

Changing the Way We Work

June 4, 2021: Evolving evidence on COVID-19 transmission and vaccination and implications for primary care

Panelists: Dr. Peter Juni, Dr. Allison McGeer
Co-hosts: Dr. David Kaplan, Dr. Liz Muggah | Moderator: Dr. Tara Kiran

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

VACCINES | VACCINATION

- **Your opinion on second dose mRNA vaccine after first dose AstraZeneca vaccine?**

It is fine. Three studies of adverse events, two of immunogenicity. Good outcomes.

Added post-session: National Advisory Committee on Immunization (NACI) recommendations on mixing vaccines: <https://www.canada.ca/content/dam/phac-aspc/documents/services/immunization/national-advisory-committee-on-immunization-naci/naci-rapid-response-interchangeability-authorized-covid-19-vaccines-en.pdf>

- **Is AZ second dose just as effective against the Delta variant compared to one AZ + one mRNA?**

Answered post-session by Dr. Allison McGeer: We don't know. An observational analysis from the UK found that two doses of AZ was less protective against any infection than two doses of Pfizer – whether this difference will be confirmed by other studies and whether it applies to severe infection is not known. It is also true that mRNA vaccines are associated with somewhat higher antibody levels than AZ in general. In the German mix and match study, antibody levels after one AZ and one Pfizer at 12 weeks were similar to those after two Pfizer at a three-week interval (and T cell responses look a little better). <https://www.medrxiv.org/content/10.1101/2021.05.19.21257334v2>) So, it may be true that one AZ and one mRNA is better than two AZ, but it is by no means certain.

- **Mixing AZ and mRNA vaccine in elderly patients. I believe the studies on mixing the vaccines were done in much younger patients in their 30s. Any specific concerns regarding this in older patients?**

Answered post-session by Dr. Allison McGeer: No. Early reactogenicity is lower in older compared to younger adults consistently, and this is true of COVID-19 vaccines. Similarly, although immunogenicity is a bit lower after mRNA vaccines in older as compared to younger adults, the differences are not large, and there is absolutely no reason to think that mixing vaccines is not indicated in older adults.

- **How do patients book a second dose with mRNA if their first was AZ? What is timing of interval?**

Second-dose guidance allows mixing AstraZeneca and mRNA doses for AZ recipients, and sets out the booking schedule. Find announcement here: <https://news.ontario.ca/en/release/1000256/ontario-updating-astrazeneca-second-dose-guidance> and the MOH guidance here:

https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_vaccine_info_AZ_2nd_dose.pdf

The updated provincial guidance for people with one dose of the AstraZeneca vaccine offers two options for their second dose at a 12-week interval: Receive a second dose of the AstraZeneca vaccine; or receive a Pfizer or Moderna vaccine as their second dose, both available at the 12-week interval. The new guidance aligns with recent National Advisory Committee on Immunization (NACI) recommendations. As of June 4, those who had their first AstraZeneca dose 12 weeks ago can book a second AstraZeneca dose at their original pharmacy or primary care vaccination site. People who have had a first AstraZeneca dose and prefer a Pfizer or Moderna second dose can schedule their second dose appointment after 12 weeks through:

- a pharmacy that offers Pfizer and Moderna vaccines;
- or the provincial booking system, which will open these appointments the week of June 7;
- or their public health unit booking system (according to each PHU's schedule for second doses.)

The recent NACI guidance also allows for interchanging Pfizer and Moderna COVID-19 vaccines for mRNA second doses if the same mRNA vaccine isn't available for a second dose. However, those who received a first dose of a specific mRNA vaccine (either Moderna or Pfizer) should be offered the same mRNA vaccine for their second dose if it is available.

- **Are there any talks about booster doses in upcoming months for doctors like us who got the Pfizer vaccine in early January?**

People are watching carefully. Nothing needed yet.

- **Is there any downside to getting a third dose of an mRNA vaccine if it's been six months since my second dose? I'm concerned about waning immunity.**

No evidence of wane so far. Need to keep watching, but so far two doses holding, including against the Delta variant in the U.K.

