July 21, 2022

Alberta COVID-19 Immunization Program Update Summary – Expanded Eligibility for Second Booster Dose

Dear colleagues,

I am sharing this update with some important information regarding expanded second booster dose eligibility.

Given the increasing circulation of the more transmissible Omicron sub-variants, especially BA.5, and their ability to evade immune protection induced by prior infection and/or vaccination, Alberta will be **expanding availability of second booster dose to all Albertans ages 18 and older.** This booster is most helpful for those at high risk of severe outcomes.

Effective July 20, 2022, second booster doses have been made available to all Albertans 18 years and older, with a spacing of at least five months after the first booster dose. For individuals who were recently infected with COVID-19, the recommended interval is three months after symptom onset or a positive test (if asymptomatic) for COVID-19, or at least five months after the most recent vaccine dose, whichever is longer.

Alberta Health **strongly recommends** a second booster dose for those who are at the highest risk of severe outcomes from a COVID-19 infection, including the following populations:

- All residents of seniors' congregate living facilities, regardless of age (eligible since April 12)
- Individuals 50 years of age and older including First Nations, Métis and Inuit individuals.

More information on these changes is included below.

Alberta COVID-19 Immunization Program Second Booster Summary

As outlined in the National Advisory Committee on Immunization [(NACI) guidance on a second booster dose of COVID-19 vaccines in Canada](#), a second booster dose provides a benefit to those who may have waning immunity against severe disease over time after receiving a first booster dose. It also provides a population benefit by adding an additional layer of protection against more transmissible variants and transmission chains that could expose vulnerable individuals.

While NACI's recommendations were focused on fall boosters, a decision to offer expanded access to boosters now was made based on the current rise in BA.5 transmission in the province. In making this immunization program update, Alberta also considered available evidence on how long protection from a first booster dose lasts, the safety and effectiveness of a second booster dose, and immunity acquired from both infection and vaccination (hybrid immunity). Alberta also considered the local epidemiology of COVID-19, and risk factors associated with severe outcomes (e.g., older age).

To note:

- Expanding access to an additional booster right now is for the purpose of allowing choices about enhancing individual protection against severe outcomes. Those at the highest risk of severe outcomes who have not had COVID-19 in the last three months will benefit most from getting a second booster now.

- Second booster doses will correspond to a fourth dose for immunocompetent individuals who received a two-dose primary series, but will correspond to a fifth dose for immunocompromised individuals who received a three-dose primary series.

- Information regarding a fall COVID-19 booster program and recommended intervals between additional doses will be forthcoming.

- The timing of access to a fall dose, prior to when higher transmission is again anticipated in late fall/early winter, could be impacted by the timing of receiving an earlier dose.

Strongly Recommended:

Alberta Health **strongly recommends** a second booster dose for those who are at the highest risk of severe outcomes from a COVID-19 infection due to waning immunity after their first booster dose, at a minimum of a five-month interval from the first booster dose, and at least three months from a SARS CoV-2 infection. This includes the following populations:

- All residents of seniors' congregate living facilities, regardless of age.

- Individuals 50 years of age and older including First Nations, Métis and Inuit individuals.

Available for all other Albertans ages 18 and older

A second booster dose may be offered to individuals 18 to 49 years of age. Individuals in this population are encouraged to refer to the guidance on second booster doses or discuss with their health care provider to help them decide whether they should get a second booster dose now or wait for the fall and take a second booster then based on their personal circumstances.

Considerations for when to receive a second booster dose

Exposure Risk

- Alberta is currently experiencing a rise in transmission driven primarily by the BA.5 sub-variant, which is now the dominant strain in the province, with an increase in some COVID-19 activity indicators, such as laboratory test positivity and signals from wastewater surveillance.

- With the recent increase in transmission, Alberta may have a resulting small to moderate wave in the next few months, but is likely to see a larger wave in later fall and winter. Transmission risk will be high at both times, but likely higher in the colder season.

- An important consideration for when to receive a second booster dose is the timing of exposure risk. As the greatest protection after a vaccine is experienced two weeks to several months after receiving it, it may be beneficial to receive a booster dose shortly before a time of high exposure risk.

- For healthcare workers who may be considering getting another dose of vaccine to protect those around them, there would be expected to be only a short-term benefit in this dose with respect to prevention of infection.

Risk factors for severe outcomes

- Old age and underlying health conditions are risk factors for severe COVID-19 disease outcomes such as hospitalization, ICU admission and death.
    - The proportion of individuals with at least one underlying medical condition associated with an increased risk of severe COVID-19 also increases with age.
    - A list of immunocompromising conditions and underlying health conditions is available to help individuals decide whether they want to take a second booster dose now.

