COVID-19 IMMUNITY TASK FORCE

GROUPE DE TRAVAIL SUR L'IMMUNITÉ FACE À LA COVID-19

CITF/CanCOVID Research Results & Implications Series

The importance of pediatric vaccination

Questions & Answers

April 21, 2022

At the CITF/CanCOVID Research Results & Implications seminar on the Importance of pediatric vaccination, participants flooded our experts with important questions, many of which went unanswered because we ran out of time.

Fortunately, we kept track of those questions and have listed them here, along with answers directly from our experts.

QUESTIONS ANSWERED BY

Jim Kellner, MD

Pediatric Infectious Diseases Specialist, Professor, Pediatrics, University of Calgary, Member, CITF Leadership Group, Leader, CITF Pediatric Network

1. How closely is seroreversion related to the waning of natural immunity? If seroreversion occurs, does that imply waning occurred? If it doesn't, does that imply some protection remains?

It's not known but antibodies are only one component of immunity. The other main component is cellular immunity. Cellular immunity may not prevent an infection, but it often prevents severe disease. Also, the seroreversion has mostly been seen with antibodies to the nucleocapsid component of SARS-CoV-2, while antibodies against the spike component last much longer, although they too wane after a while.

UPDATE MAY 3, 2022 FROM CITF SECRETARIAT: We have recently written an article about this, found **here**.

2. What is the dominant theory why myocarditis occurs in teen/young adult males more often?

It is unknown. What is known is that the peak age (late adolescence to young adulthood) and gender (male) features of post-vaccine myocarditis very strongly resemble what is seen with myocarditis that occurs after other infections. It can be speculated that male hormones influence this.

3. Is there any data on long covid associated with Delta VOC vs. Omicron, or is it too early?

It's too early yet for data on long COVID and Omicron.

QUESTIONS ANSWERED BY

Kate Zinszer, PhD

Assistant Professor at l'École de santé publique, Université de Montréal, and Researcher at the Centre for Public Health Research (CReSP)

4. Dr. Zinszer, thanks for your great presentation! I would like to know specifically about the confounders you adjusted to get adjusted prevalence and adjusted ratio?

Thank you for the nice words! We included random effects for round of data collection and for neighborhood. We then fixed effects (that were not included in the table) for chronic disease and if the parent was an essential worker/healthcare worker. Happy to provide more information about our methodology via **email** if you'd like.

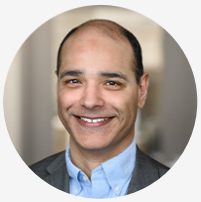
5. An estimate of ~190 days was given for time to seroreversion. Do we have preliminary estimates for this that include past vaccination?

For the EnCORE study, our current seroconversion estimates are for those who have not been vaccinated.

6. Does infection-acquired immunity last longer than vaccine-induced immunity?

There is variation in terms of length and strength, but generally it's found that vaccine-induced immunity produces a stronger immune response. There is waning protection from both infection- and vaccine-induced immunity, although the booster improves the length of protection.

UPDATE MAY 3, 2022 FROM CITF SECRETARIAT: We have recently written an article about this, found **here**.



QUESTIONS ANSWERED BY

Manish Sadarangani, BM, BCH, DPhil

Director, Vaccine Evaluation Center, BC Children's Hospital Research Institute; Associate Professor, Division of Infectious Diseases, Department of Pediatrics, UBC; Physician Lead, Family Immunization Clinic, BC Children's Hospital

7. Vaccination is widely available for children over 6 months. Why has approval of the COVID-19 vaccine been delayed for children under the age of 5? I worry the risk of a COVID-19 infection and the potential lifelong complications associated with an infection are a far higher than the potential side effects from a vaccine. Do have enough data to support or discount the effectiveness of early vaccination?

Approval has to await trials being conducted in the target age group. Once clinical trials have been completed in children under the age of 5, if results are positive, the company will submit to Health Canada for authorization. The vaccine will then be available for the National Advisory Committee on Immunization (NACI) to make a recommendation regarding its use in this age group. COVID-19 trials in children have proceeded from older children and down into younger age groups. Moderna recently **announced** its phase 2/3 trial in children 0-4 was successful.

UPDATED ON MAY 3, 2022: Health Canada is now reviewing Moderna's vaccine for kids under 6. See **news story**.

8. Have you seen major skin rashes associated with severe itching and hives post vaccine? I had two cases of 20-year-olds with severe itching and redness to various areas of the body.

Allergic-type reactions can occur and have been observed after all vaccines, including those for COVID-19. They do not always indicate a true allergy and do not necessarily mean future doses cannot be given. Medical attention should be sought for further review and recommendations.

9. Is there a vaccine for under 5-year-olds that is being analyzed/studied right now in Canada?

UPDATED ON MAY 3, 2022: Yes, Health Canada is reviewing Moderna's vaccine for kids under 6. See **news story**.

10. How long should one wait after a COVID infection in children to give them the vaccine?

NACI recommends receiving a second dose of vaccine 8 weeks after symptom onset or a positive test (if asymptomatic).

QUESTIONS ANSWERED BY

CITF Secretariat

11. Would you be able to comment on recommendations for 3rd doses for adolescents? NACI has not yet recommended a 3rd dose for average-risk adolescents. Might we anticipate a change to this in the near future?

UPDATE MAY 3, 2022: NACI **now recommends** boosters in this age group.

12. There is a perception or belief that COVID effects may be much less severe in children and therefore there is no real need to vaccinate them. Is this true? Can COVID be severe in children? Should they be vaccinated? Are beliefs like this not a reason for vaccine hesitancy?

COVID-19 can have serious effects on children. In an article written by the CITF Secretariat and supported by Drs. Sadarangani, Kellner, Zinszer and Maguire, it is pointed out that it is increasingly important to recognize the multiple benefits arising from pediatric immunization against COVID-19. Above all, successful immunization campaigns will protect children from severe disease. They will also allow the re-establishment of social networks, support the continuity of in-class schooling, and permit the full resumption of extracurricular activities. Not only can pediatric vaccines protect children's health, but they also have the potential to hasten the return to normal social interaction we have all been waiting for. Read the full article **here**.

13. Can someone speak to the data from New York that vaccine effectiveness drops for 5-11 age from to 12% against infection and 48% against hospitalization? Do we have data from Canada for the longer dose interval, if it's any better?

There has not been a lot of uniformity in the dosing intervals for this age groups, to our knowledge. Families went when they could get appointments. We believe most kids in Canada had 8 weeks between doses, but in the US, kids routinely got their second doses 3-5 weeks after their first. This means that the US and Canadian data are not comparable.

14. Can you say anything about incidence of long-covid in children/adolescents/ young adults, among vaxxed and unvaxxed?

There is unfortunately not enough data yet to answer your question.