CLINICAL PEARLS

- According to results released in a preprint, non-peer reviewed biorxiv article, the COVID-19 vaccine developed by Pfizer and BioNTech is likely to protect against the fast-spreading “UK variant” of the virus. Sera from 16 vaccinated participants in prior clinical trials were exposed to SARS-CoV-2-S pseudoviruses bearing either the Wuhan reference strain or the B.1.1.7 lineage spike protein. The immune sera had equivalent neutralizing titers to both variants.

- According to a paper recently published in *Cell*, the two signaling molecules IFN-gamma and TNF-alpha work synergistically to cause massive cell death and tissue damage in SARS-CoV-2 infection. These two proinflammatory signals, when administered to mice together, caused the same spectrum of damage seen in critical and lethal COVID-19 cases. Importantly, monoclonal antibody treatments blocking these molecules protected mice with severe SARS-CoV-2 infection from death. These pathways could be viable targets for clinical intervention in the most severe cases and most at-risk patients.

- Pharmaceutical prophylactics, or drugs that are taken to prevent infection, have been a key missing tool in the fight against COVID-19. British and Australian researchers have shown in a ferret model that administering the TLR2/6 (a sensor protein for invading microbes) activator INNA-051 intranasally resulted in over 90% reduction in virus shed from both nose and throat compared to controls. This and related strategies, which stimulate a first line of defense against invading pathogens, could help control the risk of COVID-19 transmission, especially in high-risk settings like congregate living environments.

PUBLIC HEALTH UPDATES

- San Mateo County [January 19, 2021 Health Officer Statement](https://www.sanmateo.ca.gov/coronavirus/health-officer-statement-1-19-21)

GUIDANCE/GUIDELINES


RESOURCES

- CDC [Health Department-Reported Cases of Multisystem Inflammatory Syndrome in Children (MIS-C) in the United States](https://www.cdc.gov/coronavirus/2019-ncov/cases-infections/cases-and-artifacts.html)
- COVID-19 Genomic Epidemiology Toolkit
- Clinician Outreach and Communication Activity Calls/Webinars Summaries and Slide Sets
- CDPH [Strategy for Skilled Nursing Facilities: Infection Prevention Education](https://www.cdph.ca.gov/Programs/RIDIV/COVID19/COVID19SNFResources.htm) including weekly Healthcare Facility Call Notes and weekly SNF Infection Prevention Call Notes
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- AMA Prioritizing Equity video series: Trustworthiness & Vaccines
- The Atlantic The COVID Tracking Project
- Emory University COVID-19 Health Equity Interactive Dashboard

ACADEMIC/RESEARCH PAPERS

- bioRxiv
  - Neutralization of SARS-CoV-2 lineage B.1.1.7 pseudovirus by BNT162b2 vaccine-elicited human sera
  - Distinct Patterns of Emergence of SARS-CoV-2 Spike Variants including N501Y in Clinical Samples in Columbus Ohio

- Clinical Infectious Diseases
  - Confirmed Reinfection with SARS-CoV-2 Variant VOC-202012/01

- Nature
  - Circuits between infected macrophages and T cells in SARS-CoV-2 pneumonia

- Journal of Clinical Investigation
  - SARS-CoV-2-specific CD8+ T cell responses in convalescent COVID-19 individuals

- Emerging Microbes & Infections
  - Critical role of neutralizing antibody for SARS-CoV-2 reinfection and transmission

- New England Journal of Medicine
  - Interim Results of a Phase 1–2a Trial of Ad26.COV2.S Covid-19 Vaccine
  - Maintaining Safety with SARS-CoV-2 Vaccines
  - Convalescent Plasma Antibody Levels and the Risk of Death from Covid-19

- JAMA
  - Clinical Characteristics and Outcomes of Hospitalized Women Giving Birth With and Without COVID-19
  - Progression of Myopia in School-Aged Children After COVID-19 Home Confinement
  - Trends in Pediatric Hospitalizations for Coronavirus Disease 2019
  - Comparison of Saliva and Nasopharyngeal Swab Nucleic Acid Amplification Testing for Detection of SARS-CoV-2 - A Systematic Review and Meta-analysis

- Annals of Internal Medicine
  - The Sensitivity and Costs of Testing for SARS-CoV-2 Infection With Saliva Versus Nasopharyngeal Swabs - A Systematic Review and Meta-analysis
  - Preterm Birth and Stillbirth During the COVID-19 Pandemic in Sweden: A Nationwide Cohort Study

- The Journal of Infectious Diseases
  - Nature and dimensions of the systemic hyper-inflammation and its attenuation by convalescent plasma in severe COVID-19
  - SARS-CoV-2 Serologic Assays in Control and Unknown Populations Demonstrate the Necessity of Virus Neutralization Testing

- Cleveland Journal of Medicine
  - COVID-19 diagnostic testing and the psychology of precautions fatigue

