

COVID-19 Vaccine: Building Trust and Confidence

Presented by: Dr. Vinita Dubey
Associate Medical Officer of Health

May 4, 2021

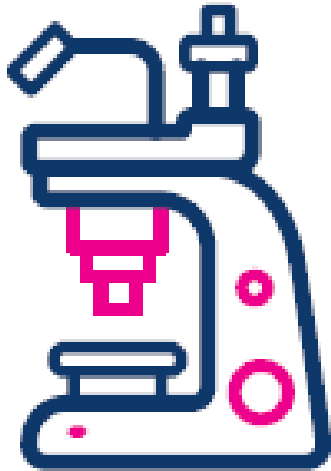
Moderators: Nicole Welch and Domenico Calla

COVID-19

- A COVID-19 infection can cause damage to the lungs, heart or brain.
- Some people who have had a COVID-19 infection will have symptoms and experience long term effects months after the infection is gone.
- Long term effects may include persistent fatigue, shortness of breath, cough, joint pain, pounding heartbeat, trouble concentrating, skin rash or hair loss.

Vaccines Can Help

**Vaccines used in
Canada are safe
and they work.**



**Vaccines help to
protect us from
serious illness**



ARE THE COVID-19 VACCINES SAFE?



All vaccines approved by Health Canada have met safety & quality standards



They have been tested in large trials to show they are safe & they work

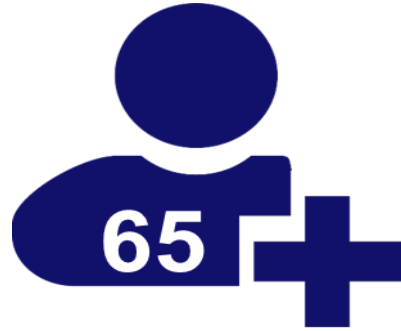


Millions of doses of the vaccines have already been given around the world with good results



Most side effects are mild and go away after a few days

COVID-19 Vaccines Are Safe For ...



