

Influenza & COVID-19 Education For Health Care Workers 2023-2024 Season



LEARNING OBJECTIVES

To gain an understanding of:

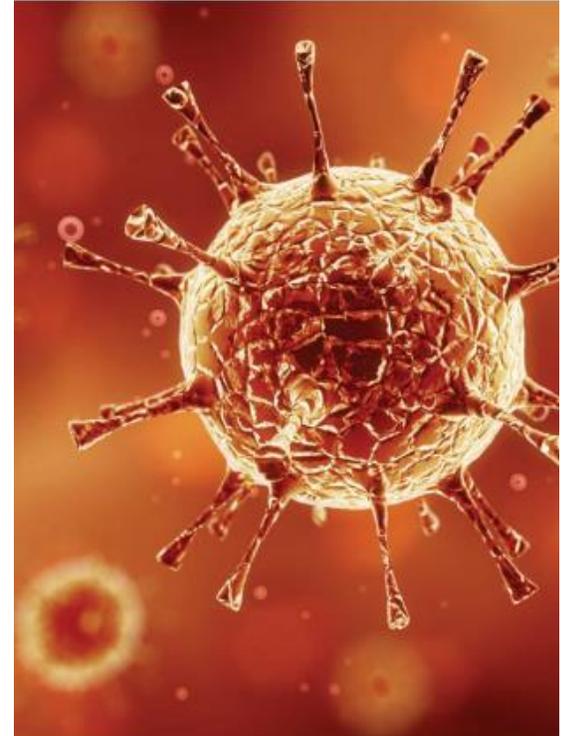
- Influenza Virus and the Disease:
 - Transmission, symptoms, diagnosis, and treatment
- Influenza Vaccine
 - Components, types available, effectiveness, benefits and side effects
- COVID-19 Vaccine
 - Recommendations

INFLUENZA VIRUS & DISEASE



INFLUENZA DISEASE FACTS

- Influenza, also commonly known as ‘the flu’
- Respiratory illness caused primarily by influenza A and B viruses
- Symptoms typically include the sudden onset of fever, cough and muscle aches
- Most people recover in three to seven days
- Some groups of people are at greater risk of influenza-related complications and hospitalization



RISK GROUPS FOR INFLUENZA RELATED COMPLICATIONS OR HOSPITALIZATION

- Adults 65 and older
- Children younger than 5
- People who are pregnant
- Anyone with the following chronic health conditions:
 - cardiac or pulmonary disorders
 - diabetes
 - cancer
 - renal disease
 - anemia or hemoglobinopathy
 - neurologic or neurodevelopmental conditions
 - morbid obesity (BMI of 40 and over)
 - children up to 18 years of age undergoing treatment for long periods with acetylsalicylic acid (ASA)
- Residents of nursing homes and other chronic care facilities
- Indigenous peoples

EPIDEMIOLOGY OF INFLUENZA

In Canada

- Influenza and pneumonia ranked among the top 10 leading causes of death
- In the five years prior to COVID-19, an average of 40,000 laboratory-confirmed cases were reported each year.
- Influenza is estimated to be responsible for an average of:
 - 12,200 hospitalizations related to influenza/annually
 - 3,500 deaths attributed to influenza/annually

MODE OF TRANSMISSION

- Influenza is spread through droplets and small particle aerosols
- They are generated when an individual coughs, sneezes or talks
- The virus directly enters the mouth, eyes or the nose of an individual within two meters
- Influenza is also transmitted through contact with infected respiratory secretions on surfaces and objects
- An individual touches a surface or object contaminated with the virus and then touches their mouth, nose or eyes



DIAGNOSIS

- Public Health Ontario's (PHO) laboratory will perform **multiplex respiratory virus PCR (MRVP)** testing on:
 1. Symptomatic children (<18 years) seen in the Emergency Department (ED)
 2. Symptomatic hospitalized patients (ward and ICU/CCU)
 3. Symptomatic residents in institutional settings (non-outbreak)
 4. Specimens from the first four symptomatic individuals (including healthcare workers/staff) in an outbreak that request respiratory virus testing
- **FLUID**, detecting influenza A, influenza B, respiratory syncytial virus (RSV) and SARS-CoV-2 (COVID-19), will be performed on:
 1. Symptomatic residents and staff in an institutional outbreak requesting COVID-19 and respiratory virus testing after the first four tests have been sent

