

# Training Bulletin

## Influenza Educational Review 2020/2021

Issue Number 101 - Version 19  
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**Emergency Health Regulatory and Accountability Branch  
Ministry of Health**

To all users of this publication:

The information contained in this training bulletin has been carefully compiled and is believed to be accurate at date of publication.

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## Document Control

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# **Training Bulletin – Influenza Educational Review 2020/2021**

Issue Number 101 – Version 19

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# Influenza Educational Review 2020/2021

## Document Purpose

“The National Advisory Committee on Immunization (NACI) provides the Public Health Agency of Canada (PHAC) with ongoing and timely medical, scientific, and public health advice relating to immunization.”<sup>1</sup>

This training bulletin provides paramedics information on NACI’s Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2020-2021, as well as additional considerations for paramedics.

## NACI Statement on Seasonal Influenza Vaccine for 2020-2021

[The Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2020–2021](#) is available on the Government of Canada’s website.

Additionally, a summary document of the NACI Statement on Seasonal Influenza Vaccine for 2020-2021 can be found [here](#).

## New or Updated Information for 2020-2021

“NACI continues to recommend that an age-appropriate influenza vaccine should be offered annually to anyone six months of age and older who does not have contraindications to the vaccine, with a focus on the groups for whom influenza vaccination is particularly recommended.”<sup>2</sup>

The 2020-2021 Statement contained a number of minor changes relevant to paramedics as Health Care Workers (HCWs):

“[...] NACI recently reassessed the wording for the recommendation on the vaccination of health care workers (HCWs) and other care providers as a group for whom influenza vaccination is particularly recommended. The existing evidence on HCW influenza vaccination and the reduction of morbidity associated with influenza in patients being cared for by a HCW in health care settings was considered in the context of ethics and acceptability. NACI continues to recommend that, in the absence of contraindications, HCWs and other care providers in facilities and community settings

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<sup>1</sup> National Advisory Committee on Immunization (NACI). "Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2020–2021 [Internet]". Ottawa: PHAC;2020 [updated 2020 May 8]

<sup>2</sup> Young K, Gemmill I, Harrison R, on behalf of the National Advisory Committee on Immunization (NACI). Summary of the NACI Seasonal Influenza Vaccine Statement for 2020–2021. *Can Commun Dis Rep* 2020;46(5):132–7. <https://doi.org/10.14745/ccdr.v46i05a06>

should be vaccinated annually against influenza, and recommends the inclusion of this group among the particularly recommended recipients of influenza vaccine [...].

[...] Health care providers in Canada should offer the seasonal influenza vaccine as soon as feasible after it becomes available in the fall, since seasonal influenza activity may start as early as October in the Northern Hemisphere. Decisions regarding the precise timing of vaccination in a given setting or geographic area should be made according to local epidemiologic factors (influenza activity, timing, and intensity), opportune moments for vaccination, as well as programmatic considerations. Further advice regarding the timing of influenza vaccination programs may be obtained through consultation with local public health agencies [...].”<sup>3</sup>

## Key Information

The following are the key information points, taken directly from NACI statement for the 2020-2021 influenza season:

### What

- Influenza is a respiratory infection caused primarily by influenza A and B viruses. Seasonal influenza epidemics occur annually in Canada, generally in the late fall and winter months. Influenza occurs globally with an annual attack rate estimated at 5–10% in adults and 20–30% in children. Symptoms of influenza typically include the sudden onset of fever, cough, and muscle aches. Other common symptoms include headache, chills, loss of appetite, fatigue, and sore throat. Nausea, vomiting, and diarrhea may also occur, especially in children. Most people will recover within a week to 10 days, but some people are at greater risk of severe complications, such as pneumonia or death. Influenza infection can also worsen certain chronic conditions, such as heart disease. Both inactivated influenza vaccine (IIV) and live attenuated influenza vaccine (LAIV) are authorized for use in Canada; some protect against 3 strains of influenza (i.e., trivalent formulation, IIV3) and some protect against 4 strains of influenza (i.e., quadrivalent formulation, IIV4 or LAIV4).
- Influenza vaccine is safe and well-tolerated. Influenza vaccine cannot cause influenza illness because inactivated influenza vaccines do not contain live virus and live attenuated influenza vaccines contain weakened viruses.

### Who

- NACI recommends that the influenza vaccine should be offered annually to anyone 6 months of age and older who does not have contraindications to the vaccine, with focus on the groups for whom influenza vaccination is particularly recommended (see List 1). These groups include:
  - people at high risk of influenza-related complications or hospitalization;
  - people capable of transmitting influenza to those at high risk;

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<sup>3</sup> National Advisory Committee on Immunization (NACI). "Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2020–2021 [Internet]". Ottawa: PHAC;2020 [updated 2020 May 8]

- people who provide essential community services; and
- people in direct contact with poultry infected with avian influenza during culling operations.

## How

Benefits and risks of influenza vaccination, as well as the risks of not being immunized, should be discussed [with a primary health care provider] prior to vaccination.

### Dose and schedule

A variety of influenza vaccines are available for use in Canada, some of which are authorized for use only in specific age groups. Therefore, the choice of influenza vaccine has become more complex. Refer to [Section II.5](#) of the Guide for recommendations on choice of influenza vaccine by age group.

### Contraindications and Precautions

For all influenza vaccines (IIV and LAIV), NACI recommends that influenza vaccination should not be given to:

- People who have had an anaphylactic reaction to a previous dose of influenza vaccine;
- People who have had an anaphylactic reaction to any of the vaccine components, with the exception of egg (refer to [Section II.7](#) of the Guide for more information);
- People who have developed Guillain-Barré Syndrome (GBS) within 6 weeks of a previous influenza vaccination.