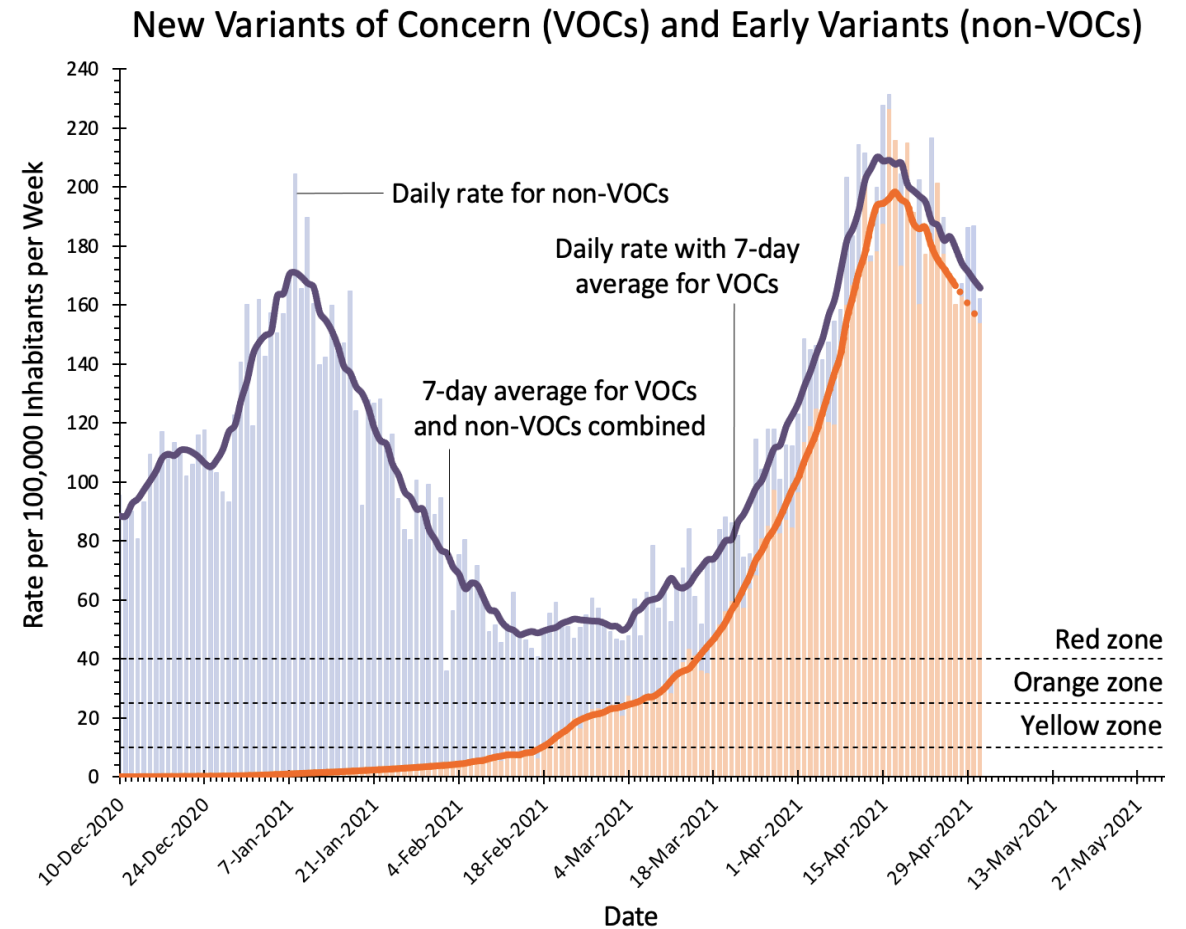
&



- People with health conditions such as heart disease, asthma, diabetes, high blood pressure, or on blood thinners, with hepatitis B, C or HIV.
- It is also safe for people with a weakened immune system, autoimmune disorder and during pregnancy.

Variants of Concern (VOC)

- Different variants are now in Ontario and Toronto.
- They spread infection more easily and cause more serious disease
- Public health measures and vaccines work against variants



Vaccines and the Variants

VACCINES OFFER PROTECTION AGAINST NEW VARIANTS



Vaccines have been used successfully in countries with variants



Vaccines can provide protection even when viruses change



Protection offered by vaccines is important as variants can spread more easily



Booster doses may be used in the future for specific variants

Over 1.16 Billion Doses Given Worldwide

As of May 2, 2021:

- More than 1.16 billion doses of COVID-19 vaccines have been given in 174 countries around the world.
- 13.4 million COVID-19 doses have been given in Canada
- 1,204,543 COVID-19 vaccine doses have been given in Toronto

<https://www.toronto.ca/home/covid-19/>

<https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution>

4 Vaccines Available In Canada



For 16-18 years
& older, including seniors

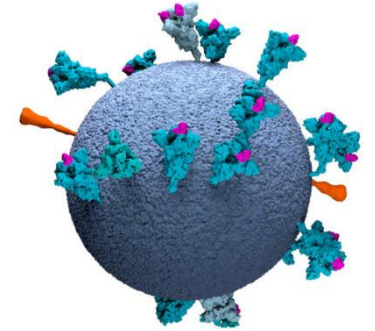
Real world effectiveness

2 dose schedule, except for
Janssen

Name	Technology	Recommended in Ontario	Dose schedule
Pfizer BioNTech	mRNA	16 years +	2 doses
Moderna	mRNA	18 years +	2 doses
AstraZeneca/ COVISHIELD	viral vector	40 years +	2 doses
Janssen	viral vector	30 years +	1 dose

How the COVID-19 vaccines work...

The COVID-19 vaccines works by telling our body to make “*spike proteins*”, a protein specifically found on the surface of the coronavirus. These proteins will stimulate our body to start making antibodies against COVID-19.



- **Pfizer BioNTech and Moderna** use mRNA technology.
 - mRNA research and technology has been around for over 10 years.
 - Breaks down and is removed from body in days
- **AstraZeneca/COVISHIELD and Janssen (Johnson & Johnson)** use a viral vector.
 - A cold virus that is inactivated (adenovirus), has instructions to make the spike protein in it.

What Is In The Vaccines?

WHAT IS IN THE COVID-19 VACCINES?



The vaccines contain instructions to have your body make antibodies



The vaccines contain lipids, salts, sugars and buffers



They do not contain eggs, gelatin, preservatives, latex or antibiotics



There is no COVID-19 virus in the vaccine that can give you COVID-19

What If I Have Allergies?