TREATMENT

- When influenza is circulating in the community, antiviral medications are recommended to treat:
 - Patients with influenza-like-illness (ILI) who are at high risk for complications; OR
 - Patients with moderate to severe ILI (e.g., hospitalized patients)
- Antiviral medications currently used in Canada for the treatment and prevention of seasonal influenza are:
 - Oseltamivir (Tamiflu®), which is administered orally
 - Zanamavir (Relenza®), which is inhaled
 - Peramivir (Rapivab®) is available only for treatment in adults and is administered intravenously

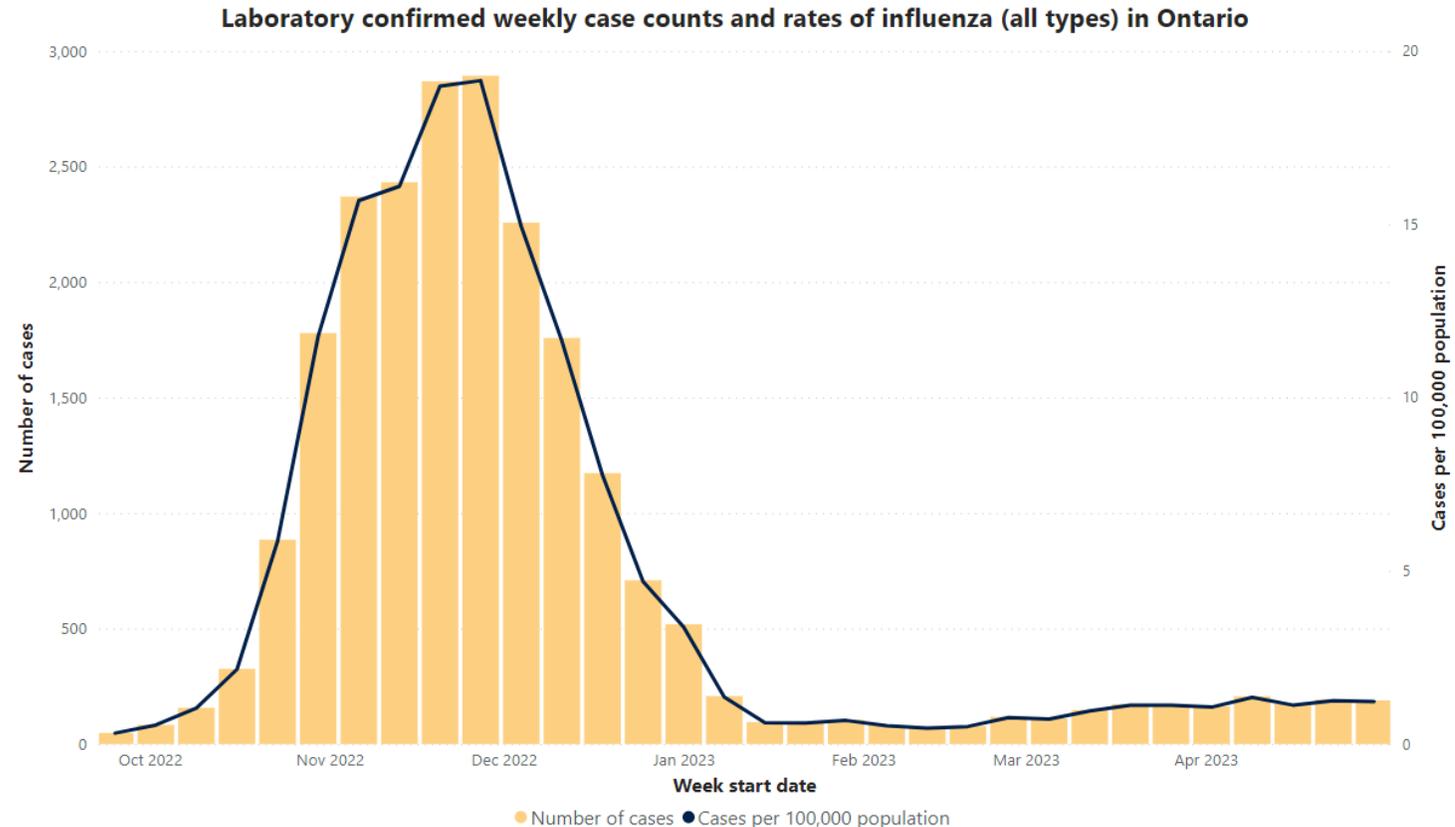
SICK WITH INFLUENZA?