- **Can Dr. McGeer PLEASE speak to booster doses for those on front line who are now about six months out? I realize we need to get those first and second doses to the community, but I would hate to see our HCP stricken with a 4th wave due to lack of boosters.**

Answered post-session by Dr. Allison McGeer: The good news is that both antibody levels and low risk of infection continue out past six months in people who have had two doses of mRNA vaccines. In a very large cohort study (>44,000 HCWs) in the U.K. (the SIREN study), there have been no Delta virus infections identified. (see page 34 in https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/91343/Variants_of_Concern_VOC_Technical_Briefing_14.pdf). So, we need to keep watching carefully, but it may be better to wait until we can boost with a vaccine specifically against variants.

- **Are vaccine side effects related to the immunogenicity benefit?**

Partly but not really tightly correlated.

- **When a patient is in pre-symptomatic phase of COVID and receives vaccine, how will that change the course of disease if at all?**

Our data in nursing homes suggests that it reduces severity to some degree. But it is not completely protective.

- **Those who had COVID already – are they required to get two doses of COVID vaccine again or is one dose enough?**

Answered post-session by Dr. Allison McGeer: The current recommendation is that they get both doses of vaccine. It is true that they get a better response in terms of antibody levels to the first dose of vaccine than people who have not been infected. But the first dose of vaccine produces a better antibody response than infection, particularly if the infection was mild. It seems likely that people who have been infected and have had one dose of vaccine will be better protected than those who have not been infected and have had one dose, but not as well protected as those who have two doses. Because of this, and because only about 3% of the Canadian population has been infected (so we aren't talking about many additional doses), public health has chosen to be precautionary in their recommendations.

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In the German mix and match study, antibody levels after one AZ and one Pfizer at 12 weeks were similar to those after two Pfizer at a three-week interval (and T cell responses look a little better).

<https://www.medrxiv.org/content/10.1101/2021.05.19.21257334v2>

So, it may be true that one AZ and one mRNA is better than two AZ, but it is by no means certain.

- **Two of my patients had their first AZ shot in Bangladesh and are encountering reluctance from pharmacies to give them the second. What would you suggest in this situation?**

This is likely to become more common as people are vaccinated in other jurisdictions. Clearly, we need to be giving the vaccines no matter where first dose was given and in the proper interval.

Post-session update: The Ministry of Health released guidance on June 4, 2021, after the CoP session, which confirms: "Individuals who received the first dose of a two-dose Health Canada authorized COVID-19 vaccine series outside of Ontario or Canada do not need to restart the vaccine series, but should receive the second dose as close to the interval recommended by Ontario as possible". Other scenarios are also described as well as how to ensure registration is completed in the COVaxON system for vaccination done out of province:

https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_guidance_for_individuals_vaccinated_outside_of_ontario.pdf

- **We had a patient return from China who had one dose of Sinopharm – can we now give an mRNA vaccine? 12 weeks interval?**

Yes, interval of 8+ weeks is fine.

- **Any guidance re patients who received vaccines e.g. Sinopharm outside of Canada and what to do for their second shots?**

Good info here from Ottawa Public Health – check section on vaccine received outside of Canada.

<https://www.ottawapublichealth.ca/en/shared-content/frequently-asked-questions-about-covid-19-vaccination.aspx#I-received-my-first-dose-of-a-COVID-19-vaccine-series-outside-of-Canada-that-is-not-approved-for-use-in-Canada-What-should-I-do-for-my-second-dose>

Post-session update: Ministry of Health released guidance on June 4, 2021 (after our CoP session) is for those who had one dose of Sinopharm to be offered a new series: “Individuals who have received all recommended doses of a COVID-19 vaccine that has been listed for emergency use by the WHO are considered to have a complete vaccine series and do not need any additional doses. At this time, individuals who have not received all recommended doses of a COVID-19 vaccine listed for emergency use by WHO may be offered a new series of a Health Canada authorized COVID-19 vaccine” vaccine.” https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_guidance_for_individuals_vaccinated_outside_of_ontario.pdf

- **I have had patients ask to get Pfizer after having had two doses of China-based Sinovac. Any recommendations on how to address this?**

Answered post-session by Dr. Allison McGeer: The Sinovac vaccine is very effective against serious disease, although results to date suggest that it is not as effective as mRNA vaccines against any infection. I think expert opinion on whether a dose of an mRNA vaccine will contribute to reducing transmission is probably divided. There isn't a NACI or provincial recommendation about this, but I think that most experts would suggest that, because protection against severe disease appears to be very good, these people should wait until most Canadians have had a chance to have two doses of a vaccine.

