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October 19, 2021

CLINICAL PEARL

- Researchers have shown that it is theoretically possible to create a vaccine that protects not just against COVID-19 and its variants, but also related distinct viruses in the same family that are also responsible for disease. According to a Nature article, a protein-based nanoparticle vaccine together with a common adjuvant (alum) generated cross-neutralizing antibodies in a macaque model. The vaccine’s elicited antibodies neutralizing batCoVs, SARS-CoV-1, SARS-CoV-2, and SARS-CoV-2 variants B.1.1.7 (UK), P.1 (Brazil), and B.1.351 (South Africa). This receptor-binding domain (RBD)-based vaccine provided protective immunity against SARS-CoV-2 in the immunized macaques. Interestingly, an mRNA version of this vaccine also elicited antibodies against SARS-CoV-1 and batCoVs, albeit at lower titers than the protein nanoparticle version. These data demonstrate the possibility of not only highly efficacious specific vaccines for emergent zoonotic viruses, but general vaccines against entire families of viruses as well.

PUBLIC HEALTH UPDATES

- Bay Area Health Officers Issue Criteria for Lifting COVID-19 Indoor Masking Requirements
- California Becomes First State in Nation to Announce COVID-19 Vaccine Will Be Added to List of Required School Vaccinations
- FDA to Hold Advisory Committee Meetings to Discuss Emergency Use Authorization for Booster Doses and COVID-19 Vaccines for Younger Children
- FDA Authorizes Additional OTC Home Test to Increase Access to Rapid Testing for Consumers

GUIDELINES/GUIDANCE

- CDC Health Advisory COVID-19 Vaccination for Pregnant People to Prevent Serious Illness, Deaths, and Adverse Pregnancy Outcomes from COVID-19
- WHO: A clinical case definition of post COVID-19 condition by a Delphi consensus

RESOURCES

- FDA Briefing Document EUA amendment request for a booster dose of the Moderna COVID-19 Vaccine
- CDC/IDSA COVID-19 Clinician Call:
  - Diagnosis and Treatment of Respiratory Illness This Winter Season
- Center for Infectious Disease Research and Policy (CIDRAP) Osterholm Update:
  - Boosting the Vaccination Effort
  - Don't Think Like June
  - A Surge in Optimism
- CIDRAP Commentary
  - What can masks do? Part 2: What makes for a good mask study — and why most fail
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ACADEMIC/RESEARCH PAPERS

- **medRxiv**

- **Eurosurveillance**
  - Effectiveness of COVID-19 vaccines against SARS-CoV-2 infection with the Delta (B.1.617.2) variant: second interim results of a living systematic review and meta-analysis, 1 January to 25 August 2021

- **The Lancet**
  - Effectiveness of mRNA BNT162b2 COVID-19 vaccine up to 6 months in a large integrated health system in the USA: a retrospective cohort study
  - The Safety and Immunogenicity of Concomitant Administration of COVID-19 Vaccines (ChAdOx1 or BNT162b2) with Seasonal Influenza Vaccines in Adults: A Phase IV, Multicentre Randomised Controlled Trial with Blinding (ComFluCOV)
  - COVID-19 hospital admissions and deaths after BNT162b2 and ChAdOx1 nCoV-19 vaccinations in 2.57 million people in Scotland (EAVE II): a prospective cohort study
  - Severe breakthrough COVID-19 infections in Scotland—implications for immunisation programmes
  - The durability of immunity against reinfection by SARS-CoV-2: a comparative evolutionary study
  - Physical, cognitive, and mental health impacts of COVID-19 after hospitalisation (PHOSP-COVID): a UK multicentre, prospective cohort study
  - Effect of COVID-19 pandemic lockdowns on planned cancer surgery for 15 tumor types in 61 countries: an international, prospective, cohort study
  - Extracorporeal membrane oxygenation for COVID-19: evolving outcomes from the international Extracorporeal Life Support Organization Registry
  - Persistent depressive symptoms during COVID-19: a national, population-representative, longitudinal study of U.S. adults
  - All-cause and cause-specific mortality in people with mental disorders and intellectual disabilities, before and during the COVID-19 pandemic: cohort study
  - Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic

