Office of the Chief Medical Officer of Health
Alberta Health, Government of Alberta

https://www.alberta.ca/coronavirus-info-for-albertans.aspx

December 24, 2021

Alberta COVID-19 Immunization Program – Information on Immunization after COVID-19 Infection

Dear colleagues,

I would like to provide some further clarity about COVID-19 immunization for individuals who have recovered from a prior COVID-19 infection. I have received a number of questions from colleagues and from Albertans about this.

Currently in Alberta, individuals with a prior infection are not considered to have adequate immune protection from COVID, and a complete primary series of COVID-19 vaccine is still recommended. Timing considerations and rationale are outlined below.

Overview:

- Individuals presenting for immunization do not need to be tested for previous COVID-19 infection.
- Most individuals with a history of lab confirmed COVID-19 infection who have no contraindications can be provided COVID-19 vaccine as soon as their isolation period is over.
- However, the timing of immunization after a COVID-19 infection depends on the risk of re-infection based on an individual's circumstances, including potential infection-acquired immunity, risks of exposure (e.g. workplaces or living situations with direct contact to other individuals), risks of severe illness from COVID-19 reinfection or risks of transmission to other individuals who are at increased risk of severe illness, as well as the circulation of variants of concern in the community. Clinicians can counsel patients on timing, taking into account the information below.
- Although mild or moderate reactions such as pain at the injection site and fever seem to occur somewhat more often in vaccine recipients with a previous infection than those who have not had an infection, the risk of serious adverse events after vaccination has not been found to be any higher.

Thank you for your ongoing efforts to support the COVID-19 Immunization Program.

Yours sincerely,

Deena Hinshaw, BSc, MD, MPH, CCFP, FRCP
Chief Medical Officer of Health

Overview of Current Evidence

- There is evidence that recovery from COVID-19 infection provides some immunity against COVID-19 re-infection; however, the strength and duration of protection from infection-acquired immunity is not fully known at this time.
- The level of protection from infection-acquired immunity may vary in each individual depending on how mild or severe their prior infection was, the time elapsed since they have recovered from infection, as well as their age and whether they have a compromised immune system or chronic medical conditions.
    - As per evidence collected by the World Health Organization, individuals with mild or asymptomatic infection tend to have lower antibody levels than those with severe disease. The duration of protection also may vary depending on the disease severity of infection.
    - Evidence suggests that immunity against re-infection for both infection-acquired immunity and vaccine-acquired immunity appears to wane with time, particularly in older adults.
    - Individuals with immunocompromising and chronic conditions are also more likely to have a less robust immune response, and subsequently lower levels of protection, after recovering from infection.
- Emerging evidence shows that getting a COVID-19 vaccine and being fully vaccinated after recovering from COVID-19 infection provides added protection from the immune system, particularly compared to those who remained unvaccinated.
- Antibody positivity post-infection is not proof of immunity. To quote the US CDC: "Present data are insufficient to determine an antibody titer threshold that indicates when an individual is protected from SARS-CoV-2 infection. There is neither any FDA-authorized or FDA-approved test nor any other scientifically validated strategy that providers or the public can use to reliably determine whether a person is protected from infection."
- Because of the evidence above, and with the changing landscape given the emergence of the Omicron variant (see Variants of Concern section below), antibody positivity following infection is not equivalent to proof of vaccination as an assessment of protection.
- Currently available clinical evidence indicate there is no increase in reported serious adverse events (including myocarditis- see the Considerations for more information) after administration of a dose of a COVID-19 vaccine in someone previously infected. Non-severe systemic adverse events (including fever, headache, body aches, and fatigue) were higher in individuals, primarily in younger adults, with prior infection compared to an infection-naïve population following administration of a first dose of vaccine. Systemic side effects reported after the second dose were similar between the two groups, and mostly mild or moderate.
- A longer interval between infection and immunization seems not to influence occurrence of adverse events significantly.

COVID-19 re-infection and variants of concern

- Emerging real-world evidence from South Africa suggests the Omicron variant is able to evade the immunity acquired from prior COVID-19 infection more easily. A recent UK study suggests that Omicron variant is 3-8 times more likely to re-infect someone with a previous COVID-19 infection compared to other variants that have been studied. Even if someone has been previously infected, there is great benefit of a full series of vaccine, especially in the face of this new variant.

General Recommendations

- Unless for one of the reasons noted below, most individuals with a history of lab-confirmed COVID-19 infection who have no contraindications can be provided COVID-19 vaccine as soon as their isolation period is over. This includes children aged 5–11 years with a history of previous COVID-19 infection (confirmed by PCR or antigen testing from a respiratory specimen) who are no longer considered infectious and are well enough to be immunized.

- An mRNA vaccine is recommended as a primary series following recovery from COVID-19 infection except in the event of contraindication or refusal.

- The recommended interval between the first and second dose of a primary COVID-19 vaccine series for individuals with a previous COVID-19 infection is 8 weeks, the same as for individuals who have not been infected.

Clinical Considerations

Children and Youth with MIS-C in the Context of COVID-19

- For children with a previous history of MIS-C (multisystem inflammatory syndrome in children), vaccination should be postponed until clinical recovery has been achieved or until at least 90 days since diagnosis, whichever is longer.

Individuals Who Received Anti-SARS-CoV-2 Monoclonal Antibodies

- As a precautionary measure, COVID-19 immunization should be delayed for at least 90 days after the receipt of anti-SARS-CoV-2 monoclonal antibodies or convalescent plasma provided for treatment of COVID-19 infection. This applies to people who received these therapies before receiving any COVID-19 vaccine dose or between doses.

Myocarditis and/or Pericarditis Risk

- It is unknown if individuals with a history of previous myocarditis and/or pericarditis, including as a result of previous COVID-19 infection, are at higher risk of vaccine-associated myocarditis and/or pericarditis. Further information is available here.
    - 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 as long as the individual has recovered from the condition.
- The Pfizer-BioNTech COVID-19 vaccine is recommended as the preferred choice of mRNA COVID-19 vaccine for Albertans 12 to 29 years of age to start and/or complete their primary series. More information for Albertans ages 12 to 29 is available here.

- There is emerging evidence that indicates a potential reduction of myocarditis risk with a longer interval between first and second doses of mRNA COVID-19 vaccine. While there is no conclusive evidence that a shorter interval between infection and vaccine would show the same trend, as a precaution, this same approach could be applied to the interval between infection and the first dose of vaccine. See Interval information below.

Optimal Interval

There is not enough evidence to recommend a specific optimal interval between infection and immunization. Given the benefit of vaccination after infection, and the fact that current evidence does not show an increased risk of serious adverse events in those with a previous infection who receive vaccine, Alberta has been aligning with the National Advisory Committee on Immunization guidance indicating that vaccine can be offered as soon as an individual is no longer considered infectious and has recovered from their infection.

When considering the timing of vaccine administration after recovery from a COVID-19 infection, the risk of re-infection needs to be considered based on patients' personal circumstances, including potential infection-acquired immunity, risk of exposure (e.g., occupations that require direct contact with a large number of people, working with or caring for vulnerable populations, or living in a group setting where COVID-19 may transmit more easily), and circulation of variants of concern in the community.

AEFI/AESI reporting

- Health care professionals are reminded of their critical role and mandated responsibility to report adverse events following immunization that meet Alberta's definition of an AEFI or AESI. For information on what needs to be reported and when, go to: https://www.albertahealthservices.ca/info/Page16187.aspx.