- Stay home when sick to help prevent the spread of Influenza
- Get plenty of rest and drink lots of fluids
- Seek medical attention as appropriate
- Avoid close contact with others until you feel well enough (back to usual day-to-day activities)
- Wash your hands often with soap and water or with at least 70% alcohol-based hand sanitizer
- Cover your mouth when you cough or sneeze
 - Use a tissue, then dispose of a tissue into garbage
 - When tissue is not available, cough or sneeze into your sleeve
 - Make sure to wash your hands after
- To prevent spread at home, clean and disinfect surfaces and shared items frequently (phones, handles, etc.) Avoid sharing personal items such as towels



2022-23 INFLUENZA SEASON IN ONTARIO

- Last year, a steep increase in the number of influenza cases was observed beginning in October. Therefore, it is important to receive your influenza vaccine as soon as it becomes available.

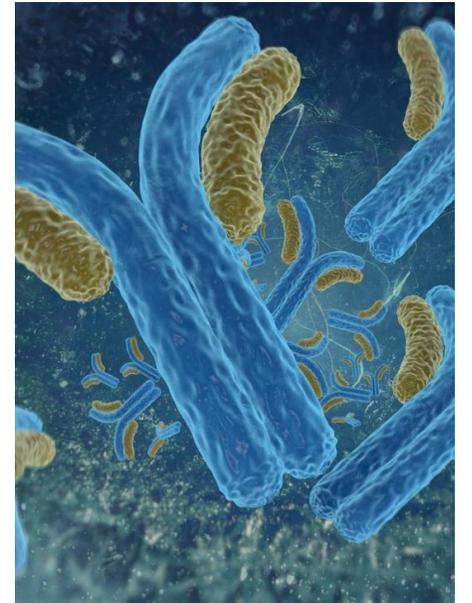


INFLUENZA VACCINE



HOW DOES THE INFLUENZA VACCINE WORK?

- The influenza vaccine initiates the process of antibodies being developed in the body
- These antibodies provide protection against influenza infection
- It generally takes about two weeks following immunization to develop protection against influenza



INFLUENZA VACCINE RECOMMENDATIONS

- The influenza vaccine is available for individuals who live, work, or go to school in Ontario and is recommended for everyone six months of age and older without contraindications

Annual vaccination is recommended because:

- Influenza viruses change frequently
- The vaccine is made to protect against the influenza viruses that research indicates will be most common during the upcoming influenza season
- Immunity decreases over time



INFLUENZA VACCINE IS HIGHLY RECOMMENDED FOR

- People at high risk of influenza-related complications, or hospitalization;
 - Residents of congregate living settings
 - People ≥ 65 years of age
 - All pregnant individuals
 - All children 6 to 59 months of age
 - Individuals who are from a First Nation, Inuit or Métis community, and/or who self-identify as First Nation, Inuit or Métis
 - Members of racialized and other equity deserving communities
 - Adults and children ≥ 6 months with chronic health conditions
- Health care workers, first responders and staff of congregate living settings
- Individuals capable of spreading influenza to those at high risk and/or to infants under 6 months of age
- People who provide essential community services
- Poultry industry workers