- Lancet
  - Neurological infections in 2020: COVID-19 takes centre stage

- Emerging Infectious Diseases
  - Lung Pathology of Mutually Exclusive Co-infection with SARS-CoV-2 and Streptococcus pneumoniae

- Journal of the American College of Cardiology
  - Cardiovascular Deaths During the COVID-19 Pandemic in the United States
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- **BMJ Journals**
  - Gut microbiota composition reflects disease severity and dysfunctional immune responses in patients with COVID-19
  - Severe clinical outcomes of COVID-19 associated with proton pump inhibitors: a nationwide cohort study with propensity score matching

- **Science**
  - Three-quarters attack rate of SARS-CoV-2 in the Brazilian Amazon during a largely unmitigated epidemic
  - Immunological characteristics govern the transition of COVID-19 to endemicity
  - Immunological memory to SARS-CoV-2 assessed for up to 8 months after infection

- **medRxiv**
  - Model-informed COVID-19 vaccine prioritization strategies by age and serostatus
  - The association between mechanical ventilator availability and mortality risk in intensive care patients with COVID-19: A national retrospective cohort study
  - School closures and SARS-CoV-2. Evidence from Sweden’s partial school closure

- **Centre for Research & Analysis of Migration**
  - The Role of Schools in Transmission of the SARS-CoV-2 Virus: Quasi-Experimental Evidence from Germany

- **Journal of Public Economics**
  - What the COVID-19 School Closure Left in Its Wake: Evidence from a Regression Discontinuity Analysis in Japan

**MMWR**
- Emergence of SARS-CoV-2 B.1.1.7 Lineage — United States, December 29, 2020–January 12, 2021
- COVID-19 Trends Among Persons Aged 0–24 Years — United States, March 1–December 12, 2020
- Evaluation of Abbott BinaxNOW Rapid Antigen Test for SARS-CoV-2 Infection at Two Community-Based Testing Sites — Pima County, Arizona, November 3–17, 2020

**HOT OFF THE (LAY) PRESS**
- **Nature News**
  - Could new COVID variants undermine vaccines? Labs scramble to find out

- **The Atlantic**
  - A Troubling New Pattern Among the Coronavirus Variants
  - Listen: Coronavirus Mutations
  - The Coronavirus Is Evolving Before Our Eyes

- **New York Times**
  - Coronavirus Vaccine Tracker
  - Underselling the Vaccine
  - Confused About the Vaccine Rollout? You’re Not Alone
  - President-elect Joe Biden is planning to push for expanded access to the vaccine while emphasizing equity in distribution, including to those in jail.
  - Biden Pledges Federal Vaccine Campaign to Beat a Surging Coronavirus
  - States are scrambling after the Trump administration’s vaccine promise falls apart
  - Overwhelmed, More States Turn to National Guard for Vaccine Help
  - Cash, Breakfasts and Firings: An All-Out Push to Vaccinate Wary Medical Workers
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- Inside a Nursing Home as Vaccine Arrives: 'I Hope Everybody Takes It'
- Doctor’s Death After Covid Vaccine Is Being Investigated
- Johnson & Johnson Expects Vaccine Results Soon but Lags in Production
- Disappointing Chinese Vaccine Results Pose Setback for Developing World
- Facing New Outbreaks, China Places Over 22 Million on Lockdown
- One Year, 400,000 Coronavirus Deaths: How the U.S. Guaranteed Its Own Failure
- The faster-spreading variant of the coronavirus is projected to become the dominant source of infection in the U.S. by March, the C.D.C. said.
- How British Scientists Found the More Infectious Coronavirus Variant
- What Does a More Contagious Virus Mean for Schools?
- San Francisco's Tech Workers: They Can’t Leave the Bay Area Fast Enough
- Coronavirus-related deaths have now surpassed two million around the world, just over a year after the virus was first detected in China.
- One Mask Is Good. Would Two Be Better?

- Medscape
  - 5 Reasons to Wear a Mask Even After You're Vaccinated
  - Biden Chooses Ex FDA Chief Kessler to Help Lead US Vaccine Drive
  - The Next Likely COVID-19 Vaccine Has Its Advantages
  - Feds Plead for Greater Use of Monoclonal Antibodies to Fight COVID
  - Averting COVID Hospitalizations With Monoclonal Antibodies

- BBC News
  - Sinovac: Brazil results show Chinese vaccine 50.4% effective

- The Wall Street Journal
  - Chinese Covid-19 Vaccine Far Less Effective Than Initially Touted in Brazil
  - Israel’s Covid-19 Vaccinations Hold Lessons for U.S.
  - The Science Behind How the Coronavirus Affects the Brain

- Medpage Today
  - The Distribution Debacle—"This should be a wartime mobilization for a wartime effort," says Leana Wen, MD

- The BMJ News
  - Covid-19: Norway investigates 23 deaths in frail elderly patients after vaccination

- Bloomberg
  - Norway Warns of Vaccination Risks for Sick Patients Over 80
  - Vaccine Skepticism Extends Even to Health Workers Fighting Covid
  - More Than 46.2 Million Shots Given: Covid-19 Vaccine Tracker
  - What Makes Building Ventilation Good Enough to Withstand a Pandemic?