Added post-session: MOH guidance: “Individuals who have received all recommended doses of a COVID-19 vaccine that has been listed for emergency use by the WHO are considered to have a complete vaccine series and do not need any additional doses”:

https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID-19_guidance_for_individuals_vaccinated_outside_of_ontario.pdf

The WHO summary is: *Sinovac-CoronaVac is an aluminium-hydroxide-adjuvanted, inactivated whole virus vaccine. A large phase 3 trial in Brazil showed that two doses, administered at an interval of 14 days, had an efficacy of 51% (95% confidence interval (CI): 36–62%) against symptomatic SARS-CoV-2 infection, 100% (95% CI: 17–100%) against severe COVID-19, and 100% (95% CI: 56–100%) against hospitalization starting 14 days after the second vaccination. No COVID-19-related deaths occurred in the vaccinated group; there was one COVID-19-related death in the placebo group. Vaccine efficacy was maintained in groups with and without comorbidities and irrespective of previous SARS-CoV-2 infection. The median duration of follow-up was 73 days. Interim vaccine efficacy data from phase 3 trials in Indonesia of 65.3% (95% CI: 20.0–85.1%) and Turkey of 83.5% (95% CI: 65.4–92.1%) against symptomatic SARS-CoV-2 infection support protection across settings.*

<https://apps.who.int/iris/bitstream/handle/10665/341454/WHO-2019-nCoV-vaccines-SAGE-recommendation-Sinovac-CoronaVac-2021.1-eng.pdf>

- **Any guidance for 50-year-old who had severe side effects from AZ (fever, delirium, headache, muscle pain 3-4/7) and intermittent vertigo persisting 6 weeks later re 2nd dose?**

Refer to CIRN (Canadian Immunization Research Network) special immunization clinic at UHN. The regular infectious disease clinic there takes referrals. [Also, eConsult offers allergy advice on COVID-19 vaccines: <https://econsultontario.ca/allergy-advice-for-covid-19-vaccine-is-now-available-on-the-ontario-econsult-service/>]

- **Other than for the PEG allergy, are there any other known allergies to any of the COVID vaccines?**

Answered post-session by Dr. Allison McGeer: There are no other known allergens in these vaccines. However, we don't know for certain what triggers all the allergies to them. The presumption is that it is

PEG, because there are so few components, and nothing else is a likely allergen. But there might be something.

- **I had a patient inquiring about Ivermectin for prophylaxis against COVID rather than getting vaccinated. Any evidence?**

No, none you would take seriously.

- **How does the rate of myocarditis after Pfizer vaccine compare to rate of myocarditis after COVID infection?**

Answered post-session by Dr. Allison McGeer: There are multiple mechanisms proposed for myocardial damage in acute COVID-19, and many questions are still not answered. Myocardial damage from COVID-19 is common and likely more common than damage from vaccines. However, this is not the important question. We need to understand whether vaccines are associated with myocarditis and how often for 2 reasons. First, it may be possible to re-engineer vaccines to reduce the risk. Second, it may be that one of the new vaccines that is coming will be a safer and equally effective vaccine for young men. It is true that the balance of risk between vaccine and COVID-19 is important. But it is also true that we need to be dedicated to finding the safest and most effective vaccines for everyone.

- **When do we think studies be available for vaccines for children under 12? Are any being done in Canada?**

Studies are being done currently. Not in Canada – we don't have enough COVID (infections needed for endpoints).

- **Can I give Shingles, Gardasil or pneumovax etc. vaccine in between two doses of COVID vaccine as long as it's 4 weeks away from COVID vaccine?**

Yes.

