

Feds sign off on mixing and matching COVID-19 vaccines, but evidence gaps remain

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People who received a first dose of the AstraZeneca SARS-CoV-2 vaccine should be offered a second dose of the same product, or one of the Pfizer or Moderna shots, according to new advice from Canada's National Advisory Committee on Immunization (NACI). The Pfizer and Moderna SARS-CoV-2 vaccines, which both use the same mRNA technology, can also be used interchangeably when supplies are limited.

"It is good news that people now have the choice," said Dr. Theresa Tam, Canada's chief public health officer. Previously, NACI did not recommend mixing and matching AstraZeneca and mRNA vaccines, leaving some Canadians in limbo as governments grappled with supply issues and safety concerns.

NACI updated its advice on mixing and matching SARS-CoV-2 vaccines considering the risks of rare but serious blood clots linked with the AstraZeneca vaccine. As of May 12, Canada has reported one case of vaccine-induced immune thrombotic thrombocytopenia (VITT) in every 83 000 people who received a first dose of the AstraZeneca shot.

Tam noted that the rate of VITT seems to be lower after the second dose of the AstraZeneca vaccine. "Right now, it's one in 600 000 people... but that could change," she said at a briefing. According to NACI, VITT rates have generally increased with observation times.

Prior to the guidance change, several provinces had already announced that they would give people who received the AstraZeneca vaccine the option to receive a Pfizer or Moderna shot for their second dose.



A first AstraZeneca shot may be followed by an mRNA COVID-19 vaccine, according to new guidance.

However, the evidence for mixing and matching SARS-CoV-2 vaccines is still emerging.

NACI's recommendations are based on three studies, each involving several hundred participants, which reported no serious adverse events among adults who received a Pfizer shot after a first dose of the AstraZeneca vaccine. One of the studies noted an increase in short-term adverse effects including fatigue, headaches and chills compared to people who received the AstraZeneca vaccine for both shots. And none of the studies were large enough to capture rare adverse events like VITT. Even so, NACI concluded that mixed schedules appear to have an "acceptable safety profile."

Some experts have speculated that mixing and matching SARS-CoV-2 vaccines could boost their effectiveness by triggering stronger or broader immune responses. Preliminary data from the CombiVacS trial in Spain indicated that humoral immune responses after a first dose of the AstraZeneca vaccine increased following a Pfizer booster. But there are no data comparing those results to the immune responses triggered by two doses of the AstraZeneca vaccine.

Likewise, no data currently exist on the interchangeability of Pfizer and Moderna's vaccines. According to NACI, the products are so similar there is no reason to believe that swapping them "would result in any additional safety issues or deficiency of protection."

Deputy Chief Public Health Officer Dr. Howard Njoo said Canada is in a “good position” following the lead of other countries. Denmark, Finland, France, Germany, Sweden, Norway and Spain are already offering second doses of mRNA vaccines to people who received the AstraZeneca shot first.

“We’re still waiting for more data and it’s always a matter of striking a balance because if you wait... it may be too late,” Njoo said in French at the briefing. “You have to make a decision at some point. I think this is the right time.”

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