

6 April 2022

UN Medical Directors Recommendations for additional vaccine and booster doses¹ for Covid-19 vaccinations

Against the background of the ongoing global circulation of SARS-COV2 and the availability of Covid-19 vaccines, the UN Medical Directors (UNMD) welcome the continuation of the UN vaccination deployment efforts as part of the UN's first line of defence to strengthen vulnerable duty stations thus ensuring the protection and discharging the duty of care to UN personnel, families and partners, in particular those who are at increased occupational risk².

As part of the UN strategy and the system-wide deployment effort of Covid-19 vaccines to UN duty stations and missions, the UNMD provide the following recommendations:

1. To continue guaranteeing access **to primary vaccination** series from WHO EUL³ approved vaccines to all its personnel, family and eligible partners, particularly to those belonging to the high risk category groups identified by WHO / SAGE⁴ criteria, and within these category groups, at risk workers according to **occupational health and safety principles** as defined by UNMD. All WHO EUL approved vaccines have been proven effective and safe, offering a high level of protection against severe disease and death.
2. To administer **an additional dose** in line with WHO's recommendation towards immunocompromised individuals, recipients of Sinopharm/Sinovac aged 60+, and all recipients of the Janssen vaccine (Johnson & Johnson)⁵ to administer a second dose (between 2 and 6 months after the first dose) per WHO indications that the benefits of a second dose of Janssen vaccine administered are superior to the benefits conferred by one dose.
3. To administer **booster doses** in line with the WHO's recommendation⁶ for a targeted and risk-based approach and UN mandate to preserve its UN personnel capacity to deliver on its programs, prioritizing the most at risk of infection or symptomatic diseases, and following protocols set in place by Local Regulatory Authority, or, if absent, by Stringent Regulatory Authorities⁷ such as the US, EMA, the UK, or Australia, provided that the UN is not constrained by limited supply of Covid-19 vaccine⁸.

¹ Please see para 8 in UN FAQs under this [link](#)

² https://www.un.org/sites/un2.un.org/files/coronavirus_unmdstatementcovidvaccine.pdf

³ [Regulation and Prequalification \(who.int\)](#)

⁴ Strategic Advisory Group of Experts to WHO on Immunization.

https://apps.who.int/iris/bitstream/handle/10665/334299/WHO-2019-nCoV-SAGE_Framework-Allocation_and_prioritization-2020.1-eng.pdf?sequence=1&isAllowed=y

⁵ [Interim recommendations for the use of the Janssen Ad26.COVID.S \(COVID-19\) vaccine \(who.int\)](#)

⁶ <https://www.who.int/news/item/04-10-2021-interim-statement-on-booster-doses-for-covid-19-vaccination>

⁷ <https://www.who.int/initiatives/who-listed-authority-reg-authorities/SRAs>

⁸ Please see para 6 in UN FAQs under this [link](#)

4. To administer homologous or heterologous (mix and match) vaccines series following these general principles (see summary table 1 below for summary of WHO recommended combination):
- Homologous schedules are considered standard practice based on substantial safety, immunogenicity, and efficacy data available for each COVID-19 vaccine with WHO EUL approval.
 - SAGE accepts two heterologous doses of WHO EUL COVID-19 vaccines as a complete primary series. A 2-dose series continues to offer high protection against COVID-19 hospitalization and mortality.
 - The primary vaccination schedule is a 2-dose series for all WHO EUL approved vaccines. A 3rd dose as part of the primary vaccination series is recommended for immunocompromised persons and persons aged 60+ who received two doses of Sinopharm or Sinovac.
 - There is increasing evidence of waning vaccine effectiveness against mild and asymptomatic SARS-CoV-2 infection over time. A booster dose is shown to restore vaccine effectiveness to the same levels as those recorded immediately after the administration of the 2-dose series.
 - Booster dose should be administered 4-6 months after last dose. All persons aged 12 or older are eligible to receive a booster dose.
 - The available evidence is insufficient to recommend additional booster doses in all groups of population. Subsequent booster shots should be considered following a risk-based approach taking into account individual risk, local epidemiological situation, and recommendations from local and international health authorities.
 - The available evidence is insufficient to recommend booster doses in children younger than 12.
 - No additional safety concerns have been identified for the use of heterologous schedule (either within the primary series or the booster dose).

Note that specific guidance for the administration of Moderna is provided in Annex A.

Summary table 1

Recommended mix and match combinations (for primary and/or booster schedule)

DOSE #1	DOSE #2 ⁹	DOSE#3 / BOOSTER#2 ¹⁰	DOSE#4 / BOOSTER#2
mRNA	mRNA	vectored	TBC
mRNA	vectored	mRNA	
vectored	vectored	mRNA	
vectored	mRNA	mRNA	
inactivated	inactivated*	mRNA or vectored	
inactivated	mRNA or vectored	mRNA or vectored	
non WHO EUL	non WHO EUL	Start primary vaccination with WHO EUL ¹¹	

⁹ <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines/advice>

¹⁰ <https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccines-SAGE-recommendation-heterologous-schedules>

¹¹ <https://extranet.who.int/pqweb/vaccines/vaccinescovid-19-vaccine-eul-issued>

Legend

mRNA: Moderna/Pfizer. Moderna half dose if used as booster.

vectored: AZ/Janssen

inactivated*: Sinopharm/Sinovac/Bharat. 3rd dose recommended for age 60+ having received Sinopharm/Sinovac.