Pfizer-BioNTech & Moderna: **Polyethylene glycol**, also found in:

- laxatives or products for colonoscopy, cough syrup, ultrasound gel
- cosmetics, skin creams,
- shampoos, toothpastes, hair products, contact lenses & solutions,
- some fast foods, baked goods

Moderna vaccine: **Tromethamine**, also found in:

- contrast media for CT scans / MRI, some medications, skin creams

AstraZeneca/COVISHIELD & Janssen vaccines: **Polysorbate 80**, also found in:

- processed food, pickles, ice cream, whipped cream, gelatin, shortening, chewing gum,
- cosmetic, soaps, creams, body butter, bath gels, shampoo, mouthwash,
- eye drops, vitamin supplements, heart medication, contraceptives

Will The Vaccine Make Me Sick?

WILL THE VACCINE MAKE ME SICK?



There is no COVID-19 virus in the vaccine that can make us sick



Most side-effects are mild & will go away after a few days



Severe allergic reactions are rare and are treated right away



Talk to your doctor if your symptoms don't go away after 3 days

Vaccine side effects

- Most vaccine side effects are mild and similar to the flu shot, lasting 1 to 3 days:
 - pain, redness & swelling where the needle is given
 - headache, feeling tired, muscle ache, joint pain
 - fever, chills, nausea or vomiting
 - swelling & tenderness under the armpit / enlarged lymph nodes
- Side effects are more common after the 2nd dose
- Stay at the clinic for 15 minutes after vaccination, so you can be monitored, and treated, for any reactions

Which COVID-19 Vaccine Is Best For Me?

WHICH COVID-19 VACCINE IS BETTER FOR ME?



All the approved vaccines are safe and effective



All the vaccines will protect you from serious illness



Get vaccinated as soon as you are eligible



Vaccinating more people will reduce the spread of COVID-19

COVID-19 Variants Can Be Serious In Pregnancy

- Book an appointment at any time in pregnancy
- Vaccination during pregnancy and breastfeeding can protect the pregnant person and baby.
- Over 100,000 pregnant women have been involved in COVID-19 safety registry in the United States. Some have delivered with no safety concerns identified.

GET THE COVID-19 VACCINE IF YOU ARE PREGNANT



In pregnancy, COVID-19 infection can be more serious



COVID-19 vaccines can protect you from serious illness



Antibodies can transfer to the baby, protecting them as well



COVID-19 vaccines are safe in pregnancy & are being used around the world



Talk to your health care provider if you have questions

Do I need the vaccine, if I already had COVID-19?

A: Yes. Based on the latest scientific evidence, natural immunity from COVID-19 may not last long. It is possible to get re-infected after a previous COVID-19 infection.

Learn more:
toronto.ca/COVID19



Phase 2 of Vaccine Rollout

Eligibility group	Week of April 26	Week of May 3	Week of May 10	Week of May 17	Week of May 24
Provincial age band	April 30: 55 and older	50 and older	40 and older	30 and older	18 and older
Hotspot age band	April 27: 45 and older	18 and older	-	-	-
Health conditions	Highest-risk health conditions continues	High-risk health conditions	At-risk health conditions	-	-
Cannot work from home	April 29: licensed childcare workers	Group 1	Group 2	-	-

Pfizer/BioNTech Vaccine

- 131 million doses of Pfizer vaccine administered in the US so far.
- Approved for use in Canada in December 2020.
- Ontario is expecting an average of 787,000 Pfizer doses per week for the month of May.
- Currently the vaccine being offered at the City of Toronto's mass immunization clinics.

Second Dose Extended But Still Necessary

WHY IS THE 2ND VACCINE DOSE EXTENDED TO 4 MONTHS?



Data shows the first dose provides strong protection



Extending the 2nd dose allows us to vaccinate more people



Vaccinating more people will reduce the spread of COVID-19



Vaccines can provide protection against COVID-19 variants

toronto.ca/COVID19

 TORONTO Public Health

Protection is 80% after 1 dose of mRNA vaccine and 90% after the 2nd dose.