- **New England Journal of Medicine**
  - Waning of BNT162b2 Vaccine Protection against SARS-CoV-2 Infection in Qatar
  - Waning Immune Humoral Response to BNT162b2 Covid-19 Vaccine over 6 Months
  - Myocarditis after BNT162b2 mRNA Vaccine against Covid-19 in Israel
  - Myocarditis after Covid-19 Vaccination in a Large Health Care Organization
  - REGEN-COV Antibody Combination and Outcomes in Outpatients with Covid-19

- **Nature**
  - Immune responses to two and three doses of the BNT162b2 mRNA vaccine in adults with solid tumors
  - Asymptomatic COVID-19 Adult Outpatients identified as Significant Viable SARS-CoV-2 Shedders

- **JAMA**
  - Acute Myocarditis Following COVID-19 mRNA Vaccination in Adults Aged 18 Years or Older
  - COVID-19 Messenger RNA Vaccination and Myocarditis—A Rare and Mostly Mild Adverse Effect
  - COVID-19 Vaccine Decision-making Factors in Racial and Ethnic Minority Communities in Los Angeles, California
  - Changes in COVID-19 Vaccine Intent From April/May to June/July 2021
  - Assessment of Communication Strategies for Mitigating COVID-19 Vaccine-Specific Hesitancy in Canada
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- Association Between Statewide COVID-19 Lottery Announcements and Vaccinations
- Association of the COVID-19 Pandemic With Routine Childhood Vaccination Rates and Proportion Up to Date With Vaccinations Across 8 US Health Systems in the Vaccine Safety Datalink
- Transmission of SARS-CoV-2 After COVID-19 Screening and Mitigation Measures for Primary School Children Attending School in Liège, Belgium
- Association of Children’s Physical Activity and Screen Time With Mental Health During the COVID-19 Pandemic
- Incidence Rates, Household Infection Risk, and Clinical Characteristics of SARS-CoV-2 Infection Among Children and Adults in Utah and New York City, New York
- Association Between Risk of COVID-19 Infection in Nonimmune Individuals and COVID-19 Immunity in Their Family Members
- Association Between Housing Insecurity, Psychological Distress, and Self-rated Health Among US Adults During the COVID-19 Pandemic
- Short-term and Long-term Rates of Postacute Sequelae of SARS-CoV-2 Infection - A Systematic Review
- Symptoms and Health Outcomes Among Survivors of COVID-19 Infection 1 Year After Discharge From Hospitals in Wuhan, China
- Efficacy and Safety of Therapeutic-Dose Heparin vs Standard Prophylactic or Intermediate-Dose Heparins for Thromboprophylaxis in High-risk Hospitalized Patients With COVID-19 - The HEP-COVID Randomized Clinical Trial
- Administration of Monoclonal Antibody for COVID-19 in Patient Homes
- Rates of Prenatal Cannabis Use Among Pregnant Women Before and During the COVID-19 Pandemic
- Assessment of Out-of-Pocket Spending for COVID-19 Hospitalizations in the US in 2020

- Clinical Epidemiology
  - Recalibrating SARS-CoV-2 Antigen Rapid Lateral Flow Test Relative Sensitivity from Validation Studies to Absolute Sensitivity for Indicating Individuals Shedding Transmissible Virus

