CLINICAL PEARL

COVID-19 vaccines update:
On May 12, 2021, the Advisory Committee on Immunization Practices (ACIP) issued an interim recommendation for use of the Pfizer-BioNTech COVID-19 vaccine in adolescents ages 12–15 years under the Food and Drug Administration’s Emergency Use Authorization. The Pfizer/BioNTech vaccine dose is the same for adolescents as adults (two intramuscular injections, delivered 3 weeks apart), and is not a weight-based dose. The estimated efficacy of Pfizer-BioNTech COVID-19 vaccine was 100% in preventing symptomatic, laboratory-confirmed COVID-19 in adolescents ages 12–15 years without evidence of previous SARS-CoV-2 infection. The immune response of adolescents in this age group was similar to that observed in adolescents and young adults ages 16–25 years. Among adolescent vaccine recipients ages 12–15 years, reactogenicity symptoms during the 7 days after vaccination were frequent (90.9% of vaccine recipients reported any local reaction and 90.7% reported any systemic reaction) and mostly mild to moderate. Pain at the injection site was the most common local reaction. Systemic adverse reactions (e.g., fever, fatigue, headache, muscle pain) were more commonly reported after the second dose than after the first dose. The local and systemic reactions were similar to those reported in persons aged ≥16 years. No specific safety concerns were identified among adolescent vaccine recipients.

COVID-19 vaccines were previously recommended to be administered alone, with a minimum interval of 14 days before or after administration of any other vaccines. This was out of an abundance of caution and not due to any known safety or immunogenicity concerns. However, substantial data have now been collected regarding the safety of COVID-19 vaccines currently authorized by FDA for use under EUA. Although data are not available for COVID-19 vaccines administered simultaneously with other vaccines, extensive experience with non-COVID-19 vaccines has demonstrated that immunogenicity and adverse event profiles are generally similar when vaccines are administered simultaneously as when they are administered alone. COVID-19 vaccines and other vaccines may now be administered without regard to timing. This includes simultaneous administration of COVID-19 vaccines and other vaccines on the same day, as well as coadministration within 14 days. It is unknown whether reactogenicity of COVID-19 vaccine is increased with coadministration, including with other vaccines known to be more reactogenic, such as adjuvanted vaccines or live vaccines. When deciding whether to co-administer another vaccine(s) with the COVID-19 vaccine, providers should consider whether the patient is behind or at risk of becoming behind on recommended vaccines, his/her risk of vaccine-preventable disease (e.g., during an outbreak or occupational exposures), and the reactogenicity profile of the vaccines. If multiple vaccines are administered at a single visit, each injection should be given in a different injection site. For adolescents and adults, the deltoid muscle can be used for more than one intramuscular injection. Injection sites should be separated by 1 inch or more, if possible. The COVID-19 vaccine and vaccines that may be more likely to cause a local reaction (e.g., tetanus-toxoid-containing and adjuvanted vaccines) should be administered in different limbs, if possible.

Currently, there are no data on the safety and efficacy of COVID-19 vaccines in people with a history of multisystem inflammatory syndrome in children (MIS-C) or in adults (MIS-A). The mechanisms of MIS-C and MIS-A are not well understood but include a dysregulated immune response to SARS-CoV-2 infection. It is unclear if people with a history of MIS-C or MIS-A are at risk of recurrence of the same dysregulated immune response following reinfection with SARS-CoV-2 or in response to vaccination. These theoretical concerns should be weighed against the known risks of
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COVID-19 from reinfection and the benefits of protection from a COVID-19 vaccine. Children with MIS-C have high antibody titers to SARS-CoV-2; however, it is unknown if this correlates with protection against reinfection and how long protective antibody levels persist. People with a history of MIS-C or MIS-A may choose to be vaccinated. Current evidence suggests that the risk of SARS-CoV-2 reinfection is low in the months after initial infection but may increase with time due to waning immunity. Therefore, people with a history of MIS-C or MIS-A should consider delaying vaccination until they have recovered from their illness and for 90 days after the date of diagnosis of MIS-C or MIS-A, recognizing that the risk of reinfection and, therefore, the benefit from vaccination, might increase with time following initial infection. Other factors may include clinical recovery from MIS-C or MIS-A, including return to normal cardiac function, as well as personal risk of severe acute COVID-19 due to age or underlying conditions, level of COVID-19 community transmission, personal risk of reinfection, as well as the timing of immunomodulatory therapies, if applicable.