Ref – CDC: https://www.cdc.gov/mmwr/volumes/70/wr/mm7013e3.htm?s_cid=mm7013e3

Ways To Get Vaccinated

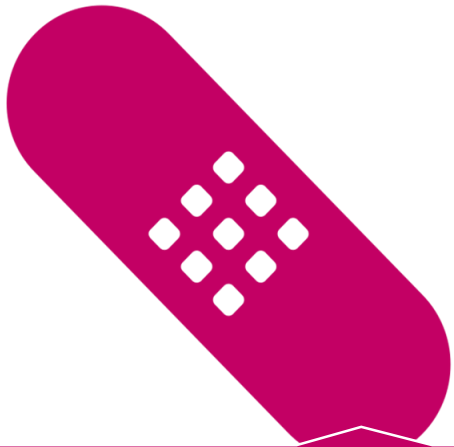
Red & white or no health card?
Register using telephone #

City clinics <https://covid-19.ontario.ca/book-vaccine/>
Or call: 1-888-999-6488
(TTY 1-866-797-0007)

Hospital clinics www.vaccineto.ca
Or call: 1-888-385-1910

Visit <https://covid-19.ontario.ca/book-vaccine/> to find a **pharmacy**
Or call your local pharmacy / website

Mobile & pop-up clinics
Host organizations will promote clinics directly to the target community



Mass Immunization Clinics



Hospitals / Ontario Health Team Immunization Clinics



Pharmacies and Primary Care Providers



Mobile Teams & Pop-up Clinics

Interactive map available online:
toronto.ca/covid19vaccinemap

RESIDENTS WITHOUT OHIP CARDS



Residents without an OHIP card may use other forms of identification to book a COVID-19 vaccination appointment through agency partners.

- **For those with no other means to get to their vaccination appointment**

1. **Toronto Ride** - 416-481-5250; www.torontoride.ca
 2. **iRide** - 1-844-474-3301; www.circleofcare.com/vaccinerides;
 3. **Scarborough Ride** - 416 736-9372; www.schcontario.ca/schc-scarborough-ride--transportation--hemodialysis.html
 4. **Uber Canada**
 5. **TTC**
- Vouchers distributed through a network of partner community agencies

More information: <https://www.toronto.ca/home/covid-19/covid-19-protect-yourself-others/covid-19-vaccines/covid-19-how-to-get-vaccinated/?accordion=transportation-to-clinics>

- Current vaccine (Pfizer) is available for people age 16+
- Research is currently being done to assess COVID-19 vaccine safety and efficacy in younger children
- The best way to protect children is:
 - to keep following public health guidelines, and
 - for adults to be vaccinated as soon as they can

Public Health Measures

Vaccines are **one** of many tools we have to fight the COVID-19 pandemic. It will take time before we have enough vaccine to get everyone vaccinated.



For now, we still need to wear a mask, keep our distance and wash our hands frequently.

DON'T PLAY

THE TELEPHONE GAME

STOP THE SPREAD OF COVID-19 MISINFORMATION



Mental Health Support during COVID-19

It's okay not to feel okay. Many people may feel sad, worried, scared, confused or angry during COVID-19. These are normal and common responses to unexpected or stressful situations.



Stay connected. Play a virtual game, check in on a neighbour, have a video conference.



Be active & take care of yourself. Exercise, eat well, get enough sleep.



Take time to engage virtually or by phone with friends, family or loved ones.



Learn something new. Try a new hobby or take an online course.



Help someone else. Doing good can feel good.



Reach out for help. Talk to someone you trust or seek professional support.

You Are Not Alone

You are not alone. Support is available.

Call 211 if you are having a hard time. Through 211 anyone be connected to free mental health supports, including including kids, seniors, racialized, Indigenous, Black and LGBTQ2S communities.

Language interpretation is available if you don't speak English.



These are stressful times.

Reach out for help to find
mental health support.

**Call 211, 24 hours a day,
7 days a week.**

Be part of something greater.
Your shot protects others too!



Protected together.

Questions?



Toronto Public Health COVID-19 Hotline

Have questions?

Call Toronto Public Health

416-338-7600

8:30 am to 8:00 pm

Interpreter service is available in many languages.

TTY 416-392-0658

More information about COVID-19 & vaccines:

toronto.ca/covid19

How vaccines were developed so fast?

- Scientists & researchers around the world sharing data
- Building on existing research & technology
- Large scale funding allowed for multiple testing and large clinical trials
- Over 280 vaccine products were tested
- All vaccines approved by Health Canada still had to meet all safety, efficacy and quality standards

Vaccine development and approval in Canada

Vaccine development



Scientists develop a potential vaccine



Scientists conduct lab and animal studies before testing on humans



10s of volunteers

Phase I

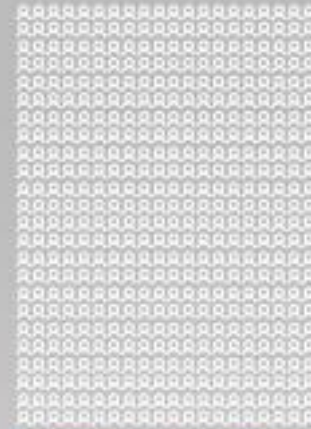
- Is the vaccine safe?
- What is a safe dose?
- Are there any side effects?