IMPORTANCE OF INFLUENZA VACCINATION THIS SEASON

- Vaccination is the most effective way to prevent influenza and its complications
- Vaccinated individuals who are protected from influenza will not pass infection to others
- Although most people will recover fully from influenza infection in 7–10 days, influenza can lead to severe disease, and/or complications including hospitalization and death
- Reducing the burden of influenza is particularly important this influenza season to decrease the burden on the healthcare system while there is ongoing COVID-19 activity



VACCINATION OF HEALTH CARE WORKERS AND OTHER CARE PROVIDERS

- Health care workers and care providers have the potential to acquire influenza and/or transmit influenza to individuals at high risk for influenza-related complications
- In the absence of contraindications health care workers and care providers should be vaccinated against influenza annually

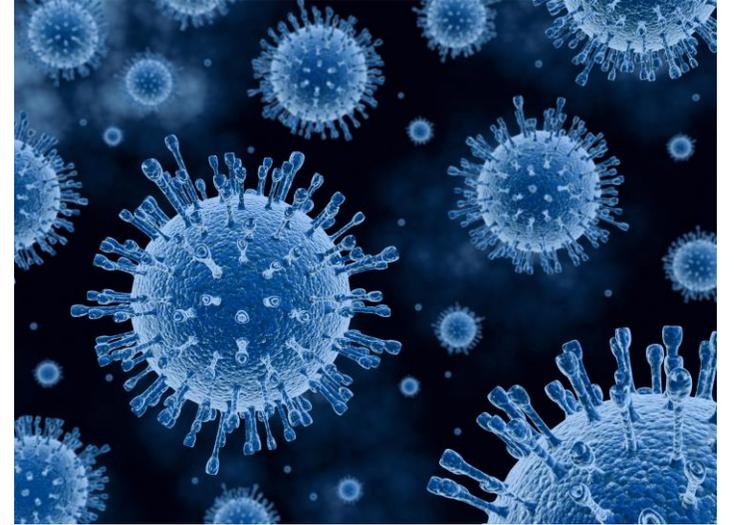


UNIVERSAL INFLUENZA IMMUNIZATION PROGRAM (UIIP) VACCINES FOR 2023-2024

Age Group	QIV		QIV-HD	TIV-adj
	FluLaval Tetra	Fluzone [®] Quadrivalent	Fluzone [®] High-Dose Quadrivalent	Fluad [®]
6 months to 64 years	✓	✓		
≥ 65 years	✓	✓	✓	✓

WHAT IF THE FLU VACCINE IS NOT A GOOD MATCH?

- Vaccination is still recommended annually particularly for people at high risk of influenza-related complications and hospitalization as vaccinated individuals are still more likely to be protected compared to those who are unvaccinated
- Protection offered from the vaccine varies from year-to-year depending on how well the strains included in the vaccine match the circulating strains and other factors such as age, health status
- Even mismatched vaccines can generally provide some protection against circulating influenza viruses



CONTRAINDICATIONS AND PRECAUTIONS TO FLU VACCINE

Speak with your health care provider if you:

- Have serious allergies to ingredient(s) in the vaccine or have experienced a serious allergic reaction from a previous flu shot
- Have developed Guillain-Barre Syndrome within six weeks of a previous flu shot
- Developed Oculorespiratory syndrome within 24 hours of vaccination
- Have an acute illness

COMMON REACTIONS TO THE INFLUENZA VACCINE

- Common reactions include:
 - Soreness, redness or swelling at the injection site (usually lasts less than 2 days)
 - Low grade fever and aches (can last 1-2 days)
- Serious adverse events are very rare
- The mild reactions people have to the influenza vaccine are considerably less severe than having influenza

IF PEOPLE GET SICK AFTER HAVING THE INFLUENZA VACCINE:

- They may have contracted a respiratory virus that causes similar symptoms
- They may have been exposed to the influenza virus prior to vaccination
- They may have been among the percentage of the population where the vaccine was not effective
- They may have contracted a different strain of influenza that is circulating and not contained in the vaccine (referred to as a 'vaccine mismatch')