- **Can you please review the most current recommendations regarding timing of Mantoux tests with COVID vaccines? NACI recommends waiting four weeks post COVID vaccine before administering a Mantoux test. Is this currently what we should adhere to? Significant when working in a college setting, where many programs require up to date TB testing in order for students to proceed with placements.**

Recommendation is still to wait four weeks, or to give before vaccine (you don't need to wait after TB skin test for vaccine). But it can be done earlier if needed urgently.

- **Can Mantoux TB test and COVID vaccine can it be done with a few days gap?**

Best to do test on same day or days before vaccine. Otherwise, should wait a month. But if it can't wait, it's okay to do test.

- **Do we know if those being hospitalized have had a vaccination? Any statistics on this? Would like to use this for patient hesitancy.**

Paper coming soon from Dr. Jeff Kwong. Vaccines are working in Ontario. Very significant reduction in hospitalization in vaccinated folk.

- **Please comment on the needs of medical note regarding type of second dose.**

Medical notes are required only for those who are eligible for the shorter interval of the second dose (such as organ transplant recipients); notes should not be required based on the type of vaccine provided.

- **My patient hasn't approached me, but a patient with autologous liver transplant on cellcept – remotely – should they get letter to get second dose early? What should the interval be? Should her caregiver also get letter?**

https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/vaccine/COVID_19_medical_exceptions_vaccine_dose_intervals.pdf

Individuals in the authorized age group who are taking an anti-CD20 agent (e.g., rituximab, ocrelizumab, ofatumumab) may receive the second dose of COVID-19 vaccine (of a two-dose series) in accordance with the interval specified on the vaccine product monograph.

Added post-session: Caregivers are not eligible for the shortened dose interval – see page 3 of this MOH memo: <https://www.ontariofamilyphysicians.ca/tools-resources/covid-19-resources/public-health-updates-guidance/hospital-phu-memo-highest-risk-2021-04.pdf>

- **Wondering what the panel thinks about the possible strategy of opening up second doses to everyone with no restrictions to get as many second doses in ASAP.**

Yes – we should be hot-spotting Peel for second doses without restriction and implementing NO inter-PHU travel.

- **Are family doctors getting access to AZ vaccines as pharmacies are this week to offer to patients who are 12 weeks out from their first dose?**

Yes, a new allocation was sent to all PHUs in the original six-PHU pilot. This will expand over the next couple weeks as the AZ pilot expands.

- **Will we get a release of dates patients have had COVID vaccine so we can know which of our patients have not had a COVID vaccine so we can reach out? Will it go into our EMR?**

The “push notifications” of those who got vaccinated has started. It will go into your EMR as text but is not integrated into the CPP/Vaccine notification We will be talking about this today in the talk. More details here:

<https://www.ontariomd.ca/documents/resource%20library/hrm%20covaxon%20vaccine%20report%20faq.pdf>

- **Recent HRM notifications of vaccination do NOT include which vaccine given – how can this data be absent in COVaxON? Thought you should know, so it can be fixed.**

There was a new glitch. It has been fixed last night.

IPAC | TRANSMISSION

- **Are there any guidelines that community health clinics can use for ventilation/air quality to mitigate aerosol transmission?**

Right now, no specific guidance on ventilation. Previously we have talked about using a **carbon dioxide monitor** as a way to assess ventilation in your office. See here for some Public Health Ontario guidance – not specific to health care: <https://www.publichealthontario.ca/-/media/documents/ncov/ipac/2020/09/covid-19-hvac-systems-in-buildings.pdf?la=en>

Added post-session: Dec. 4, 2020 Q&A from the OCFP including information about IPAC and office ventilation: <https://www.ontariofamilyphysicians.ca/tools-resources/covid-19-resources/clinical-care-office-readiness/top-10-ipac-ppe-questions.pdf>

- **Can you please provide most recent evidence for what exactly “best ventilation” practices should be for a Family Practice?**

Answered post-session by Dr. Allison McGeer: There is no defined “best ventilation” practice. In an ideal world, you would want your office to meet current standards for ventilation, but many buildings were built before these standards were in place, and ventilation is not always well maintained. The best you can do is ask the building owners if they could check and provide you a report on ventilation – you could also ask one of the companies that assess air flow and ventilation to do an assessment, but this is expensive, and you may not be able to fix much of it. High efficiency re-circulating filters can be used, but they have to be quite large to effectively clear a space, and there are a lot of folks selling smaller, not useful devices. Having doors and windows open is good if it is possible. Carbon dioxide monitors for air are not too expensive, and if your CO₂ levels are okay in the office, your air exchanges likely are as well. In general, we want to keep people in the office for as short a time as possible to prevent potential buildup of aerosols.

