



Changing the Way We Work

May 27, 2022: Vaccine effectiveness, Monkeypox, and more

Panelists: **Dr. Jeff Kwong, Dr. Gerald Evans, Dr. Daniel Warshafsky**

Co-hosts: **Dr. Liz Muggah, Dr. David Kaplan**

Moderator: **Dr. Tara Kiran**

Curated answers from CoP panelists and co-hosts to in-session questions posed by participants, based on current guidance and information available at the time.

VACCINES AND CHILDREN

- **What is the evidence for 3rd doses for kids 5-11 years? Will we see this approved prior to September school start?**

A third dose for 5-11 has been approved by the US FDA and recommended by ACIP. I am guessing that it will only be a matter of time that the same happens in Canada.

- **Do we expect it to be a three-dose vaccine in the 5-11 and in <5 when we start vaccinating them?**

<5 is definitely going to be 3 doses. 5-11 most likely. [See also answer to preceding question.]

- **How did kids get 2 doses in 15 days? Isn't the product monograph/research on Pfizer 21 days MINIMUM between doses?**

Yes, the PM is 21 days, but sometimes it is given earlier based on informed parental consent. An interval of 15 days is still considered valid. I don't know how many kids actually had such a short interval.

- **I think that people in positions like yours and Dr. Evans should be very careful in the way you present your statistics, as they can be quite misleading. 104 kids over 4 months in all of Ontario is much less worrisome than 2%. Right?**

I agree that the incidence of severe outcomes is quite low in children, but with more infections, there will be (proportionately) more severe outcomes, and preventing severe outcomes is certainly worthwhile.

- **Is it 100 kids getting severe outcomes in all of Ontario from Jan. to April 2022? This would be much lower than 2% I would believe.**

Our study included 104 kids who tested positive and had a severe outcome (hospitalization or death). Perhaps Gerald [Dr. Evans] meant 2% of PCR-positive cases having a severe outcome. Of course, PCR test positives is a gross underestimate of actual cases, especially in this age group.



- **Would be interesting to know if the waning was less in kids who got a first dose, then got COVID, then got second dose 3 months later. Did Jeff look at this?**

The problem is that many kids are not getting PCR tests, so we aren't able to identify all the infections that happen between doses.

VACCINE BOOSTERS | INTERVALS

- **Please comment on doing spike antibody titres before taking dose 4. How accurate are they (capsid protein) antibodies in detecting previous infection?**

Antibody titres are not recommended to determine immune status, as we still do not have immune correlates of protection. Additionally, cell mediated immunity is more important in protection against severe disease and T-cell studies are not available to the general population. Nucleocapsid antibodies are very accurate in identifying previous infection.

- **Will getting a fourth dose now preclude you from getting a bivalent dose in the fall?**

I don't think so. Fall is still >3 months away! But don't wait much longer!

- **In an immunocompromised person who has had a 3-shot primary series of COVID vaccine and has had their 4th shot (1st booster) – when should they get 5th shot?**

Immunocompromised individuals are only eligible for a second booster (5th dose) if they meet the other eligibility criteria for second boosters: Older adult living in a congregate setting, 60+ years old or FNIM and household members that are 18+ years old. If they meet these criteria and are at least 3 months since the last dose then they should get it as soon as possible, particularly given that we want 3 months between doses, and they would be getting another (hopefully Omicron specific) booster in the fall.

- MOH guidance:
https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_vaccine_third_dose_recommendations.pdf
- Confused About COVID – Do I need a COVID booster? When should I get it:
<https://rebrand.ly/3rd-dose>
- **NACI recommendations for 4th doses were for > 80yo, possibly >70. Should we expect a change in recommendations from them?**

Yes. [See below for current guidance from MOH and summary of information in *Confused about COVID series.*]

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- **How about a patient over 65 with 3 doses who then had the COVID infection in March, would they still benefit from the 4th dose?**

Yes, for sure – there is updated MOH guidance on wait time between infection and vaccination: https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_vaccine_administration.pdf

- **For people who are <60 and have received 2 vaccines and then caught COVID, do they need a 3rd vaccine or does catching COVID count like a vaccine?**

Yes, they still need a third dose. The MOH has updated the details on what period to wait between infection and vaccination - https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_vaccine_administration.pdf. But bottom line: those who have been infected are still recommended to be complete vaccine series

- **Any data re uptake of boosters? My sense is public demand is low as folks feel the vaccines have over-promised and under-delivered (particularly around transmission risk).**

You are correct; Tara [Dr. Kiran] just shared the MOH slide on the waning of uptake for these boosters, and finishing the series in children.

- **If the confidence intervals go below 0, does that mean they are more likely to get COVID?**

A confidence interval going below 0 means that we can't exclude the possibility of increased risk. However, I would say that only if both the point estimate and the 95% confidence are below 0 is vaccination associated with increased risk of COVID.

- **Any thoughts re: differential VE with different vaccine technologies? Or us that hard to discern because mRNA is the dominant vaccine technology used. Thanks.**

It's pretty clear that VE is lower for those who have only received viral vector vaccines. [For someone who received viral vector vaccines] receipt of at least one mRNA vaccine among all doses received is equivalent to receiving all mRNA vaccines.

VACCINE EFFECTIVENESS

- **What is the efficacy of non-mRNA vaccines?**

Lower than mRNA vaccines, and wanes over time too.

