COVID-19 VACCINES
EVIDENCE IN BRIEF

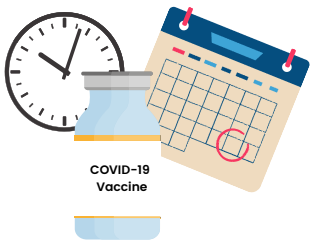
DOSE INTERVALS

OPTIMIZING COVERAGE AND PROTECTION

As countries evaluate the best way to introduce and achieve high COVID-19 vaccination coverage, the dose interval—or time between doses—is one factor being considered. The optimal interval between the two primary doses depends on a number of factors including vaccine effectiveness, evidence of waning protection, population coverage, available supply, and country-specific immunization priorities. Emerging studies are being published to help public health officials consider recommendations for dose intervals with further data still needed.

KEY FINDINGS

Vaccine effectiveness from 14 days after the second dose was similar, sometimes slightly greater, with extended dose intervals compared to standard regimens (3-4 weeks for mRNA vaccines). Countries facing high disease burden and limited vaccine supply may consider delaying administration of a second dose by a few weeks to maximize the number of individuals benefiting from the first dose. However, vaccine effectiveness substantially increases after a second dose and completion of the primary two-dose series should remain a priority. Countries should assess vaccine supply, access, and product-specific factors when considering altering dose interval guidelines.



WHO INTERIM GUIDANCE

Mixed Schedules

While homologous COVID-19 vaccine schedules remain the standard practice, WHO supports a flexible approach to homologous vs. heterologous schedules. Countries should consider vaccine supply, access, and product-specific factors when weighing homologous vs. heterologous schedule options. Rapidly achieving high vaccination coverage with a primary series in priority groups should continue to be the focus while supply remains constrained. Both heterologous and homologous schedules should be utilized to achieve high coverage and vaccination should not be delayed over considerations regarding the potential benefits of heterologous schedules.

Read the full WHO interim guidance on mixed COVID-19 vaccination schedules here

Booster Doses

All booster studies to date show a strong immunological response, achieving or improving upon the peak antibody levels following the primary immunization series for both homologous and heterologous booster regimens.Introducing booster doses should be evidence-driven and targeted to the population groups at highest risk of serious disease and those necessary to protect the health system. Equity considerations support improving coverage of the primary vaccination series in high risk populations as the top priority. More data are needed to understand the potential impact of booster vaccination against specific variants.

Read the full WHO interim guidance on COVID-19 vaccine booster doses here

(WHO interim guidance on other priority topics will be added as it becomes available.)

RESOURCES

Full studies and supplemental data are available at https://bit.ly/covid-vax-evidence and https://VIEW-hub.org/covid-19/effectiveness-studies

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EXPLORE THE DATA

DOSE INTERVAL [1]	VACCINE EFFECTIVENESS (95% CI) [2] *	PREDOMINANT VARIANTS OF CONCERN [3]	STUDY REFERENCE
AGAINST INFECTION			
mRNA (any)			
3-4 weeks	85% (83-87) [British Columbia] 79% (76-81) [Quebec]	Alpha, Delta, Gamma	Skowronski, *medRxiv,* 2021
7-8 weeks	91% (91-91) [British Columbia] 89% (88-89) [Quebec]		
Pfizer			
3-4 weeks	88% (67-96) [50-64 yr] 77% (66-85) [65-79 yr]	Alpha	Amirthalingam, *Nature Communications,* 2021
<6 weeks **6+ weeks**	85% (71-92) 81% (68-89)	Alpha, Delta	Hall, *medRxiv*, 2021
9-12 weeks	92% (91-94) [50-64 yr] 89% (86-92) [65-79 yr]	Alpha	Amirthalingam, *Nature Communications,* 2021
AstraZeneca			
4-6 weeks	55% (34-69) [50-64 yr] 73% (25-90) [65-79 yr]	Alpha	Amirthalingam, *Nature Communications,* 2021
9-12 weeks	77% (74-79) [50-64 yr] 74% (69-79) [65-79 yr]		
AGAINST HOSPITALIZATIONS			
mRNA (any)			
3-4 weeks	93% (87-96) [British Columbia] 87% (79-92) [Quebec]	Alpha, Delta, Gamma	Skowronski, *medRxiv,* 2021
7-8 weeks	99% (98-99) [British Columbia] 98% (97-99) [Quebec]		

* *VE assessed 14 days after 2nd dose, unless otherwise indicated*

[1] VE assessed for homologous schedules; dose interval data for heterologous regimens will be added and denoted as they become available

[2] VE assessed for ages18+ , unless otherwise indicated

[3] Predominant variant identified by study authors or based on https://outbreak.info/location-report . Refer to cited study or report for more details

DISCLAIMER: This table is not a comprehensive summary of all available vaccine effectiveness data and studies for other vaccines and mixed schedules are ongoing; visit the links below for additional studies and data. As a result, this brief does not report on all available COVID-19 vaccines. Data may not reflect most recent variants of concern and will be updated as studies become available.

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