100s of volunteers

Phase II

- How well does the vaccine work?
- Is it safe on a larger number of people?
- Safest and most effective dose?



1000s of volunteers

Phase III

- Does the vaccine prevent disease?
- What are the side effects?



Manufacturer submits application to Health Canada for review

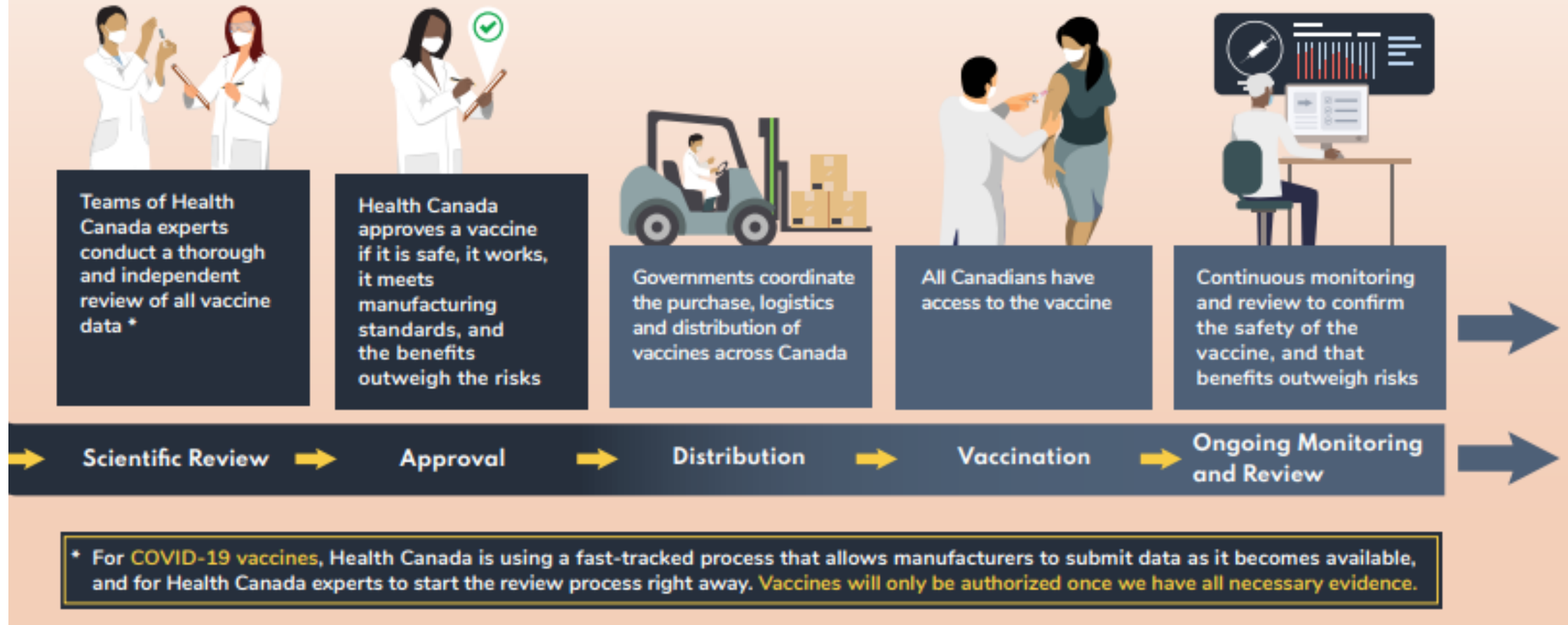
Exploratory →

Preclinical →

Clinical Trials →

Application →

Review and approval of vaccines



Vaccine ingredients

Pfizer-BioNTech	Moderna	AstraZeneca / COVISHIELD	Janssen
<ul style="list-style-type: none"> ▪ active ingredient: mRNA 	<ul style="list-style-type: none"> ▪ active ingredient: mRNA 	<ul style="list-style-type: none"> ▪ active ingredient: ChAdOx1-S recombinant 	<ul style="list-style-type: none"> ▪ active ingredient: Ad26.COVS.2.S recombinant
<ul style="list-style-type: none"> ▪ lipids, cholesterol ▪ polyethylene glycol [PEG-2000] 	<ul style="list-style-type: none"> ▪ lipids, cholesterol ▪ polyethylene glycol [PEG-2000] 	<ul style="list-style-type: none"> ▪ amino acid: L-Histidine, L-Histidine hydrochloride monohydrate ▪ emulsifier: polysorbate 80 	<ul style="list-style-type: none"> ▪ emulsifier: 2-hydroxypropyl-β-cyclodextrin, polysorbate-80
<ul style="list-style-type: none"> ▪ salts: potassium chloride, monobasic potassium phosphate, sodium chloride, dibasic sodium phosphate dehydrate ▪ sugars: sucrose 	<ul style="list-style-type: none"> ▪ salts: acetic acid, sodium acetate, ▪ sugars: sucrose ▪ buffers: tromethamin, tromethamin hydrochloride 	<ul style="list-style-type: none"> ▪ salts: sodium chloride, disodium edetate dihydrate (EDTA), magnesium chloride hexahydrate ▪ sugars: sucrose ▪ alcohol: ethanol 	<ul style="list-style-type: none"> ▪ buffers: citric acid monohydrate, hydrochloric acid, sodium hydroxide, trisodium citrate dehydrate ▪ salts: sodium chloride ▪ alcohol: ethanol

Mass immunization clinic locations



- North Toronto Memorial Community Centre (200 Eglinton Avenue West)
- Mitchell Field Community Centre (89 Church Avenue)
- The Hangar (75 Carl Hall Road)
- Metro Toronto Convention Centre (255 Front Street West)
- Scarborough Town Centre (300 Borough Drive)
- Carmine Stefano Community Centre (3100 Weston Road)
- Toronto Congress Centre (650 Dixon Road)
- Malvern Community Recreation Centre (30 Sewells Road)
- Cloverdale Mall (250 The East Mall)

Interactive map available online:
toronto.ca/covid19vaccinemap

Community Immunity

WHAT IS HERD IMMUNITY?



