

COVID-19 Digest Issue 73

March 4, 2022

CLINICAL PEARL

- COVID-19 vaccine intervals:**

[According to the CDC](#), mRNA COVID-19 vaccines are FDA-approved or authorized with a **3-week** (Pfizer-BioNTech vaccine) or **4-week** (Moderna vaccine) interval between the first and second dose. **A 3- or 4-week interval continues to be the recommended interval for people who are moderately to severely immunocompromised, adults ages 65 years and older, and others who need rapid protection due to concern about increased community transmission or risk of severe disease.**

mRNA COVID-19 vaccines are safe and effective at the FDA-approved or FDA-authorized intervals, but a **longer interval may be considered for some populations**. While absolute risk remains small, the relative risk for myocarditis is higher for males ages 12-39 years, and this risk might be reduced by extending the interval between the first and second dose. [Some studies](#) in adolescents (ages 12-17 years) and adults have shown that **the small risk of myocarditis associated with mRNA COVID-19 vaccines might be reduced and peak antibody responses and vaccine effectiveness may be increased with an interval longer than 4 weeks. An 8-week interval may be optimal for some people ages 12 years and older, especially for males ages 12-39 years.** Extending the interval beyond 8 weeks has not been shown to provide additional benefit. There are currently no data suggesting that an 8 week interval may be better than the currently recommended interval for children ages 11 years and younger.

Figure 1. COVID-19 Vaccination Schedule*

Vaccine	0 month	1 month	2 month	3 month	4 month	5 month	6 month	7 month
Pfizer-BioNTech (ages 5-11 years)	1 st dose	2 nd dose (3 weeks after 1 st dose)						
Pfizer-BioNTech (ages 12 years and older)	1 st dose	2 nd dose† (3-8 weeks after 1 st dose)					Booster dose‡ (at least 5 months after 2 nd dose)	
Moderna (ages 18 years and older)	1 st dose	2 nd dose† (4-8 weeks after 1 st dose)					Booster dose‡ (at least 5 months after 2 nd dose)	
Janssen (ages 18 years and older)	1 st dose		Booster dose‡ (at least 2 months after 1 st dose)					

Note: Timeline is approximate. Intervals of 3 months or fewer are converted into weeks per the formula "1 month = 4 weeks". Intervals of 4 months or more are converted into calendar months.

* See [Guidance for COVID-19 vaccination for people who are moderately or severely immunocompromised](#) for schedule for people who are moderately or severely immunocompromised.

† An 8-week interval may be optimal for some people ages 12 years and older, especially for males ages 12 to 39 years. A shorter interval (3 weeks for Pfizer-BioNTech; 4 weeks for Moderna) between the first and second doses remains the recommended interval for: people who are moderately or severely immunocompromised; adults ages 65 years and older; and others who need rapid protection due to increased concern about community transmission or risk of severe disease.

‡ An mRNA COVID-19 vaccine is preferred over the Janssen COVID-19 Vaccine for booster vaccination of people ages 18 years and older. For people ages 12-17 years, only Pfizer-BioNTech can be used. People ages 5-11 years should not receive a booster dose.

Additionally, people who are moderately or severely immunocompromised should receive a booster dose at least **3 months** (previously 5 months) after the **3rd dose** of their primary mRNA COVID-19 vaccine series. Janssen covid-19 recipients should receive a **2nd (additional) dose** of an mRNA vaccine at least 28 days after the Janssen dose followed by a booster dose **2 months after the 2nd dose**.





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Figure 2. COVID-19 Vaccination Schedule for People Who Are Moderately or Severely Immunocompromised

Vaccine	0 month	1 month	2 month	3 month	4 month	5 month
Pfizer-BioNTech (ages 5–11 years)	1 st dose	2 nd dose (3 weeks after 1 st dose)	3 rd dose (at least 4 weeks after 2 nd dose)			
Pfizer-BioNTech (ages 12 years and older)	1 st dose	2 nd dose (3 weeks after 1 st dose)	3 rd dose (at least 4 weeks after 2 nd dose)			Booster dose* (at least 3 months after 3 rd dose)
Moderna (ages 18 years and older)	1 st dose	2 nd dose (4 weeks after 1 st dose)	3 rd dose (at least 4 weeks after 2 nd dose)			Booster dose* (at least 3 months after 3 rd dose)
Janssen (ages 18 years and older)	1 st dose	2 nd (additional) dose [†] using an mRNA COVID-19 vaccine (at least 4 weeks after 1 st dose)		Booster dose* (at least 2 months after additional dose)		