PUBLIC HEALTH UPDATES
- FDA
  - FDA authorizes Pfizer vaccine storage at 2C to 8C for up to 1 month
  - Statement on Leronlimab
- WHO Scientific Brief COVID-19 natural immunity
- European Medicines Agency More flexible storage conditions for BioNTech/Pfizer’s COVID-19 vaccine

GUIDANCE/GUIDELINES
- CDC: Interim Public Health Recommendations for Fully Vaccinated People
- IDSA: IDSA and HIVMA Respond to New CDC Masking Guidance for Fully Vaccinated People
- Bay Area Health Officers Support California Face Masking Guidance

RESOURCES
- CDC COCA Call: What Clinicians Need to Know About Pfizer-BioNTech COVID-19 Vaccination of Adolescents
- CDC/IDSA
  - COVID-19 Clinician Call Pfizer-BioNTech’s COVID-19 Vaccine for Adolescents (12 to 15 Years of Age)
- IDSA
  - Media Briefing: CDC Mask Guidance
  - Treatments: What Works, What Doesn’t & What We Still Need To Know
- The National Personal Protective Technology Laboratory (NPPTL) Respirator Assessments to Support the COVID-19 Response
- Rural Health Information Hub (RHIhub)
  - COVID-19 Vaccination in Rural Areas
  - Rural Response to Coronavirus Disease 2019 (COVID-19)
- Center for Infectious Disease Research and Policy

ACADEMIC/RESEARCH PAPERS
- medRxiv
  - Extended interval BNT162b2 vaccination enhances peak antibody generation in older people
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- **Nature**
  - Neutralizing antibody levels are highly predictive of immune protection from symptomatic SARS-CoV-2 infection
  - Equitable allocation of COVID-19 vaccines in the United States

- **JAMA**
  - Immunogenicity of COVID-19 mRNA Vaccines in Pregnant and Lactating Women
  - Characteristics Associated With Multisystem Inflammatory Syndrome Among Adults With SARS-CoV-2 Infection
  - Trends in Home Birth Information Seeking in the United States and United Kingdom During the COVID-19 Pandemic
  - Assessment of a Crowdsourcing Open Call for Approaches to University Community Engagement and Strategic Planning During COVID-19

- **Lancet**
  - Heterologous prime-boost COVID-19 vaccination: initial reactogenicity data
  - Convalescent plasma in patients admitted to hospital with COVID-19 (RECOVERY): a randomised controlled, open-label, platform trial
  - Convalescent plasma in patients hospitalised with COVID-19

- **Mayo Clinic Proceedings**
  - Post COVID-19 Syndrome (Long Haul Syndrome): Description of a Multidisciplinary Clinic at the Mayo Clinic and Characteristics of the Initial Patient Cohort

- **Clinical Infectious Diseases**
  - Population-based estimates of post-acute sequelae of SARS-CoV-2 infection (PASC) prevalence and characteristics
  - Risk of SARS-CoV-2 reinfection in a university student population

- **Cleveland Clinic Journal of Medicine**
  - What is causing the ‘long-hauler’ phenomenon after COVID-19?
  - Blood management during the COVID-19 pandemic
  - Burnout of healthcare providers during COVID-19

- **Annals of Internal Medicine**
  - Serial SARS-CoV-2 Receptor-Binding Domain Antibody Responses in Patients Receiving Dialysis

- **Journal of Virology**
  - Host-virus chimeric events in SARS-CoV2 infected cells are infrequent and artifactual

- **PNAS**
  - Reverse-transcribed SARS-CoV-2 RNA can integrate into the genome of cultured human cells and can be expressed in patient-derived tissues

- **Molecular Therapy**
  - A SARS-CoV-2 targeted siRNA-nanoparticle therapy for COVID-19

- **Open Forum Infectious Diseases**
  - Impact of bamlanivimab monoclonal antibody treatment on hospitalization and mortality among non-hospitalized adults with SARS-CoV-2 infection

