SARS-CoV-2 Omicron Variant–Infected Vaccinees](#)
 - [Effectiveness of BNT162b2 Vaccine Booster against SARS-CoV-2 Infection and Breakthrough Complications, Israel](#)
 - [Disparities in First Dose COVID-19 Vaccination Coverage among Children 5–11 Years of Age, United States](#)
 - [Estimating Relative Abundance of 2 SARS-CoV-2 Variants through Wastewater Surveillance at 2 Large Metropolitan Sites, United States](#)
 - [Detection of SARS-CoV-2 B.1.351 \(Beta\) Variant through Wastewater Surveillance before Case Detection in a Community, Oregon, USA](#)
 - [Increased COVID-19 Severity among Pregnant Patients Infected with SARS-CoV-2 Delta Variant, France](#)
 - [Epidemiologic and Genomic Analysis of SARS-CoV-2 Delta Variant Superspreading Event in Nightclub, the Netherlands, June 2021](#)
 - [High-Dose Convalescent Plasma for Treatment of Severe COVID-19](#)
 - [Severe Multisystem Inflammatory Symptoms in 2 Adults after Short Interval between COVID-19 and Subsequent Vaccination](#)
 - [Multisystem Inflammatory Syndrome in Children after SARS-CoV-2 Vaccination](#)
 - [Guillain-Barré Syndrome Associated with COVID-19 Vaccination](#)
 - [SARS-CoV-2 Seroprevalence after Third Wave of Infections, South Africa](#)
 - [SARS-CoV-2 Cross-Reactivity in Prepandemic Serum from Rural Malaria-Infected Persons, Cambodia](#)
 - [SARS-CoV-2 Antibody Prevalence and Population-Based Death Rates, Greater Omdurman, Sudan](#)
 - [Mathematical Modeling for Removing Border Entry and Quarantine Requirements for COVID-19, Vanuatu](#)
 - [Type 1 Diabetes Mellitus Associated with Nivolumab after Second SARS-CoV-2 Vaccination, Japan](#)
- *PLOS*
 - [COVID-19 mortality in the United States: It's been two Americas from the start](#)
- *Clinical Infectious Diseases*
 - [Reductions in Antibiotic Prescribing in Australia During the SARS-CoV-2 Pandemic: National Prescribing Data](#)
- *Vaccine*
 - [Readability of COVID-19 Vaccine Information for the General Public](#)

MMWR

- [Provisional COVID-19 Age-Adjusted Death Rates, by Race and Ethnicity — United States, 2020–2021](#)
- [Seroprevalence of Infection-Induced SARS-CoV-2 Antibodies — United States, September 2021–February 2022](#)
- [Hospitalizations of Children Aged 5–11 Years with Laboratory-Confirmed COVID-19 — COVID-NET, 14 States, March 2020–February 2022](#)





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HOT OFF THE (LAY) PRESS

- *New York Times*
 - [Loss of Pandemic Aid Stresses Hospitals That Treat the Uninsured](#)
 - [Vaccines for Young Children](#)
 - [Vaccines for young children are being delayed by incomplete data, a top F.D.A. official suggests.](#)
 - [Moderna said it had asked the F.D.A. to authorize its coronavirus vaccine for children under 6, making it the first manufacturer to do so.](#)
 - [Should You Still Wear a Mask? Experts weigh in on where, and when, you can safely take one off.](#)
 - [Where You Still Have to Wear a Mask in California](#)
- *The Hill*
 - [Moderna expects 'large amounts' of omicron booster available by fall](#)
- *Politico*
 - [Waiting for a Covid vaccine for your under-5 kid? It may take a bit longer.](#)
- *CNBC*
 - [At least a dozen U.S. universities reinstate mask mandates as Covid cases rise](#)
- *AP News*
 - [Boston officials recommend wearing masks indoors again](#)
 - [Biden admin to promote availability of COVID antiviral pill](#)
 - [Racial split on COVID-19 endures as restrictions ease in US](#)
 - [Most people in US want masks for travelers: AP-NORC poll](#)
- *The Washington Post*
 - [Virus mutations aren't slowing down. New omicron subvariant proves it.](#)
 - [Covid deaths no longer overwhelmingly among the unvaccinated as toll on elderly grows](#)
- *Bloomberg*
 - [U.S. Seeks Data on Post-Paxlovid Rebound](#)
- *Scientific American*
 - [Nose Spray Vaccines Could Quash COVID Virus Variants](#)
- *EurekaAlert!*
 - [Six in ten people with COVID-19 still have a least one symptom a year later, long Covid study reveals](#)
 - [Long COVID associated with different clinical trajectories and characteristics depending on severity of initial SARS-CoV-2 infection](#)
 - [Long Covid fatigue eased by four-week occupational therapy program, Irish study finds](#)
 - [Pregnant women with COVID-19 face greater risk of hospitalisation and ICU admission, strengthening case for vaccination](#)
 - [Patients hospitalized with COVID-19 were three times as likely to die than those with seasonal influenza](#)
 - [Longer interval between COVID-19 vaccines generates up to nine times as many antibodies](#)
 - [Omicron infection just 20 days after Delta – the shortest known gap between infections](#)
- *European Commission Press Releases*
 - [COVID-19: Commission calls on Member States to step up preparedness for the next pandemic phase](#)
- *Moderna News*
 - [MODERNA FILES FOR AUTHORIZATION OF ITS COVID-19 VACCINE IN YOUNG CHILDREN SIX MONTHS TO UNDER SIX YEARS OF AGE](#)





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- *Pfizer Press Releases*
 - [Pfizer and BioNTech Submit Application for U.S. Emergency Use Authorization for a COVID-19 Vaccine Booster Dose in Children 5 Through 11 Years of Age](#)
 - [Pfizer Shares Top-Line Results from Phase 2/3 EPIC-PEP Study of PAXLOVID™ for Post-Exposure Prophylactic Use](#)
- *Los Angeles Times*
 - [Here we go again: California coronavirus cases rising. Is a new wave coming soon?](#)
 - [CDC restates recommendation for masks on planes, trains despite court ruling](#)
- *San Francisco Chronicle*
 - [Bay Area COVID cases and hospitalizations rise again as new infections swell in April](#)
 - [Why aren't more Californians getting second COVID booster shots? It's complicated](#)
 - [As COVID cases 'swell' in the Bay Area, this time it's on you to weigh the risks](#)

EPIDEMIOLOGY UPDATES

- [CDC COVID-19 Community Levels](#)
- [CDC COVID Data Tracker](#)
 - [Variant Proportions](#)
 - [Wastewater Surveillance](#)
 - [COVID-19 Vaccinations in the United States](#)
- [Johns Hopkins COVID-19 in the USA](#) – daily summary of key data on COVID-19 in the U.S.
- [American Academy of Pediatrics Children and COVID-19: State Level Data Report](#) – *new data!*
- [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 May 5, 2022](#)
- [San Mateo County COVID-19 Dashboard](#)
- [Santa Clara County COVID-19 Dashboard](#)

ADDITIONAL COVID-19 RESOURCES

- [San Mateo County COVID-19 Guidance and Resources for Clinicians and Facilities – COVID-19 Digests](#)
- [Covid-WEB \(Wastewater Epidemiology for the Bay Area\)](#)
- [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](#)
- [CDC Interactive Serology Dashboard for Commercial Laboratory Surveys](#)
- [HHS Coronavirus Data Hub](#)
- [COVID-19 Nursing Home Data](#)