Note: Timeline is approximate. Intervals of 3 months or fewer are converted into weeks per the formula "1 month = 4 weeks". Intervals of 4 months or more are converted into calendar months.
 * An mRNA COVID-19 vaccine is preferred over the Janssen COVID-19 Vaccine for booster vaccination of people ages 18 years and older. For people ages 12–17 years, only Pfizer-BioNTech can be used. People ages 5–11 years should not receive a booster dose.
 † Only Pfizer-BioNTech or Moderna COVID-19 Vaccine should be used. See Appendix B for more information on vaccinating people who are moderately or severely immunocompromised and who received Janssen COVID-19 Vaccine for the primary series.

PUBLIC HEALTH UPDATES

- The White House [National COVID-19 Preparedness Plan](#)
- State Public Health Officer Order [Health Care Worker Vaccine Requirement](#)
- [WHO announces first technology recipients of mRNA vaccine hub with strong support from African and European partners](#)

GUIDANCE/GUIDELINES

- CDC
 - [Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Approved or Authorized in the United States](#)
 - [Prioritizing Case Investigation and Contact Tracing for COVID-19](#)
- NIH [The COVID-19 Treatment Guidelines Panel's Statement on the Role of Bebtelovimab for the Treatment of High-Risk, Nonhospitalized Patients With Mild to Moderate COVID-19](#)
- CDPH
 - [California Department of Public Health COVID-19 Guidance for Children who are sick or test positive](#)
 - [California Department of Public Health COVID-19 Guidance Exposures for Children in Child Care](#)
 - [Guidance for Child Care Providers and Programs](#)
- WHO [Contact tracing and quarantine in the context of the Omicron SARS-CoV-2 variant: interim guidance](#)
- European Society of Clinical Microbiology and Infectious Diseases [ESCMID rapid guidelines for assessment and management of long COVID](#)
- UK Cabinet Office [Guidance: COVID-19 Response: Living with COVID-19](#)

RESOURCES

- CDC
 - COCA Call: [Updated Guidance for Clinicians on COVID-19 Vaccines](#)
 - ACIP Meeting: [Myocarditis and COVID-19 Vaccine Intervals: International Data and Policies](#)
 - [COVID-19 Community Levels](#)
 - [COVID-19 by County](#)





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- CDC/IDSA COVID-19 Clinician Call: [Update on Serology Testing](#)
- IDSA
 - Media Briefing: [Recommended COVID-19 Treatment Options](#)
 - Podcasts: [The Impact of COVID-19 on Black Americans](#)
 - Video: [Black History Month – The Future of Equitable COVID-19 Care](#)
- Center for Infectious Disease Research and Policy (CIDRAP) Osterholm Update:
 - [Episode 91: The Decline of Omicron](#)
 - [Episode 92: Shifting Baselines](#)

ACADEMIC/RESEARCH PAPERS

- *The Lancet*
 - [Reported cases of multisystem inflammatory syndrome in children aged 12–20 years in the USA who received a COVID-19 vaccine, December, 2020, through August, 2021: a surveillance investigation](#)
 - [Global, regional, and national minimum estimates of children affected by COVID-19-associated orphanhood and caregiver death, by age and family circumstance up to Oct 31, 2021: an updated modelling study](#)
- *medRxiv*
 - [Effectiveness of the BNT162b2 vaccine among children 5-11 and 12-17 years in New York after the Emergence of the Omicron Variant](#)
 - [Occurrence and significance of Omicron BA.1 infection followed by BA.2 reinfection](#)
 - [Evolutionary Trajectories of SARS-CoV-2 Alpha and Delta Variants in White-Tailed Deer in Pennsylvania](#)
- *bioRxiv*
 - [Highly divergent white-tailed deer SARS-CoV-2 with potential deer-to-human transmission](#)
 - [SARS-CoV-2 Omicron BA.2 Variant Evades Neutralization by Therapeutic Monoclonal Antibodies](#)
- *Nature*
 - [An infectious SARS-CoV-2 B.1.1.529 Omicron virus escapes neutralization by therapeutic monoclonal antibodies](#)
 - [Effectiveness of mRNA-1273 against SARS-CoV-2 Omicron and Delta variants](#)
 - [Investigating the association between severity of COVID-19 infection during pregnancy and neonatal outcomes](#)
 - [Surveillance of SARS-CoV-2 in the environment and animal samples of the Huanan Seafood Market](#)
- *New England Journal of Medicine*
 - [Effectiveness of the BNT162b2 Vaccine after Recovery from Covid-19](#)
 - [Protection against SARS-CoV-2 after Covid-19 Vaccination and Previous Infection](#)
 - [Population Immunity and Covid-19 Severity with Omicron Variant in South Africa](#)
 - [Audio Interview: Understanding the Omicron Variant of SARS-CoV-2](#)
 - [Oral Nirmatrelvir for High-Risk, Nonhospitalized Adults with Covid-19](#)
 - [Audio Interview: A New Antiviral against Covid-19](#)
 - [The Potential of Intentional Drug Development](#)
- *JAMA*
 - [Efficacy of Ivermectin Treatment on Disease Progression Among Adults With Mild to Moderate COVID-19 and Comorbidities The I-TECH Randomized Clinical Trial](#)
 - [Comparison of Racial, Ethnic, and Geographic Location Diversity of Participants Enrolled in Clinic-Based vs 2 Remote COVID-19 Clinical Trials](#)