- **Emerging Infectious Diseases**
  - Industry Sectors Highly Affected by Worksite Outbreaks of Coronavirus Disease, Los Angeles County, California, USA, March 19–September 30, 2020
  - Respiratory Viral Shedding in Healthcare Workers Reinected with SARS-CoV-2, Brazil, 2020
  - Postvaccination COVID-19 among Healthcare Workers, Israel
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- Epidemiologic Evidence for Airborne Transmission of SARS-CoV-2 during Church Singing, Australia, 2020
- Rapid Detection of SARS-CoV-2 Variants of Concern, Including B.1.1.28/P.1, in British Columbia, Canada
- Rapid Antigen Test for Postmortem Evaluation of SARS-CoV-2 Carriage
- SARS-CoV-2 Superspread in Fitness Center, Hong Kong, China, March 2021
- Seroprevalence of Severe Acute Respiratory Syndrome Coronavirus 2 IgG in Juba, South Sudan, 2020
- Multisystem Inflammatory Syndrome in Adults after Mild SARS-CoV-2 Infection, Japan
- The Journal of Infectious Diseases
  - Morbidity and Mortality among Adults Experiencing Homelessness Hospitalized with COVID-19
- Journal of General Internal Medicine
  - Racial and Ethnic Disparities in Hospital Admissions from COVID-19: Determining the Impact of Neighborhood Deprivation and Primary Language
- American Journal of Public Health
  - Vaccines: Containing COVID-19 and Building Long-Term Confidence
  - The Public’s Perspective on the United States Public Health System

MMWR

- Interim Estimates of Vaccine Effectiveness of Pfizer-BioNTech and Moderna COVID-19 Vaccines Among Health Care Personnel — 33 U.S. Sites, January–March 2021
- Disparities in COVID-19 Vaccination Coverage Between Urban and Rural Counties — United States, December 14, 2020–April 10, 2021
- Characteristics of COVID-19 Cases and Outbreaks at Child Care Facilities — District of Columbia, July–December 2020

HOT OFF THE (LAY) PRESS

- New York Times
  - Vaccinated Americans May Go Without Masks in Most Places, Federal Officials Say
  - A growing number of major retailers are lifting mask rules for fully vaccinated shoppers after new C.D.C. guidance, largely moving to an honor system,
  - Why the C.D.C. Changed Its Advice on Masks
  - Hundreds of Epidemiologists Expected Mask-Wearing in Public for at Least a Year
  - A major nurses’ union condemns the C.D.C.’s new mask advice for vaccinated people.
  - They’re Vaccinated and Keeping Their Masks On, Maybe Forever
  - New Honor System on Masks: ‘Am I to Trust These People?’
  - Oregon tells businesses to check for the vaccination status of customers if they let them go maskless
  - How the United States Beat the Variants, for Now
  - Many Unvaccinated Latinos in the U.S. Want the Shot, New Survey Finds
  - Meet the Four Kinds of People Holding Us Back From Full Vaccination
  - The White House details a $7 billion plan to boost hiring for public health planning.
  - Another Group of Scientists Calls for Further Inquiry Into Origins of the Coronavirus
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- Why Is Covid Killing So Many Young Children in Brazil? Doctors Are Baffled
- The E.U. agreed to reopen its borders to visitors who are fully vaccinated or those coming from countries considered safe from a Covid-19 perspective.
- Lockdown Eased in England, for Now, at Least

• UK Government Press Releases
  - New measures to boost response to the B1.617.2 variant

• UNICEF Statement
  - The COVAX Facility will deliver its 65 millionth vaccine dose this week. It should’ve been at least its 170 millionth. The time to donate excess doses is now

• Medpage Today
  - Biden Announces Donation of 20 Million More Vaccines to Other Countries
  - Indian States Turn to Ivermectin in COVID Crisis

• Politico
  - Desperate for treatment, Covid 'long haulers' push for 9/11-style health registry
  - ‘Public Health 101 failure’: CDC mask decision may knock out Biden’s workplace Covid crackdown

• The Society for Healthcare Epidemiology of America News
  - Healthcare Personnel Must Continue SARS-CoV-2 Prevention, Even as Community Guidelines Relax

• The Hill
  - Fauci: Americans 'misinterpreting' mask rules
  - CDC director denies political pressure affected new mask guidelines

• USA Today
  - Target, CVS end mask requirements for fully vaccinated customers, joining Walmart, Starbucks and more

• CBS News
  - Kroger drops masks for vaccinated customers. Other retailers say "not so fast."
  - Over a third of states are ending COVID-19 mask mandates

• Business Insider
  - Delta Air Lines to mandate vaccines for new hires and will most likely bar its staff from international flights if they refuse a shot

• Gothamist
  - Fully Vaccinated New Yorkers Can Go Mask Free Starting Wednesday, After Cuomo Adopts CDC Guidance

• NBC News
  - 'Best $500 I ever spent': GOP lawmakers flout mask rules, risk fine on House floor

• CNBC
  - Texas Gov. Abbott threatens to fine cities and local officials if they impose mask mandates
  - Top FDA official says fully vaccinated people could need Covid booster shots within a year