Herd immunity protects our community from infection when many people are vaccinated.



It is another way to protect others by reducing COVID-19 spread.



It also protects people who can't get vaccinated like newborn babies.



Until we have herd immunity, we need to wear our mask & keep a distance from people we don't live with.

TOGETHER, WE CAN GET OUT OF THE 3RD WAVE



**Take care of
your physical
& mental
wellbeing.**



**Stay home
except for
essential reasons
& exercise.**



**Gather only with
members of
your household.**



**Keep your
distance, wear
your mask, wash
your hands.**



**Get the
COVID-19
vaccine when it is
available to you.**

What to expect after receiving your 1st dose of the COVID-19 vaccine



You may experience mild side effects that go away in 1-3 days



It takes 2 weeks after each dose for the vaccine to take effect



The clinic where you received your 1st dose will make your 2nd dose appointment



Keep your distance, wear a mask and wash your hands until more people are vaccinated



Need help getting to a city-run clinic for your vaccination appointment?



If you cannot drive yourself or take transit, ask family or friends



If ride sharing, sit in the back seat with the windows open & wear a mask



If you cannot access or afford transportation you may be eligible for supports



Plan ahead - find more information, maps and pictures of city-run clinics at toronto.ca/COVID19

Blood Clots and Low Blood Platelet Count

- There have been reports of this rare event after receiving either the AstraZeneca (1/100,000) or Johnson & Johnson vaccine (1/500,000)
- Blood clots can occur in the brain, arms/legs or abdomen
- With proper medical care, can be treated
- **Informed consent:** Benefits of vaccine outweigh potential risk especially when COVID-19 rates are high.
- Watch for any side effects following vaccination on days 4 to 20. Call 911 if you have:
 - Trouble breathing, chest pain, abdominal pain that does not go away
 - Sudden severe headache, blurred vision, skin bruising or spots

ABOUT THE AstraZeneca/COVISHIELD VACCINE



Available to 40+ in Ontario at pharmacies and some primary care settings



Serious blood clots are rare - occurs in about 1/250,000 doses



Benefits of vaccination to prevent serious illness can outweigh risks



Seek medical attention if symptoms develop 4-16 days after vaccination



Speak to your health care provider if you have questions