- Evidence shows that a primary series (for most people this is two doses) plus a booster is highly effective in preventing severe outcomes in the majority of people, especially for those who are younger than 50 and have no medical risk factors. For people in this category, it may be best to wait for the fall and take a second booster then.

- There are outpatient treatment and prevention options for those at the highest risk of severe outcomes. For example, Evusheld is now available to eligible immunocompromised individuals who may not be able to fully generate their own antibodies against COVID-19

after vaccination or infection and those for whom vaccines are contraindicated.

Waning immunity from previous immunization

- Vaccine effectiveness against infection/symptomatic disease of Omicron from a first booster of mRNA vaccine is shown to decrease over time in most studies.

- Vaccine protection against severe disease and hospitalization due to COVID-19 has been more durable than protection against symptomatic disease or infection.

  - For most people, severe outcome protection after the first booster stays very high for at least four to six months, but there can be some reduction in this protection over longer periods of time.

Hybrid immunity

- Individuals who have recovered from a COVID-19 infection and who are immunized (ideally an initial primary series and first booster) may have some additional protection compared to those who may have acquired immunity from infection or immunization alone.

- It is recommended to wait at least three months after infection before getting a booster dose.

Vaccine intervals

- While there is clear short-term benefit to an additional dose, more research is needed to understand the long-term impacts of receiving multiple doses of the same formulation of COVID-19 vaccines within a relatively short time, especially at short intervals.

- Since longer time between vaccine doses is better for optimal response, those who take a booster now may have to wait longer for access to a fall booster.

Availability of bivalent vaccines

- New bivalent COVID-19 vaccines are anticipated to be available this fall. However, the availability is, at minimum, months away.

- Research on the bivalent vaccine has mostly been done with a BA.1 component, and early results seem to show better antibody response against Omicron infections when compared with the original vaccine. It is not clear yet what level of benefit will be seen with any future variants.

Vaccine safety

- Preliminary data indicate that the safety of a second booster of an mRNA COVID-19 vaccine is comparable to previous doses. Overall, based on both Canadian and international safety surveillance data, a second booster of mRNA vaccine was well

tolerated and no new safety signal was identified; however, this continues to being actively monitored.

- Alberta will continue enhanced surveillance of adverse events following immunization (AEFI) and adverse events of special interest (AESI), including those related to booster doses of COVID-19 vaccines. Health care professionals have a critical role and mandated responsibility to report adverse events that meet Alberta's definition of an AEFI or AESI. See the AHS website for information on what needs to be reported and when.

Clinical considerations for administering a second booster dose: all eligible populations

- Before receiving a second booster dose, while it is not required to do so, eligible individuals may wish to consult with their healthcare provider about any advantages or disadvantages of receiving a second booster dose of vaccine.

- As with all vaccine administration, immunizers must receive informed consent from the person requesting a second booster dose prior to immunization to ensure they understand the benefits versus risks of a second booster dose.

- Eligible individuals are recommended to receive either the Moderna Spikevax vaccine (50 mcg) or the Pfizer-BioNTech Comirnaty vaccine (30 mcg).

  o The use of the Moderna Spikevax vaccine (100 mcg) as the second booster dose may also be considered based on clinical discretion.

- Individuals who have recovered from previous COVID-19 infection are recommended to receive a second booster dose of COVID-19 vaccine at the NACI-recommended interval.

  o For individuals who had a recent COVID-19 infection, a booster dose is recommended three months after symptom onset or positive test (if asymptomatic), or at least five months from the last dose, whichever is longer.

- As a precautionary measure, Alberta Health recommends that individuals who experienced myocarditis after a preceding dose of an mRNA vaccine should discuss decisions around a second booster dose, including timing, with their clinician. In general, they are advised to defer receiving another dose until more data is available.

- Individuals with a history compatible with pericarditis within 6 weeks of receiving a dose of an mRNA COVID-19 vaccine, who either had no cardiac workup or who had normal cardiac investigations, can be re-immunized when they are symptom free and at least 90 days have passed since the previous immunization.

- Generally, deferral of COVID-19 immunization is not required for those with a prior history of myocarditis or pericarditis that is unrelated to COVID-19 mRNA vaccines.

- It is important for health care professionals to support and encourage patients/clients to maintain COVID-19 disease prevention measures based on their risks, even after a booster dose. Members of their household and close relatives should be encouraged to receive the primary series and booster dose of COVID-19 vaccine, if eligible.

Classification: Public

- Serologic testing or cellular immunity testing to assess immune response and guide clinical care (e.g., need for a booster dose) are not recommended at this time.

- On September 28, 2021, NACI released recommendations that COVID-19 vaccines may be given at the same time as, or any time before or after, other vaccines, including live, non-live, adjuvanted or unadjuvanted vaccines, for those age 12 and older. The NACI recommendation can be found here: Concomitant administration with other vaccines.