- **Are your results on VE and waning, with so few cases and large CI, consistent with US/UK/Israel data with larger numbers? Have they been able to do similar analysis? I have not seen any studies to compare.**

There is a lot of variability in the estimates from other jurisdictions. Our estimates tend to be higher than those from the U.S. One potential explanation is the longer dosing interval for the majority of kids.



- **Were side effects reported in the VE study group?**

This was a VE study only, using lab testing, public health surveillance, and administrative data. It did not look at side effects.

- **If unvaccinated patients acquire antibody levels to COVID due to natural infection, should they be vaccinated, and if so, when?**

The Ministry of Health Vaccine Administration Guidance has a table that details what period to wait between infection and vaccination -

https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_vaccine_administration.pdf. Individuals who have been infected are still recommended to be up to date with their vaccinations.

- **Have the vaccines currently being administered been altered to deal with Omicron or are they the same as before?**

The current vaccines that are available are still based on the initial Wuhan strain. There are a number of bivalent products currently in various stages of authorization, with the expectation being that we will have a bivalent product this fall that will cover Omicron specifically.

- **Has there been/ will there be any “tweaking” of the vaccines to account for the variants?**

Yes, that is the bivalent vaccine that has been discussed, hoping to see this in the fall.

- **Are we going to get a revised vaccine in the fall?**

Yes, hopefully a bivalent vaccine in the fall.

OTHER

- **Any new data on relapse with recurrence of symptoms and/or positive test following treatment with Paxlovid?**

We don't have real world data. [See the following excerpt from a report in The Atlantic magazine: <https://www.theatlantic.com/health/archive/2022/05/paxlovid-covid-rebound-pfizer-clinical-trials/638438/>]

“Pfizer executive said during an earnings call this month that the company had taken a “preliminary look” at its trial data and concluded that viral loads bounced back up in about 2 percent of patients. He also said they saw “the same or close to the same percent in the placebo arm.” (These findings have not been published.) “Reports from the beginning of the pandemic suggested some participants exhibit fluctuations in nasal viral RNA, and these fluctuations could be a phenomena [sic] of the disease itself,” the Pfizer spokesperson told me. In any case, if you apply that measured rate of 2 percent to the population who have now taken the drug, you would expect thousands of people to have experienced Paxlovid rebound by this point (and many, many more cases of rebound occurring among all the COVID patients who didn't take it).”

**Do you think this is why the RATs (and sometimes PCRs) are negative even when they have all the symptoms?**

Yes, there are lots of other viruses circulating again, along with more social interactions, less mask-wearing, etc.

- **Please advise re: the protein vaccine for COVID like Novavax. When are the new vaccines available? Comment on dose 4.**

Novavax is available. Patients interested should contact their local public health unit. In Toronto, you can book for the Novavax vaccine here: <https://www.toronto.ca/news/new-novavax-appointments-now-available-for-booking-at-city-of-toronto-immunization-clinics/>

[List of PHUs: <https://www.health.gov.on.ca/en/common/system/services/phu/locations.aspx>]

- **Hospital data: are these patients admitted due to COVID or does it include patients admitted for other reasons who happen to test positive for COVID?**

Only admitted DUE TO COVID.

These additional questions were answered live during the session. To view responses, please refer to the session recording.

- My first question: those who got small pox vaccine in their childhood, are they protected against Monkeypox say after 30 years?
- Initial treatment and Complications of Monkey pox virus?
- Is anyone else seeing odd presentations of viral illnesses lately? I'm seeing a lot of diarrhea with fevers and joint pains and some odd rashes and mucosal lesions (oral/vaginal) and I'm wondering if this is a new variant or not related to COVID?
- Can Monkeypox be transmitted through touching gym equipment's, using sauna etc., should gyms be avoided
- Dr Kwong, many patients especially children and adolescents have mild symptoms. and many cases were not reported because they do RAT test at home. How can vaccine effectiveness be assessed if cases are not reported?
- Do you foresee combination of flu and COVID vaccine in the Fall?
- How many children in Ontario (absolute number and percentage of those who get COVID) are getting 'severe outcomes' from COVID?
- Does the VE per dosing interval account for the possibility that some of these kids may have had the illness between doses?
- Will health care workers under the age of 60 be eligible for a 4th COVID-19 vaccine dose soon?
- Can you comment on the negative VE which is noted after several months in several studies? Your intervals are very short and many patients wonder what happens after months following the vaccine not just short term. Thanks :)
- How is our wastewater signal trending right now?



- Gerald – with the new Omicron variants, is there a higher chance now of getting Omicron twice? How much time interval are we protected after a first Omicron infection?
- Can you comment a bit more on Hybrid Immunity?
- Didn't NACI recommend 4th doses for over 80 yr old, possibly for 70-79 yr old, but not under 70yr. Which recommendations is Gerald referring to?
- Any evidence that larger intervals for fourth dose are more effective? Advantage to wait for 4th dose (?beyond 6 mo)
- Please clarify the difference between the vesicles for chicken pox vs Monkeypox
- Can you please comment on the accuracy of some reports saying that monkey pox outbreaks are most common in the gay men and bisexual community?
- Are you contagious with Monkeypox prior to developing symptoms?
- Please explain a centrifugal rash vs a centripetal rash.