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- [Association Between the BNT162b2 Messenger RNA COVID-19 Vaccine and the Risk of Sudden Sensorineural Hearing Loss](#)
- [Assessment of Sudden Sensorineural Hearing Loss After COVID-19 Vaccination](#)
- [Rare Sudden Sensorineural Hearing Loss Potentially Associated With COVID-19 Vaccination Does Not Outweigh the Benefit of COVID-19 Vaccines](#)
- [Differences in State COVID-19 Vaccine Mandates for Schoolteachers and Childcare Professionals](#)
- [Association of COVID-19 Infection With Survival After In-Hospital Cardiac Arrest Among US Adults](#)
- [Association of COVID-19 Acute Respiratory Distress Syndrome With Symptoms of Posttraumatic Stress Disorder in Family Members After ICU Discharge](#)
- [US Health Care Workforce Changes During the First and Second Years of the COVID-19 Pandemic](#)
- [Trends in Mortality Rates Among Medicare Enrollees With Alzheimer Disease and Related Dementias Before and During the Early Phase of the COVID-19 Pandemic](#)
- [Addressing Vulnerability and Dementia in the Era of COVID-19](#)
- [Successfully Implementing Digital Health to Ensure Future Global Health Security During Pandemics - A Consensus Statement](#)
- [Digital Health Emergency Management—Pandemics and Beyond](#)
- [Evaluation of Antimicrobial Drug Use and Concurrent Infections During Hospitalization of Patients With COVID-19 in Japan](#)
- [Estimates of SARS-CoV-2 Omicron Variant Severity in Ontario, Canada](#)
- *PLOS*
 - [Association of COVID-19 vaccines ChAdOx1 and BNT162b2 with major venous, arterial, or thrombocytopenic events: A population-based cohort study of 46 million adults in England](#)
 - [First dose ChAdOx1 and BNT162b2 COVID-19 vaccinations and cerebral venous sinus thrombosis: A pooled self-controlled case series study of 11.6 million individuals in England, Scotland, and Wales](#)
 - [Excess years of life lost to COVID-19 and other causes of death by sex, neighbourhood deprivation, and region in England and Wales during 2020: A registry-based study](#)
- *BMJ*
 - [SARS-CoV-2 antigen lateral flow tests for detecting infectious people: linked data analysis](#)
 - [Self-testing for asymptomatic non-contacts using rapid antigen tests—is this leading to a cost effective reduction in infection transmission?](#)
 - [Risks of mental health outcomes in people with covid-19: cohort study](#)
- *Emerging Infectious Diseases*
 - [Disparities in First Dose COVID-19 Vaccination Coverage among Children 5–11 Years of Age, United States](#)
 - [COVID-19 Vaccination Coverage, Behaviors, and Intentions among Adults with Previous Diagnosis, United States](#)
 - [Spatiotemporal Analyses of 2 Co-Circulating SARS-CoV-2 Variants, New York, USA](#)
 - [SARS-CoV-2 Period Seroprevalence and Related Factors, Hillsborough County, Florida, USA, October 2020–March 2021](#)
 - [High-Dose Convalescent Plasma for Treatment of Severe COVID-19](#)
 - [Relationship of SARS-CoV-2 Antigen and Reverse Transcription PCR Positivity for Viral Cultures](#)
 - [Evaluation of Commercially Available High-Throughput SARS-CoV-2 Serologic Assays for Serosurveillance and Related Applications](#)
 - [Detection of SARS-CoV-2 in Neonatal Autopsy Tissues and Placenta](#)
 - [Increased COVID-19 Severity among Pregnant Patients Infected with SARS-CoV-2 Delta Variant, France](#)