COVID-19 VIRUS, DISEASE & VACCINES



COVID-19 DISEASE FACTS

- COVID-19 is a respiratory illness caused by the SARS-CoV-2 virus
- SARS-CoV-2 virus mutates over time which produces variants
- A **variant** becomes a **Variant of Concern (VOC)** when its changes have clinical or public health significance that affects one or more of the following:
 - the spread of disease,
 - the severity of disease,
 - vaccine and/or treatment effectiveness, and
 - how the virus is detected/laboratory testing.
- Symptoms of COVID-19 and its variants range from mild to more severe symptoms such as shortness of breath or chest pain

COVID-19 mRNA VACCINES

- Staying up to date with your COVID-19 vaccinations is the best way to remain protected against the most severe outcomes of COVID-19 infection including hospitalization and death
- Vaccination may not always prevent symptomatic infection, but it may :
 - help reduce severity if a person does become infected and
 - decreases the risk of developing post COVID-19 condition (commonly known as long COVID)
- COVID-19 vaccines are available to everybody aged six months and older in Ontario



COVID-19 mRNA VACCINES

Primary series

- The initial set of doses that protects against COVID-19 for people six months of age and older
- A primary series is two doses of an mRNA vaccine - for some people it can be three or four doses (depending on age, health status, type of vaccine)

Boosters

- A dose given to people aged five and older at least six months after their last dose or confirmed COVID-19 infection
- Evidence has shown that in addition to the primary series, the vaccine's booster dose(s) are needed for better and longer lasting protection
- Everyone should stay up to date with their COVID-19 booster dose as soon as they are eligible

COVID-19 mRNA VACCINES

Immunization History

- **Not previously vaccinated:** all those 6 months and older who have never received a COVID-19 dose
- **Previously vaccinated for those 5 years and older:** XBB vaccine schedule recommendations differ based on the number of previous non-XBB COVID-19 doses the individual has received and their immune status
- **Previously Vaccinated for those 6 months to 4 years:** XBB vaccine schedule recommendations differ based on whether or not the child has previously completed either a 2-dose series or 3-dose series

COVID-19 mRNA VACCINES

The Ontario Ministry of Health strongly recommends that individuals at high-risk from COVID-19 (including those with a potential for greater impact from infection) receive a dose of the XBB 1.5 formulation this fall:

- if it has been **six months** since their last COVID-19 vaccine dose or **confirmed** SARS-CoV-2 infection (whichever is later)



COVID-19 mRNA VACCINES

Immunization is particularly important for those at increased risk of COVID-19 infection or severe disease - for example:

- Adults 65 years of age or older whose health can be severely impacted by COVID-19
- Residents of long-term care homes, retirement homes and other congregate living settings
- Individuals who are pregnant
- Individuals in or from First Nations, Métis and Inuit communities
- Members of racialized and other equity-deserving communities
- People who provide essential community services
- Individuals with underlying medical conditions that place them at higher risk of severe COVID-19



COVID-19 VACCINES

- Individuals six months and older may receive a COVID-19 vaccine at the same time (i.e., same day) or at any time before or after non-COVID-19 vaccines*

*There are **two** exceptions: COVID-19 vaccines should **not** be co-administered with the **Imvamune** vaccine (Mpox) and the **Arexvy** vaccine for Respiratory Syncytial Virus (RSV)

- Imvamune : Recommended to wait at least 4 weeks before or after administration
- Arexvy: Recommended to wait at least 2 weeks before or after administration

These suggested waiting periods are precautionary and may help prevent errors in attributing an Adverse Event Following Immunization (AEFI) to one vaccine or the other.