- The Ohio State University Wexner Medical Center
  - Researchers Discover New Variant of COVID-19 Virus in Columbus, Ohio

- The Hill
  - WHO: Japan identifies another new coronavirus variant
  - Moderna says it's investigating reported allergic reactions to COVID-19 vaccine
  - California recommends pause in administering one batch of Moderna vaccine due to possible allergic reaction

- Moderna Press Releases
  - Statement on California Department of Public Health (CDPH) Report
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- **USA Today**
  - Moderna struggles to find 3,000 adolescent volunteers needed for COVID-19 vaccine trial

- **Public Health England Press Releases**
  - Past COVID-19 infection provides some immunity but people may still carry and transmit virus

- **JAMA News**
  - Health Workers’ Antibody Levels Wane After SARS-CoV-2 Infection

- **NEJM Journal Watch**
  - Vaccine [Rollout] Reactions — In Support of Residents

- **PBS**
  - Medical community scrambles to understand COVID-19 ‘long haulers’
  - Inside the attempt to build trust about the COVID-19 vaccine in Black communities

- **AMA**
  - How to overcome COVID-19 vaccine hesitancy among Black patients

- **NPR/KQED**
  - 'You Can't Treat If You Can't Empathize': Black Doctors Tackle Vaccine Hesitancy
  - Santa Clara County Jail Inmates Start Hunger Strike In Wake of COVID Outbreaks
  - 4,400 Moderna Vaccine Doses Not Kept Cold Enough May Be Unusable
  - San Francisco Department of Public Health Expects to Run Out of Vaccine by Thursday

- **Reuters**
  - Biden unveils 5-point plan to speed vaccine rollout
  - Pfizer vaccine appears effective against coronavirus variant found in Britain - study
  - Pfizer says it has second doses of COVID-19 shot on hand, expects no U.S. supply problems
  - U.S. releases millions of COVID-19 doses, urges states to broaden vaccine access
  - U.S. to buy 1.25 million additional doses of Regeneron's COVID-19 antibody cocktail
  - COVID-19 infection gives some immunity for at least 5 months, UK study finds
  - COVID-19 infection gives some immunity, but virus can still be spread, study finds
  - U.S. to require negative COVID-19 tests for arriving international air passengers

- **CNBC**
  - No vaccine, no service: How vaccinations may affect travel plans in the future

- **Science**
  - After aborted attempt, sensitive WHO mission to study pandemic origins is on its way to China
  - COVID-19 measures also suppress flu—for now

- **Los Angeles Times**
  - UC, USC plan to have students back on campus in the fall for classes
  - More contagious coronavirus strain detected in L.A. County as total cases top 1 million
  - 'Light at the end of tunnel' or a small blip? Flattening COVID-19 numbers bring guarded optimism in California.
  - Fight against COVID-19 hits wall of defiance in rural California: 'The excuses just go on'

- **The Sacramento Bee**
  - Stay-at-home COVID order lifted for greater Sacramento region

- **The Washington Post**
  - Another coronavirus variant linked to growing share of cases, several large outbreaks, in California

- **Newsweek**
  - L452R COVID Variant in California Linked to Several Outbreaks a 'Red Flag'
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- **San Francisco Chronicle**
  - [Bay Area has its own scary new virus variant: Why experts are so concerned](#)
  - [California braces for troubling new variant as U.S. nears 400,000 deaths](#)
  - [New coronavirus variant found in Bay Area linked to massive Kaiser outbreak](#)
  - [Can vaccines keep up with coronavirus mutations? Bay Area variant will be a test](#)
  - [Bay Area funeral homes cope with COVID-19 onslaught, and things could get worse](#)
  - [COVID death rate steadily declining in California, even through recent surge](#)
  - [California calls for pause in use of huge batch of Moderna vaccines after allergic reactions](#)
  - [California has 2 million unused doses of vaccine even as demand soars. Here’s why](#)
  - [California opens vaccinations to everyone 65 and older, as hospitals struggle with COVID-19 surge](#)
  - [California planning to make big changes to vaccination plan — after feds direct states to do so](#)
  - [‘We are flying blind’: Bay Area politicians say they’re in the dark about vaccine rollout](#)
  - [Moving California teachers to the front of the vaccine line might not be enough to reopen schools](#)
  - [Kaiser apologizes for long phone wait times amid huge vaccine demand](#)
  - [Two Bay Area community clinics cut through red tape to speed vaccines for seniors](#)

- **Cal Matters**
  - [Vaccine chaos: Californians scramble for shots amid mixed messaging](#)

- **CNN**
  - [Here's why we can have some hope about the Covid pandemic](#)

**Epidemiology Updates**

- CDC COVID Data Tracker
  - [United States COVID-19 Cases and Deaths by State](#)
  - [COVID-19 Vaccinations in the United States](#)

- **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 21, 2021

- **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
- [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