- Emerging Infectious Diseases
  - Predictors of Test Positivity, Mortality, and Seropositivity during the Early Coronavirus Disease Epidemic, Orange County, California, USA
  - Point-of-Care Antigen Test for SARS-CoV-2 in Asymptomatic College Students
  - Severe Acute Respiratory Syndrome Coronavirus 2 and Pregnancy Outcomes According to Gestational Age at Time of Infection
  - Effectiveness of BNT162b2 Vaccine in Adolescents during Outbreak of SARS-CoV-2 Delta Variant Infection, Israel, 2021
  - Direct and Indirect Effectiveness of mRNA Vaccination against Severe Acute Respiratory Syndrome Coronavirus 2 in Long-Term Care Facilities, Spain
  - Breakthrough Infections of SARS-CoV-2 Gamma Variant in Fully Vaccinated Gold Miners, French Guiana, 2021
  - Guillain-Barré Syndrome Associated with COVID-19 Vaccination
  - Emergence of SARS-COV-2 Spike Protein Escape Mutation Q493R after Treatment for COVID-19
  - SARS-CoV-2 Neutralization Resistance Mutations in Patient with HIV/AIDS, California, USA
  - SARS-CoV-2 Variants in Immunocompromised Patient Given Antibody Monotherapy
  - Severe Acute Respiratory Syndrome Coronavirus 2 Transmission in Georgia, USA, February 1–July 13, 2020
  - Multiple Transmission Chains within COVID-19 Cluster, Connecticut, USA, 2020
  - Genomic Sequencing of SARS-CoV-2 E484K Variant B.1.243.1, Arizona, USA
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- SARS-CoV-2 Delta Variant among Asiatic Lions, India
- SARS-CoV-2 Shedding in Semen and Oligozoospermia of Patient with Severe Coronavirus Disease 11 Weeks after Infection
- Effectiveness of International Travel Controls for Delaying Local Outbreaks of COVID-19
- Genetic Diversity of SARS-CoV-2 among Travelers Arriving in Hong Kong
- Mask Effectiveness for Preventing Secondary Cases of COVID-19, Johnson County, Iowa, USA
- Characteristics, Comorbidities, and Data Gaps for Coronavirus Disease Deaths, Tennessee, USA

- The Journal of Infectious Diseases
  - Risk factors for COVID-19 deaths among elderly nursing home Medicare beneficiaries in the pre-vaccine period
  - Virologic features of SARS-CoV-2 infection in children

- CMAJ
  - Evaluation of the relative virulence of novel SARS-CoV-2 variants: a retrospective cohort study in Ontario, Canada

- Science
  - Genomic characterization and epidemiology of an emerging SARS-CoV-2 variant in Delhi, India

- Clinical Infectious Diseases
  - SARS-CoV-2 Dose, Infection, and Disease Outcomes for COVID-19 – A Review
  - Remdesivir treatment in hospitalized patients with COVID-19: a comparative analysis of in-hospital all-cause mortality in a large multi-center observational cohort

- Open Forum Infectious Diseases
  - Real-world Assessment of 2,879 COVID-19 Patients Treated with Monoclonal Antibody Therapy: A Propensity Score-Matched Cohort Study

- PLOS
  - Transmission of community- and hospital-acquired SARS-CoV-2 in hospital settings in the UK: A cohort study
  - Severe COVID-19 in inflammatory bowel disease patients in a population-based setting
  - Predictive symptoms for COVID-19 in the community: REACT-1 study of over 1 million people
  - Impact of obesity on intensive care outcomes in patients with COVID-19 in Sweden—A cohort study
  - The impact of the COVID-19 response on the provision of other public health services in the U.S.: A cross sectional study
  - Effects of political versus expert messaging on vaccination intentions of Trump voters

- American Journal of Infection Control
  - COVID-19 Vaccination Hesitancy among Health Care Workers, Communication, and Policy-Making

- Journal of Experimental Medicine
  - Glycan engineering of the SARS-CoV-2 receptor-binding domain elicits cross-neutralizing antibodies for SARS-related viruses