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- [Effectiveness of 3 COVID-19 Vaccines in Preventing SARS-CoV-2 Infections, January–May 2021, Aragon, Spain](#)
- [Infection Control Measures and Prevalence of SARS-CoV-2 IgG among 4,554 University Hospital Employees, Munich, Germany](#)
- [Nowcasting \(Short-Term Forecasting\) of COVID-19 Hospitalizations Using Syndromic Healthcare Data, Sweden, 2020](#)
- [Epidemiology of COVID-19 after Emergence of SARS-CoV-2 Gamma Variant, Brazilian Amazon, 2020–2021](#)
- [Long-Term Symptoms among COVID-19 Survivors in Prospective Cohort Study, Brazil](#)
- [SARS-CoV-2 IgG Seroprevalence among Blood Donors as a Monitor of the COVID-19 Epidemic, Brazil](#)
- [Airborne Transmission of SARS-CoV-2 Delta Variant within Tightly Monitored Isolation Facility, New Zealand \(Aotearoa\)](#)
- [Effects of COVID-19 Pandemic Response on Service Provision for Sexually Transmitted Infections, HIV, and Viral Hepatitis, England](#)
- [Serial Intervals and Household Transmission of SARS-CoV-2 Omicron Variant, South Korea, 2021](#)
- [SARS-CoV-2 Breakthrough Infections after introduction of 4 COVID-19 Vaccines, South Korea, 2021](#)
- [Return of Norovirus and Rotavirus Activity in Winter 2020–21 in City with Strict COVID-19 Control Strategy, Hong Kong](#)
- [Restaurant-Based Measures to Control Community Transmission of COVID-19, Hong Kong](#)
- *Journal of Infection*
 - [Antibiotic use among COVID-19 patients in Hong Kong, January 2018 to March 2021](#)
- *Annals of Internal Medicine*
 - [Contribution of Individual- and Neighborhood-Level Social, Demographic, and Health Factors to COVID-19 Hospitalization Outcomes](#)
- *Clinical Microbiology and Infection*
 - [Bacterial co-infection and secondary infection in patients with COVID-19: a living rapid review and meta-analysis](#)
- *Radiology*
 - [Myocardial Injury Pattern at MRI in COVID-19 Vaccine-associated Myocarditis](#)
- *American Journal of Respiratory and Critical Care Medicine*
 - [Association Between Availability of ECMO and Mortality in COVID-19 Patients Eligible for ECMO: A Natural Experiment](#)
- *Neurology*
 - [Peripheral Neuropathy Evaluations of Patients With Prolonged Long COVID](#)
- *Zenodo*
 - [SARS-CoV-2 emergence very likely resulted from at least two zoonotic events](#)

MMWR

- [Disparities in COVID-19 Vaccination Coverage Between Urban and Rural Counties — United States, December 14, 2020–January 31, 2022](#)
- [Safety Monitoring of COVID-19 Vaccine Booster Doses Among Persons Aged 12–17 Years — United States, December 9, 2021–February 20, 2022](#)
- [Effectiveness of COVID-19 Pfizer-BioNTech BNT162b2 mRNA Vaccination in Preventing COVID-19–Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among](#)





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[Nonimmunocompromised Children and Adolescents Aged 5–17 Years — VISION Network, 10 States, April 2021–January 2022](#)

- [SARS-CoV-2 B.1.1.529 \(Omicron\) Variant Transmission Within Households — Four U.S. Jurisdictions, November 2021–February 2022](#)
- [Investigation of SARS-CoV-2 Transmission Associated With a Large Indoor Convention — New York City, November–December 2021](#)
- [Antigen Test Positivity After COVID-19 Isolation — Yukon-Kuskokwim Delta Region, Alaska, January–February 2022](#)
- [Results from a Test-to-Release from Isolation Strategy Among Fully Vaccinated National Football League Players and Staff Members with COVID-19 — United States, December 14–19, 2021](#)
- [Pediatric Emergency Department Visits Before and During the COVID-19 Pandemic— United States, January 2019–January 2022](#)
- [Pediatric Emergency Department Visits Associated with Mental Health Conditions Before and During the COVID-19 Pandemic — United States, January 2019–January 2022](#)