Non WHO EUL: Sputnik, Soberana, Abdala

TBC: To be confirmed

References

- https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccines-SAGE_recommendation-immunocompromised-persons
- https://www.un.org/sites/un2.un.org/files/coronavirus_unmdstatementcovidvaccine.pdf
- https://www.un.org/sites/un2.un.org/files/unmd_un_covid19_vaccine_occupational_risk_groups_prioritization.pdf
- <https://www.who.int/news/item/04-10-2021-interim-statement-on-booster-doses-for-covid-19-vaccination>
- Interim recommendations for the use of the Janssen Ad26.COV2.S (COVID-19) vaccine (who.int)

Annex A: UNMD recommendations for utilization of Moderna vaccine for the UN System-wide vaccination programme

Disclaimer

- This guidance does not imply that Moderna is the only option for booster doses within the context of the COVID-19 vaccination series but refers specifically to situations where the Moderna vaccine is an available option.
- This advice is based on currently available evidence on the possible use of Moderna vaccine either as a primary SARS-COV2 immunization tool or as a mix/match second dose of a primary immunization cycle (heterologous vaccination) or as a booster dose of a completed primary immunization cycle.
- Where scientific evidence of above uses of Moderna vaccine has been judged weak or unavailable, a risk averse peer review process has informed the technical recommendation.
- Homologous vaccination (i.e., same vaccine) schedules are considered standard practice based on substantial safety, immunogenicity, and efficacy data available for each COVID-19 vaccine with WHO EUL approval.
- **Heterologous vaccination (i.e., mixed vaccines) with any two WHO EUL approved vaccines¹² is considered a complete primary series¹³.**
- Advice regarding additional dosing for non-WHO EUL COVID-19 vaccines is less well established and should be based on an individual risk assessment.
- As new information will be available, the recommendations presented in this document will be adjusted accordingly.

Rules for use of Moderna

- Moderna as a 1st dose is full dose (0.5ml).
- Moderna as 2nd dose (and 3rd dose for selected immunocompromised individuals) is always full dose 4-8 weeks after the initial dose (8-week interval recommended for mRNA-only primary vaccination to further increase effectiveness and further reduce rare risk of myocarditis¹⁴).
- Moderna as booster dose is always half dose (0.25ml) and given 4 to 6 months (or less depending on local health authority policies) after the completion of the last dose.
- Note that for primary immunization with non-WHO EUL approved vaccines a new primary schedule should commence at least 4 weeks after the last dose administered¹⁵.
- Delay in receiving a dose after the recommended interval does not require additional dose¹⁶.
- Use in children age 12 and above: Children aged 12 and above can receive the Moderna vaccine as recommended by WHO¹⁷. As for adults, it is administered in 2 doses of 0.5ml ideally 8 weeks apart.

¹² <https://www.who.int/groups/strategic-advisory-group-of-experts-on-immunization/covid-19-materials>

¹³ <https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccines-SAGE-recommendation-heterologous-schedules>

¹⁴ <https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html>

¹⁵ <https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html#foot-04>

¹⁶ https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2F covid-19%2Finfo-by-product%2Fclinical-considerations.html#Appendix-A

¹⁷ <https://www.who.int/news-room/feature-stories/detail/the-moderna-covid-19-mrna-1273-vaccine-what-you-need-to-know>



	Vaccine type	Initial schedule	Moderna dose	When to give	Comment
WHO EUL approved vaccines	Viral vector (Astra Zeneca, Janssen)	Complete	Half	4-6 months ¹⁸ after 2 nd dose	Heterologous vaccine replacement for 3 rd (booster) dose
		Incomplete	Full	4 weeks after 1 st dose	Heterologous vaccine replacement for 2 nd and subsequent doses
	Inactivated virus (Sinopharm, Sinovac)	Complete	half	4-6 months ¹⁸ after 2 nd dose	Normal Moderna ‘booster’ schedule
		Incomplete	Full	4 weeks after 1 st dose	Heterologous vaccine replacement for 2 nd and subsequent doses
	mRNA (Moderna, Pfizer)	Complete	Half	4-6 months ¹⁸ after 2 nd dose	Normal Moderna ‘booster’ schedule
		Incomplete	Full	8 weeks after 1 st dose	Heterologous/Homologous vaccine replacement for 2 nd and subsequent doses
	Protein subunit (Novavax)	Complete	Half	4-6 months ¹⁸ after 2 nd dose	Normal Moderna ‘booster’ schedule
		Incomplete	Full	4 weeks after 1 st dose	Heterologous vaccine replacement for 2 nd and subsequent doses

¹⁸ Or less depending on local health authority policies

Non-WHO EUL approved vaccines	Sputnik, Soberana, Abdala	Commence a new primary schedule at least 4 weeks after the last dose administered.
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Additional references and factsheets:

- [The Moderna COVID-19 \(mRNA-1273\) vaccine: what you need to know](#); WHO
- [Fact Sheet for Healthcare Providers Administering Vaccine](#); 7 January 2022
- [Fact Sheet for Recipients and Caregivers](#); 7 January 2022