- Journal of Clinical Investigation
  - COVID-19 and RA share an SPP1 myeloid pathway that drives PD-L1+ neutrophils and CD14+ monocytes
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- **Pediatric Cardiology**
  - Echocardiographic Findings and Correlation with Laboratory Values in Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with COVID-19
- **Pediatrics**
  - COVID-19-Associated Orphanhood and Caregiver Death in the United States
- **Brain**
  - Guillain-Barré syndrome after SARS-CoV-2 infection in an international prospective cohort study
- **The Journal of Clinical Endocrinology and Metabolism**
  - Age and Hospitalization Risk in People With Type 1 Diabetes and COVID-19: Data From the T1D Exchange Surveillance Study
- **Kidney International**
  - Antibody and T cell response to a third dose of SARS-CoV-2 messenger RNA BNT162b2 vaccine in kidney transplant recipients.
- **Rheumatology International**
  - Reactive arthritis after COVID-19: a case-based review
- **World Psychiatry**
  - Increased risk for COVID-19 breakthrough infection in fully vaccinated patients with substance use disorders in the United States between December 2020 and August 2021
- **The British Journal of Psychiatry**
  - Pre-pandemic mental health and disruptions to healthcare, economic and housing outcomes during the COVID-19 pandemic: evidence from 12 UK longitudinal studies
- **American Journal of Public Health**
  - Vaccine Coverage Across the Life Course in Michigan During the COVID-19 Pandemic: January–September 2020
- **American Journal of Preventive Medicine**
  - Governor’s Party, Policies, and COVID-19 Outcomes: Further Evidence of an Effect
- **ASPE Research Report**
  - Associations Between County-level Vaccination Rates and COVID-19 Outcomes Among Medicare Beneficiaries

**MMWR**

- Safety Monitoring of an Additional Dose of COVID-19 Vaccine — United States, August 12–September 19, 2021
- Distribution of SARS-CoV-2 Variants in a Large Integrated Health Care System — California, March–July 2021
- Multicomponent Strategies to Prevent SARS-CoV-2 Transmission — Nine Overnight Youth Summer Camps, United States, June–August 2021
- COVID-19 Outbreaks at Youth Summer Camps — Louisiana, June–July 2021
- National and State Trends in Anxiety and Depression Severity Scores Among Adults During the COVID-19 Pandemic — United States, 2020–2021
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HOT OFF THE (LAY) PRESS

- **CDC News**
  - The Hidden U.S. COVID-19 Pandemic: Orphaned Children – More than 140,000 U.S. Children Lost a Primary or Secondary Caregiver Due to the COVID-19 Pandemic

- **European Centre for Disease Prevention and Control**
  - High risk of autumn surge in COVID-19 cases and deaths in countries with insufficient vaccination coverage, warns ECDC

- **European Medicines Agency**
  - Comirnaty and Spikevax: EMA recommendations on extra doses and boosters

- **New York Times**
  - An F.D.A. advisory panel recommended boosters of the J.&J. vaccine for those 18 and older at least two months after the first shot.
  - An F.D.A. analysis questioned the strength of the evidence Johnson & Johnson provided for booster shots.
  - An F.D.A. advisory panel voted to recommend a booster of the Moderna vaccine for those 65 and older as well as younger adults at high risk.
  - Boosters Are Complicating Efforts to Persuade the Unvaccinated to Get Shots
  - F.D.A to allow “Mix and Match” Approach for Covid Booster shots
  - A New Vaccine Strategy for Children: Just One Dose, for Now
  - Pfizer asked the F.D.A. to authorize its Covid vaccine for ages 5 to 11, bringing more than 28 million children closer to being eligible for the shot.
  - California plans to require F.D.A.-approved Covid vaccines for K-12 students as early as next fall, the first state to announce such a mandate.
  - A federal study finds that vaccines are preventing large numbers of deaths among U.S. seniors
  - Many health workers at big U.S. hospital chains with vaccine mandates are getting shots
  - The C.D.C. escalates its pleas for pregnant or breastfeeding Americans to get vaccinated against COVID
  - Los Angeles requires proof of vaccination to enter many businesses, one of the nation’s strictest rules.
  - Fully vaccinated foreigners can enter the U.S. starting Nov. 8, a White House official said.
  - The U.S. will open the Canada and Mexico borders for fully vaccinated travelers in November, lifting a 19-month ban that began with the pandemic.
  - Italy is requiring all workers to be vaccinated or take frequent coronavirus tests, the most sweeping mandate yet by a major Western democracy.
  - YouTube is banning all vaccine misinformation from its platform as part of an effort to reduce the spread of false claims about immunizations.
  - They resisted getting vaccinated. Here’s why they changed their minds.
  - First, impressive vaccines for COVID. Next up: the flu.
  - Merck will seek authorization for the first antiviral pill for Covid. A trial found that it halved the risk of hospitalization or death for some people.
  - An Ocean Away, I Found Some Common Sense on Mask Wearing
  - With Masks On or Off, Schools Try to Find the New Normal
  - W.H.O. Will Announce New Team to Study Coronavirus Origins
  - California’s National Guard is deployed to assist four beleaguered hospitals.
  - Most of the recently dead were in the South and unvaccinated, and there were more younger victims than any other point in the pandemic.
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- What the future may hold for the Coronavirus and us
- Why Public Health Faces a Crisis Across the U.S.