Refer to [Section II.8](#) of the Guide for additional information on influenza vaccine-related precautions.

### Simultaneous administration with other vaccines

NACI recommends that:

- All seasonal influenza vaccines, including LAIV, may be considered for administration at the same time as, or at any time before or after, administration of any other live attenuated or inactivated vaccines; and
- Different injection sites and separate needles and syringes should be used for concomitant parenteral injections.

## Why

- Vaccination is the most effective way to prevent influenza and its complications.
- When there is a good match between circulating influenza virus strains and the vaccine, vaccinated individuals are unlikely to pass influenza to others. Although most people will recover fully from influenza infection in 7–10 days, influenza can lead to severe complications, including hospitalization and death. Annual vaccination is required because the specific strains in the vaccine are reviewed each year by WHO and often changed to provide a better match against the viruses expected to circulate, and because

the body's immune response to influenza vaccination is transient and unlikely to persist beyond a year.

# Paramedic Considerations

## Influenza Vaccine

According to NACI, the influenza vaccine is particularly recommended for those who are “capable of transmitting influenza to those at high risk, [and] people who provide essential community services.”

“NACI recommends that any age-appropriate IIV, but not LAIV, should be offered to HCWs. [Health Care Workers]”.<sup>4</sup>

## Influenza Information for Paramedics

The following is additional influenza related information for health professionals from the Government of Canada website:

### What health professionals need to know about influenza

- Influenza is a respiratory illness caused primarily by the influenza A and B viruses.
- While most people recover in 7 to 10 days, severe illness can occur. Some groups are at a greater risk of influenza-related complications.
- It is estimated that influenza causes approximately 12,200 hospitalizations and 3,500 deaths in Canada each year.
- FluWatch, Canada's national influenza surveillance system, provides up-to-date information about currently circulating influenza strains
- Getting vaccinated against influenza each autumn is the best way to help prevent influenza infection.
- There are antiviral drugs [...] currently authorized for influenza treatment and/or prophylaxis in Canada.

### Agents of disease

- While there are 3 types of influenza virus (A, B and C) that affect humans, only influenza A and B cause seasonal outbreaks in humans.
- Influenza A viruses are classified into subtypes based on 2 surface proteins:
  1. haemagglutinin (HA)
  2. neuraminidase (NA)
- Of these, the influenza A viruses that have caused widespread human disease over the decades are:

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<sup>4</sup> National Advisory Committee on Immunization (NACI). "Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2020–2021 [Internet]". Ottawa: PHAC;2020 [updated 2020 May 8].

- 3 subtypes of HA (H1, H2 and H3)
- 2 subtypes of NA (N1 and N2)
- Influenza B has evolved into 2 lineages:
  1. B/Yamagata/16/88-like viruses
  2. B/Victoria/2/87-like viruses

Over time, antigenic variation (antigenic drift) of strains occurs within an influenza A subtype or B lineage. The ever-present possibility of antigenic drift requires seasonal influenza vaccines to be reformulated annually. Antigenic drift may occur in one or more influenza virus strains.<sup>5</sup>

Additional information for health professionals regarding influenza can be found [here](#).

## Influenza Control

For more information regarding the responsibilities of paramedics and ambulance service operators to mitigate the spread of influenza, please refer to the current [Patient Care and Transportation Standards](#) (PCTS) for more information regarding Communicable Disease Management (Part B) and Influenza Control (Part C).

## Oxygen Administration for Patients with Symptoms of Respiratory Infection

The patient will wear:

- a surgical mask, if tolerated, with a nasal cannula if low concentration oxygen is required;
- low flow/high concentration oxygen mask outfitted with a hydrophobic submicron filter if high concentration oxygen is required;
- for patients requiring ventilatory assistance using a face mask or an endotracheal tube (ETT), a tube extender and a hydrophobic submicron filter shall be used. A tube extender is not necessary for pediatric patients and must not be used for any infants (<1 year old).

## Use of Antiviral Agents for Influenza Prevention

There are a number of antiviral medications approved by the Public Health Agency of Canada for prophylactic use in the prevention of influenza virus infections. Prescriptions for viral agents, as for all other prescription medications, are the responsibility of the individual's physician. Paramedics should discuss the use of antiviral medications directly with their personal physician if they have been in direct contact with a person suspected with influenza. Antivirals should be started within 48 hours of contact with an ill, infectious person for maximum efficacy. Antivirals can help reduce the severity of the illness and the recovery time.<sup>6</sup>

For additional information about antiviral use, see Public Health Ontario's "[Antiviral medications for Influenza; Information for health care providers](#)".

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<sup>5</sup> Government of Canada. "For health professionals: Flu (influenza) [Internet]". Last modified July 6, 2018, <https://www.canada.ca/en/public-health/services/diseases/flu-influenza/health-professionals-flu-influenza.html>

<sup>6</sup> Centers for Disease Control and Prevention, "Influenza Antiviral Medications: Summary for Clinicians", Last modified August 10, 2020 <https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm>

Paramedics should review the PCTS v2.3 Section C – Influenza Control in relation to requirements for unvaccinated paramedics when providing patient care during declared outbreaks, including the use of antiviral medications and PPE.

## Conclusion

This training bulletin provides information on the personal, patient care, and public health benefits of an annual influenza vaccination. Additionally, it discusses procedures to prevent exposure to influenza and to protect patients from exposure to influenza, as well as other information relevant to transmission and protection.

Paramedics are encouraged to further review information regarding influenza and where appropriate, discuss influenza considerations, including vaccination, with patients.