- **Can we stop using gowns in office? | Given info on spread, do we need to wear gown/constant glove “full PPE” because a patient has ‘screened positive’ for COVID symptoms but very low clinical probability (e.g., being seen for new abdo pain only, r/o appy)?**

Pictorial of PPE guidance for office visits: <https://www.ontariofamilyphysicians.ca/tools-resources/timely-trending/novel-coronavirus-2019-ncov/ocfp-ppe-for-hpc-visual-june-2020.pdf>.

Isolation gown and gloves are not required for those who screen negative. When administering vaccines, consider the use of gloves as per the Canadian Immunization Guide. Gowns may be worn when seeing a series of patients who may have COVID-19 but should be changed if moving from a COVID suspect to a COVID negative screened patient.

- **One of the studies reviewed today referred to “wet cloth.” Why are we asked to change masks often when we are seeing non-COVID patients? (Public Health says four hours at immunization clinics.)**

Answered post-session by Dr. Allison McGeer: There is a lot of confusion about mask use. There are four reasons for changing masks:

- (i) If it is crushed or crumpled – the filter is electrostatic, not physical, and no longer functions as well if a mask crumpled.
- (ii) If it gets wet (not just a bit damp) – as per crushing, this reduces filter function.
- (iii) If it gets put on and taken off enough that the elastic gets stretched and it no longer fits reasonably tightly (different quality masks are very different in how quickly this happens)

- (iv) If it gets contaminated, so that if you touch it or remove it and then rub your eyes or nose, you can transfer virus.

You can see that recommendations will vary because of the lack of certainty associated with contamination from unsuspected patients and with how masks are being used.

- **Any recommendation for wearing eye protection in hallways for staff routinely while in the workplace?**

Answered post-session by Dr. Allison McGeer: Eye protection prevents you from touching your eyes with contaminated hands, and from droplets landing in your eyes. It will not protect you from the very small particles that move with air. So, the primary reason for wearing it in hallways and break rooms etc. is to protect you if you forget going into a room with a patient, or if you pass by a patient in the hallway, or if a staff member is incubating disease or has asymptomatic infection. We usually think of patients as the risk, but SARS-CoV-2 is an equal opportunity infector, and staff to staff transmission is common and impossible to prevent completely because of pre-symptomatic and asymptomatic infection. On the other hand, changing your face shield between patients reduces any potential contamination relative to continuing to wear it. So you can argue the benefit of either – although worst case scenario is taking eye protection on and off without discarding or disinfecting it.

- **A strange situation I faced with my patient last week where this 48-year-old man tested COVID-positive three days after COVID vaccine and yesterday got admitted to hospital with low oxygen sat. All his co-workers and family members tested COVID negative. How is it possible?**

He got infected from an unknown source – something he was exposed to in the 11 days before vaccination. Many people don't have an identified source.

- **Have there been any cases of suspected transmission from groceries? Should we be advising people to wipe down/wash groceries?**

No, you don't need to wipe/wash groceries.

- **Are Dr. Juni's statements re masks true for the Delta variant as well? I recall Public Health made a statement that if two people are double masked and spaced six feet apart and one has symptoms of COVID, it's a variant.**

Answered post-session by Dr. Allison McGeer: The truth is that everything is a variant now. There is essentially none of the original strain left, and the B.1.1.7 (alpha) variant is fairly quickly being replaced with the Delta variant. Delta is more transmissible than Alpha which is more transmissible than the original. So, any transmission that occurs despite the use of some precautions is more likely to be Delta than alpha.