**Pfizer Press Releases**
- PFIZER AND BIONTECH SUBMIT INITIAL DATA TO U.S. FDA FROM PIVOTAL TRIAL OF COVID-19 VACCINE IN CHILDREN 5 TO <12 YEARS OF AGE
- PFIZER STARTS GLOBAL PHASE 2/3 EPIC-PEP STUDY OF NOVEL COVID-19 ORAL ANTIVIRAL CANDIDATE FOR POST-EXPOSURE PROPHYLAXIS IN ADULTS

**Moderna Press Releases**
- Moderna to Build State-of-the-Art mRNA Facility in Africa to Manufacture up to 500 Million Doses Per Year

**Merck News Releases**
- Merck and Ridgeback Announce Submission of Emergency Use Authorization Application to the U.S. FDA for Molnupiravir, an Investigational Oral Antiviral Medicine, for the Treatment of Mild-to-Moderate COVID-19 in At Risk Adults
- Merck and Ridgeback's Investigational Oral Antiviral Molnupiravir Reduced the Risk of Hospitalization or Death by Approximately 50 Percent Compared to Placebo for Patients with Mild or Moderate COVID-19 in Positive Interim Analysis of Phase 3 Study

**BBC News**
- Positive trial results for Valneva Covid vaccine

**CNBC News**
- White House calls on pediatricians to help with rollout of kids’ Covid vaccine starting as early as next month

**NBC News**
- White House tells states to prepare for Covid vaccinations in young children
- FDA won't extend shelf life of J&J Covid vaccine doses, may extend life of millions of Moderna shots

**CNN**
- These Southern states have fully vaccinated less than a third of eligible adolescents. That gap could widen with younger children, expert says
- Human behavior will determine when the Covid-19 pandemic ends, CDC director says
- China has built a 5,000-room quarantine center for overseas arrivals. It could be the first of many

**Kaiser Family Foundation News**
- Surging Delta Variant Cases, Hospitalizations, and Deaths Are Biggest Drivers Of Recent Uptick in U.S. COVID-19 Vaccination Rates
- Covid Is Killing Rural Americans at Twice the Rate of Urbanites

**The Washington Post**
- Biden urges more people to get vaccinated as FDA panel recommends Moderna booster
- Covid cases in kids are soaring. In Tennessee, most remain unmasked and unvaccinated.
- New York governor declares emergency amid staffing shortage crisis prompted by vaccine resisters
- San Francisco lays out plans to ease indoor mask mandate
- United Airlines says nearly all workers met vaccine mandate deadline, 593 could face termination