HOT OFF THE (LAY) PRESS

- *ABC News*
 - [White House overhauling COVID strategy as nation moves out of pandemic crisis](#)
- *New York Times*
 - [The White House issued a Covid strategy that included a “test and treat” plan to provide antiviral medication as soon as patients test positive.](#)
 - [The C.D.C no longer recommends universal case investigation and contact tracing](#)
 - [School is Back in Person, but the Five-Day School Week Often Isn't](#)
 - [New C.D.C. guidelines will help counties calculate low, medium or high Covid risk and whether steps such as mask wearing should be taken.](#)
 - [The C.D.C. is expected to loosen guidelines for when and where Americans should wear masks, allowing most people to go without them indoors.](#)
 - [Disney World and Disneyland will ease mask mandates for vaccinated patrons.](#)
 - [Texas sues to strike down the federal mask mandate for air travelers.](#)
 - [New York Backs Off Booster Mandate for Health Care Workers](#)
 - [Several Parts of U.S. Ease Mask Rules](#)
 - [Pfizer Shot Is Far Less Effective in 5- to 11-Year-Olds Than in Older Kids, New Data Show](#)
 - [A new, two-dose Covid vaccine showed 100% efficacy against severe disease, and may be an effective booster for other shots, its makers said.](#)
 - [What Does It Mean to Be ‘Done With Covid’?](#)
 - [U.S. deaths during pregnancy or shortly after spiked in the pandemic’s first year, especially among Black and Hispanic women, a report said.](#)
 - [Two major scientific studies point to a market in Wuhan, China — not a lab in the same city — as the birthplace of the coronavirus pandemic.](#)
- *Nature News*
 - [Wuhan market was epicentre of pandemic’s start, studies suggest](#)
- *The Wall Street Journal*
 - [California, Oregon, Washington to End School Mask Mandates on March 12](#)
 - [FDA Eyes Second Covid-19 Booster Shot](#)





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- *CNN*
 - [A fourth Covid-19 shot might be recommended this fall, as officials 'continually' look at emerging data](#)
- *Sanofi Press Releases*
 - [Sanofi and GSK to seek regulatory authorization for COVID-19 vaccine](#)
- *BioNTech Press Releases*
 - [BioNTech introduces first modular mRNA manufacturing facility to promote scalable vaccine production in Africa](#)
- *The Hill*
 - [The pandemic shows we have set the CDC up to fail](#)
- *Reuters*
 - [COVID-19 shot interval can be extended to 8 weeks for some -U.S. CDC](#)
 - [COVID vaccine supply for global programme outstrips demand for first time](#)
- *The Washington Post*
 - [Most Americans say the coronavirus is not yet under control and support restrictions to try to manage it, Post-ABC poll finds](#)
 - [140 million Americans have had coronavirus, according to blood tests analyzed by CDC](#)
- *AP News*
 - [Pandemic fears are fading along with omicron: AP-NORC poll](#)
 - [US vaccination drive is bottoming out as omicron subsides](#)
 - [California adopts nation's 1st 'endemic' virus policy](#)
- *NPR*
 - ['I Don't Want to Give Up on Life': For Millions of High-Risk Californians, Lifting COVID Restrictions Sparks Major Safety Fears](#)
 - [More contagious version of omicron spreads in U.S., fueling worries](#)
 - [Doctors find limited use for less effective COVID pill \(molnupiravir from Merck\)](#)
- *Los Angeles Times*
 - [L.A. County bars, offices, gyms can drop mask rules with COVID vaccine verification](#)
- *San Francisco Chronicle*
 - [California to lift school mask mandate, along with Oregon and Washington](#)
 - [COVID in California: CDC to unveil new metrics to assess virus risk](#)
 - [What the new CDC mask guidelines mean for California and the Bay Area](#)
 - [Three Bay Area counties have improved to 'moderate' COVID levels \(San Mateo, Marin, Alameda\)](#)

EPIDEMIOLOGY UPDATES

- [CDC COVID Data Tracker](#)
 - [Variant Proportions](#) – new data!
 - [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 March 4, 2022
- [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](#)
- [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](#)