- **What guidance do we give patients regarding change in behaviour post vaccine 1 and vaccine 2, given that complete vaccination of our population will be an extended process?**

Answered post-session by Dr. Allison McGeer: Patients are looking to CDC guidelines which seem very premature for us in Canada. The CDC guidance is intended (like the Israeli “green pass”) to incentivize vaccination and increase vaccination rates. With the Delta variant, which will become predominant in Ontario over the next two months, one dose is only 30-50% effective against infection, and less effective against transmission, and changing behaviour doesn't make sense. After two doses, the risk of symptomatic infection is very substantially reduced, probably with a somewhat lesser reduction in asymptomatic infection and transmission.

TESTING

- **Any comments about the antibody testing offered at a private lab? Best practices on this testing? https://www.dynacare.ca/DYN/media/DYN/CovidScreening/Dynacare_COVID-19_Antibody_Test_Requisition_Form_website.pdf. It was ordered for one of my transplant patients who received mRNA vaccine x2. If results are negative or indeterminate, is a third dose indicated? | Is the COVID antibody test useful for showing a response to the COVID vaccine? RA patient on prednisone afraid to leave her house until we can say her COVID shot worked.**

The old antibody tests were antibody against nucleocapsid, which can tell you if you have been infected, but don't detect antibody to spike, which is what is in the vaccine. So, you need to check that the antibody test detects spike. What Dynacare is offering detects spike; I'm not sure whether LifeLabs has switched. However, we don't know if a third dose will help in severely immunocompromised folk.

- **What is the different in efficacy of the two PCR swabs – one being NP nasal and the other being the anterior nasal swab?**

NP swabs are more sensitive.

- **Are saliva PCR tests equivalent to NP nasal swabs for kids or those afraid to get NP swabs?**

Yes, saliva gargle is equivalent.

- **COVID-19 antibody testing is available through LifeLabs. Some patients who are vaccine hesitant are asking for this test and willing to pay for it. Please comment.**

Having a past history of COVID (i.e., antibody positive) does not confirm immunity. Especially with variants, they need vaccination.

The following questions were answered live during the session. To view responses, please refer to the [session recording](#).

- I am receiving vaccination notifications on my patients, but most do not state the type of vaccine. Is there a way this can be changed?
- Please comment on mixing AZ and mRNA vaccines and any new studies out to support this? (Is there a Study saying better efficacy with AZ + Pfizer? Heard possibly a Spanish study from a colleague yesterday.) Or is it recommended right now to get a second AZ?
- Can you discuss please the evidence around what reactions have been seen after second dose with a different vaccine (i.e., AZ first the Pfizer). I am having patients calling concerned about this.
- On May 6th, the MOH put out a document saying that people who have had two vaccines and have a high-risk contact do NOT need to isolate. THEN on May 21st they put out a document on testing and clearance saying that there is no change in the routine management of COVID 19 cases or contacts based on their vaccination history". Does this mean no change from the May 6th recommendation? Do they need to isolate or not?

- Are there published studies on the immunogenicity results of mixing the vaccines? Is it equally effective if an mRNA vaccine is given sooner than 12 weeks? Are Moderna and Pfizer equivalent in terms of mixing?
- Please comment about Myositis in young adults/teens with Pfizer.
- At what point can we bring patients into our office who are fully vaccinated against COVID without screening them at the door OR worrying about sending them for a covid test if they have RTI symptoms? It will be a game changer for ramping up.
- Is there any benefit in those who received two doses AZ to have a boost of mRNA with new variants? Particularly for high-risk patients (e.g., transplants, chemo)?
- B1.6.17 is already prevalent in Peel region/Brampton - perhaps 30% of positive tests. It is predicted to be dominant strain in Brampton within 3-4 weeks. One dose of any vaccine is inadequate protection. Please tell us more in general and help plan strategies, advice.
- Please comment on new concern with heart inflammation and Pfizer vaccine.
- Is the myocarditis reported only with second dose of mRNA if the first dose was also mRNA?
- Although we have evidence that it is safe and effective to give second dose mRNA after AZ how do we help patients "choose". They are told to make the decision themselves and I have no idea how to help them make this decision.
- Given what Dr. Juni is saying, can we stop wiping down the chairs in the vaccine clinics please?
- Can we stop wiping down our rooms after every patient in office and decrease cleaning to every 2-4 hours or what is the current recommended interval?
- What is the allowed timeline for giving second dose mRNA to first dose AZ?