**The Wall Street Journal**
- American Airlines, Alaska, JetBlue Orders Workers to Get Covid-19 Vaccinations
- Return of Office Workers Reaches Pandemic High as Employees Trickle In
- FDA Delays Moderna Covid-19 Vaccine for Adolescents to Review Rare Myocarditis Side Effect
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- Reuters
  - Rebuffing Texas governor, American Airlines, Southwest stand by vaccine mandate
  - Sweden, Denmark pause Moderna COVID-19 vaccine for younger age groups
  - Finland joins Sweden and Denmark in limiting Moderna COVID-19 vaccine
  - Brazil regulator to probe hospital chain over use of hydroxychloroquine
  - Thailand joins Asian nations in rush to buy Merck’s COVID-19 pill
  - In a first, COVAX to send COVID shots only to least covered nations

- Fierce Biotech
  - FDA greenlights combination at-home test for COVID and influenza in children as flu season approaches

- The Hill
  - Biden under pressure to expand rapid COVID-19 testing
  - 62 percent of police deaths last year were COVID-19-related: analysis
  - Support for governors sliding in states without vaccine mandates: survey

- Politico
  - Top CDC official steps aside as head of pandemic task force
  - Fauci tamps down concern about Covid-19 booster review process

- The New Yorker
  - Another Winter of COVID
  - The Mysterious Case of the COVID-19 Lab-Leak Theory

- Nature News
  - ‘I hope you die’: how the COVID pandemic unleashed attacks on scientists

- EurekaAlert
  - Heavy users of conservative media more willing to take ivermectin for COVID-19

- AP News
  - Los Angeles OKs one of strictest US vaccination mandates
  - COVID vaccine mandate takes effect for NYC teachers, staff
  - School board group asks US for help policing threats
  - Anti-vaccine chiropractors rising force of misinformation
  - AP-NORC poll: Virus fears linger for vaccinated older adults

- AXIOS
  - Axios-Ipsos poll: Parents may not want vaccine for young kids

- KFF Polling
  - KFF COVID-19 Vaccine Monitor: Vaccination Trends Among Children And COVID-19 In Schools

- NPR
  - People who want organ transplants must get the COVID-19 vaccine, a hospital says
  - With hospitals crowded from COVID, 1 in 5 American families delays health care
  - California will require all schoolchildren to get a COVID vaccine once fully approved

- Los Angeles Times
  - Newsom orders COVID vaccines for eligible students, the first state mandate for K-12 schools
  - Pfizer vaccine for kids may not be available until November
  - Facing major campus disruption and firings, LAUSD extends staff COVID-vaccine deadline
  - FDA panel endorses a booster shot for J&J’s COVID-19 vaccine
  - Vaccine alters California’s coronavirus path: Urban areas improve, rural parts suffer
  - California is shaking off the worst of the Delta variant surge
  - L.A. puts off vote on vaccination requirement for indoor venues
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- **ABC News**
  - Bay Area mask mandates: Health officials say ‘meet these 3 metrics before we mask off indoors’

- **Mercury News**
  - Here’s what Bay Area health officers say will end our mask mandate

- **SF Gate**
  - Were California county mask mandates effective against delta? Here's what the data says.

- **San Francisco Chronicle**
  - Masks likely won’t come off until Bay Area kids are vaccinated
  - San Francisco to lift some mask rules Oct. 15th; other Bay Area mask mandates likely to remain for months
  - 'I'm tired of all this': Even in Bay Area, mask fatigue is rising fast
  - These charts show the incredibly stark difference between COVID-19 death rates between vaccinated and unvaccinated in California
  - Adult, senior care, and in-home workers must be fully vaccinated, new California order says
  - Maps show Bay Area counties among the few in U.S. at ‘moderate’ COVID level
  - Confusion cited as boosters lag among Bay Area’s older adults

**Epidemiology Updates**

- **CDC COVID Data Tracker**
  - 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 October 19, 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
- CDC Interactive Serology Dashboard for Commercial Laboratory Surveys
- Children and COVID-19: State-Level Data Report (New data!)
- HHS Coronavirus Data Hub
- COVID-19 Nursing Home Data