COVID-19 VACCINE AVAILABILITY

Monovalent XBB.1.5 mRNA COVID-19 vaccines

Age Group	Age	Vaccine Dosage (mcg) and Schedule	
		Moderna XBB.1.5	Pfizer-BioNTech XBB.1.5
Unvaccinated Individuals	6 months to 4 years	2 doses - (25 mcg/0.25 mL)	3 doses - (3 mcg/0.2 mL)
	5 to 11 years	1 dose - (25 mcg/0.25 mL)	1 dose - (10 mcg/0.2 or 0.3 mL)
	12 + years	1 dose - (50 mcg/ 0.5 mL)	1 dose - (30 mcg/0.3 mL)
Vaccinated Individuals	6 months to 4 years*	1 dose - (25 mcg/0.25 mL)	1 dose – (3 mcg/0.2 mL)
	5 to 11 years**	1 dose - (25 mcg/0.25 mL)	1 dose – (10 mcg/0.2 or 0.3 mL)
	12 + years**	1 dose - (50 mcg/0.5 mL)	1 dose – (30 mcg/0.3 mL)

*Refers to a completed 2 or 3 dose initial series; **Refers to receipt of at least 1 prior COVID-19 vaccine dose

Sources: Moderna Biopharma Canada Corp. Product monograph for Spikevax XBB.1.5 [Internet]. Toronto, ON: Moderna Biopharma Canada Corp.; 2023 [cited 2023 Sep 15]. Available from: <https://covid-vaccine.canada.ca/info/pdf/spikevax-xbb-1-5-pm-en.pdf>

BioNTech Manufacturing GmbH. Product monograph for COMIRNATY* Omicron XBB.1.5 [Internet]. Mainz, Rhineland-Palatinate, Germany: BioNTech Manufacturing GmbH; 2023 [cited 2023 Sep 29]. Available from: <https://covid-vaccine.canada.ca/info/pdf/comirnaty-omicron-xbb-1-5-pm-en.pdf>

WHERE CAN I GET COVID-19 VACCINE THIS FALL?

Starting October 10, the updated COVID-19 vaccine (Moderna and Pfizer XBB.1.5) and influenza (flu) vaccines will be available by appointment only to **eligible high-risk priority groups**. Please see the current eligibility below for more information.

The updated COVID-19 and flu vaccine will be available for everyone six months and older starting October 30.

[Book a COVID-19 vaccination appointment](#)

- [COVID-19 Vaccination Clinics in York Region](#)

COMPARISON OF MOST COMMON SYMPTOMS OF FLU, COLD AND COVID-19

Symptoms	Cold	Flu	COVID-19
Fever	Rare	Common. Starts suddenly and lasts 3 to 4 days.	Common. Fever and/or chills.
Cough	Sometimes, mild to moderate	Common. Can become severe.	Common. Including a barking cough or croup (continuous, more than usual).
General aches and pains	Sometimes, mild	Common, often severe	For adults over 18 years of age: joint pain
Muscle aches	Sometimes, usually mild	Often, can be severe	Common for adults over 18 years of age.
Feeling tired and weak	Sometimes, mild	Common, may last 2 to 3 weeks or more	Common for adults over 18 years of age.
Fatigue (extreme tiredness)	Unusual	Common, starts early	Common for adults over 18 years of age.
Sneezing	Common	Sometimes	N/A
Chest Discomfort	Sometimes. Mild to moderate.	Common. Can become severe.	Common. Shortness of breath (out of breath, unable to breathe deeply).
Other characteristics	N/A	N/A	Decrease or loss of taste or smell. For children under 18 years of age: nausea, vomiting, and/or diarrhea.

ADDITIONAL INFORMATION

- Ontario Respiratory Virus Bulletin: <https://www.publichealthontario.ca/en/data-and-analysis/infectious-disease/respiratory-pathogens-weekly>
- Canadian Flu Watch: <http://healthy Canadians.gc.ca/diseases-conditions-maladies-affections/disease-maladie/flu-grippe/surveillance/index-eng.php>
- National Advisory Committee on Immunization (NACI): <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/vaccines-immunization/canadian-immunization-guide-statement-seasonal-influenza-vaccine-2022-2023/naci-2022-2023-statement.pdf>
- Video: The Flu – don't pass it on! <https://www.youtube.com/watch?v=ELE8eUNULwU>
- <https://www.ontario.ca/page/flu-facts>
- <https://www.york.ca/health/immunizations/flu-shot-information>

THANK YOU!