• CNN
  - For the sake of children, keep wearing your mask
  - Slow uptake of Covid-19 vaccine in rural areas could hinder the end of the pandemic, CDC says
  - Congressional Democrats have a 100% vaccination rate

• Nature News
  - Delaying a COVID vaccine's second dose boosts immune response
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- **ABC News**
  - Trust in Johnson & Johnson’s coronavirus vaccine is low, yet overall intent to get inoculated rises: POLL

- **NPR**
  - Clinical Trials Underway For 5-And-Younger COVID-19 Vaccinations
  - Pfizer Vaccine Can Stay Longer At Warmer Temperatures Before Being Discarded
  - Just 12 People Are Behind Most Vaccine Hoaxes On Social Media, Research Shows
  - Poll Finds Public Health Has A Trust Problem
  - A Principal And His Tape Measure: Schools Are Helping Do COVID-19 Contact Tracing
  - Hospitals Serving The Poor Struggled During COVID. Wealthy Hospitals Made Millions

- **AP News**
  - Some aren’t ready to give up masks despite new CDC guidance
  - Biden adviser makes personal appeal to young to get shots
  - Fauci says pandemic exposed ‘undeniable effects of racism’

- **Kaiser Family Foundation News**
  - Vaccine Monitor: Unvaccinated Hispanic Adults are Twice as Likely as White Adults to Want a COVID-19 Vaccine ASAP, Highlighting a Key Outreach Opportunity for Vaccination Efforts

- **The Wall Street Journal**
  - Covid-19 Shots for Teens Can Hit Legal Snags and Parental Pushback
  - Covid-19 Hospital Patients Tend to Be Younger Now

- **Bloomberg**
  - Covid Is Airborne, Scientists Say. Now Authorities Think So, Too

- **Wired**
  - The 60-Year-Old Scientific Screwup That Helped Covid Kill

- **Gallup**
  - Worry About Contracting COVID-19 Hits New Low in U.S.

- **Reuters**
  - U.S. weekly deaths from COVID fall to lowest in 14 months
  - Sanofi-GSK report positive interim results for their COVID-19 shot
  - EU has not ordered AstraZeneca vaccines beyond June
  - Roche COVID test receives U.S. greenlight for asymptomatic people
  - Taiwan proposes $7.5 bln in spending as domestic COVID-19 cases rise

- **The Washington Post**
  - Once a covid success story, Taiwan struggles with a vaccine shortage
  - Biden boosts vaccine donations, but critics say far more is needed
  - Why a major nurses union thinks it’s too soon to relax mask rules
  - E.U. to reopen borders to travelers with accepted vaccines

- **Eurofound**
  - Over a quarter of adults in EU indicate they are unlikely to take COVID-19 vaccine
  - Living, working and COVID-19 (Update April 2021): Mental health and trust decline across EU as pandemic enters another year

- **The Seattle Times**
  - Unvaccinated people 65 and up hospitalized with COVID nearly 10 times more often, says Washington state
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- Los Angeles Times
  - Don’t throw away that mask just yet. California won’t lift COVID-19 rules for another month
  - These parts of Asia beat coronavirus early. Why they’re suddenly in lockdown
- KQED
  - Newsom Proposes a Return to In-Person Learning Beginning Next School Year
- Los Angeles Times
  - California considers dropping mask, distancing rules at workplaces if everyone vaccinated
- Sacramento Bee
  - Knock, knock. Have you had your vaccine yet? California sends out thousands to check
- Mercury News
  - Santa Clara County mandating workplaces to track employees’ vaccination status
  - Two-thirds of Californians are immune to COVID — is the end in sight?
- San Francisco Chronicle
  - California will wait until June 15 to lift indoor mask mandate for vaccinated people
  - Confused about mask rules in the Bay Area? Here’s what you need to know
  - California's vaccines vs. variants race: The vaccines are winning
  - Silicon Valley offices can reopen as Bay Area’s most populous county moves to yellow tier
  - California inmates embrace vaccines, offering hope for beating hesitancy, Stanford study finds
  - Bay Area ICU hospitalizations back at pandemic low - experts cite 'marvelous vaccines'

EPIDEMIOLOGY UPDATES

- CDC COVID Data Tracker
- 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 May 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 Rehabilitation Population COVID-19 Tracking Dashboards
- CDC Interactive Serology Dashboard for Commercial Laboratory Surveys
- Children and COVID-19: State-Level Data Report
- HHS Coronavirus Data Hub
- COVID-19 Nursing Home Data