



NEWS

Will the new COVID-19 vaccine change your DNA? This and other questions answered

An expert hopes to reach people on the fence about the vaccine

By [Megan DeLaire](#) Toronto.com

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With COVID-19 vaccination for the general population nearly within reach in Ontario, more people will find themselves falling into one of three camps: those who want the vaccine, those who oppose all vaccines despite their proven benefits and those who are on the fence.

“You’ve got your group that isn’t really sure,” said Kelly Grindrod, a researcher and

professor of pharmacy innovation at the Ontario College of Pharmacists. “Those are the people everyone is focused on reaching right now.”

Grindrod, who also teaches at the University of Waterloo, said it’s important for people who are hesitant about the vaccine to receive accurate information with which to make informed decisions about immunization.

In order to dispel fears Ontarians might have about the COVID-19 vaccines available right now, Grindrod answers some frequently asked questions.

Will the COVID-19 vaccine change my DNA?

“The vaccine will not change your DNA. The vaccine doesn’t come anywhere near your DNA or interact with your DNA,” Grindrod said. “Where people get this from is that DNA and RNA are the things our bodies use to make stuff. This vaccine has messenger RNA, which is a little instruction code. You have these in your body, too. All it does is go into your body and make a little protein called a spike protein, which is the most recognizable part of the virus.”

She said the messenger RNA tells the body to be on the lookout for the spike protein found on SARS-CoV-2 and attack it if it enters the body. The body memorizes this warning.

“It’s like instructions on a sticky note,” Grindrod said. “You leave a note for someone, they look at it, understand the information and throw it away. It doesn’t touch their brain; it just gives them a memory of information.”

If vaccines normally take years to develop, weren't these vaccines rushed?

“Vaccine research is generally slow because it’s poorly funded, because it takes forever to recruit people into trials, and because there might not be a lot of the virus circulating in the population,” Grindrod said.

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“What’s happened there is we’ve funded it like crazy. That meant that all eyes were focused on making the trials as big and strong and amazing as possible. This is how research should be.”

Couldn't the vaccine have negative long-term side effects we don't know about yet?

Grindrod said vaccine side effects normally show up within a few days to six weeks after immunization and are rarely serious. The medications that come with a risk of long-term negative side effects are usually taken on a regular, long-term basis, which isn't the case with a vaccine.

“Vaccines are a one- or two- shot deal,” she said, adding that long-term vaccine studies are concerned with a vaccine's efficacy over a long period of time, not with potential side effects.

There are short-term side effects associated with the vaccine, but they are mild for almost all recipients.

Will the vaccine make me sick or give me COVID-19?

Grindrod said the mild, short-term side effects of the vaccine can mimic flu symptoms but are not caused any infection or adverse reaction.

“Eighty per cent of people will get a sore arm. Over half will get head aches and fatigue, a third will get muscle aches and chills. The thing to keep in mind is that’s your immune system responding to the vaccine and learning. It’s short-term pain for long-term gain.”

The vaccine does not contain the virus and will not infect a recipient with COVID-19.

Should people with serious allergies avoid the vaccine?

According to [Health Canada](#), anyone who has already experienced an anaphylactic reaction to an approved SARS-CoV-2 vaccine should avoid the vaccine. Additionally, anyone with a proven anaphylactic hypersensitivity to one of the ingredients in an approved vaccine should also avoid taking it. A list of ingredients in the Moderna vaccine is available [here](#). A list of ingredients in the Pfizer vaccine is available [here](#). People with anaphylactic sensitivities to ingredients not found in the vaccines do not need to avoid them.