The Flu
Influenza



Updated September 2014

INFLUENZA IMMUNIZATION GUIDE FOR PHARMACISTS 2014

For more information, visit fightflu.ca and immunize.ca

Canadian Pharmacists Association
Association des Pharmaciens du Canada
Immunize Immunisation Canada
immunize.ca

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Disclaimer
Some provinces have legislation that requires that informed consent be obtained from the patient prior to administration of vaccines. Consult your provincial regulatory body for more information.

Introduction

Pharmacists will play a critical role in patient support this influenza season, whether in the role of immunizer, educator or dispenser. Across different provinces and different scopes of practice, the shared goal of pharmacists as primary care providers is to facilitate patient access to care. This necessitates adaptability, as "facilitated access" takes on different meanings for different patients; from appointment-based immunization clinics, to drop-ins, to referrals to immunization resources, each patient will present with unique needs. While it is up to individual pharmacies to determine which of these needs they can accommodate, this guide was designed to be adaptable to most community care settings.

The recommendations found in the guide are based on the National Advisory Committee for Immunization (NACI) **Statement on Seasonal Influenza Vaccine for 2014–2015**. Developed by the Canadian Pharmacists Association (CPhA), in collaboration with Immunize Canada, it is our hope that this guide will provide you with the resources you need to meet the needs of your patients during influenza season. The Influenza References Guide, appended to this document, lists provincial resources that can address province-specific needs and complement this guide.

Conducting an Influenza Immunization Clinic

Suggested Timelines

AUGUST TO SEPTEMBER	• Determine if you have adequate resources to support the delivery of a flu shot clinic. Consider the setting and staff availability. • If you will be administering the influenza vaccine yourself, schedule the date and time for the vaccination clinic. Ensure that you have all the information and documentation required, including patient consent forms, liability forms, and procedures pertaining to anaphylaxis measures, sharps injuries and cold chain storage. • If you do not have immunization authority, contact a local nursing agency to set up a date and time for the vaccination clinic (agency to provide dosing charts, patient consent forms and any liability forms and administer vaccinations).
SEPTEMBER THROUGH FLU SEASON	• Identify high-risk patient at the point of prescription pick-up and refills.
SEPTEMBER TO CLINIC DATE	• Encourage patients to make an appointment. • Place Vaccination Reminder Stickers on all prescription vials and provide Bag Stuffers (templates online) with all prescriptions. • Conduct telephone consultations with high risk patients — discuss benefits of vaccination and scheduling an appointment, document consultation in your patient records. • Ensure the adequate number of vaccines has been ordered, and all necessary medical supplies (i.e. gloves, needles, bandages, diphenhydramine, epinephrine) are available.
3 WEEKS BEFORE CLINIC	• Promote your vaccination clinic. • Send letters to physicians, local retirement communities and/or all patients in your pharmacy database informing them about the clinic.
2 WEEKS BEFORE CLINIC	• Place ads in local newspapers and radio; display posters in your pharmacy. • Ensure sufficient fridge space for vaccine shipment. • Reconnect with vaccine supplier and nursing agency to confirm vaccine shipment and nurse attendance at clinic.
MID-OCTOBER TO NOVEMBER	• Run Influenza Vaccination Clinic; document immunizations in your records or as agreed with your local public health agency.
FOLLOWING YEAR	• Send reminders to all past participants.

Quick Facts About Influenza: The Virus and the Vaccine

The Virus

Influenza (the flu) is a serious, acute respiratory illness that is caused by influenza viruses. It is spread by respiratory droplets from an infected person or direct contact with contaminated surfaces. Symptoms include sudden onset of headache, chills, cough, fever, loss of appetite, myalgia, fatigue, coryza, sneezing, watery eyes and throat irritation. Nausea, vomiting and diarrhea may also occur, especially in children.

The flu is caused by influenza A and B viruses:

- Influenza A viruses are classified according to two different surface antigens. There are three different human subtypes of the hemagglutinin antigen (H1, H2 and H3) and two subtypes of the neuraminidase antigen (N1 and N2). Recently circulating strains (H3N2) have one H antigen and one N antigen which periodically undergo antigenic drift.
- Influenza B viruses have more stable antigens and so antigenic variation is less frequent but does occur.

Continual antigenic drift of the influenza virus means that a new vaccine, updated yearly with the most current circulating strains, is needed to protect against new infections.

The Vaccine

Antigens from two strains of influenza A and one strain of influenza B are selected based on the three most prevalent influenza strains expected to be circulating that year.

Components

A) The Virus

Quadrivalent vaccines contain an extra B virus lineage not included in the trivalent vaccine. The World Health Organization (WHO) recommends that influenza vaccines for 2014-2015 contain the following strains:

- A/California/7/2009 (H1N1)pdm09-like virus;
- A/Texas/50/2012 (H3N2)-like virus;
- B/Massachusetts/2/2012-like virus (Yamagata lineage)
- **Quadrivalent only:** B/Brisbane/60/2008-like virus (Victoria lineage)

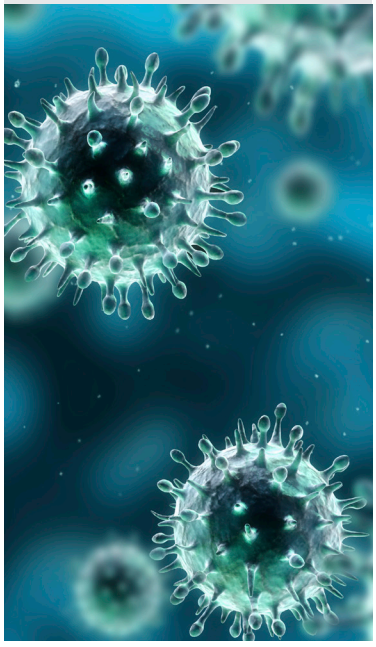
Ten vaccines are authorized for use in Canada: 1) Fluviral®, 2) Vaxigrip®, 3) Agriflu®, 4) Influvac®, 5) Intanza®, 6) Fluad® 7) Fluzone®, 8) FluMist®.9) Flulaval™ Tetra and 10) Fluzone® Quadrivalent.

Seven of the vaccines are trivalent inactivated vaccines (TIV). An 8th, FluMist®, is a live attenuated influenza vaccine (LAIV). The remaining 2 are newly available quadrivalent vaccines (QIV).

- Fluviral®, Vaxigrip®, and Fluzone®, Flulaval™ Tetra and Fluzone® are split-virus vaccines are known as split-virus vaccines because they are treated with an organic solvent to remove surface glycoproteins. Split-virus vaccines are less reactive and cause fewer side effects than whole virus

IT'S A FACT

The influenza vaccine, including LAIV, can be given at the same time as other vaccines, provided that different administration sites and separate needles and syringes are used.



vaccines. Fluviral®, Vaxigrip®,Fluzone® and Intanza® are trivalent vaccines. Flulaval™ Tetra and Fluzone® are quadrivalent vaccines. All the split-virus vaccines and administered intramuscularly and are authorized for use in adults and children 6 months of age or older **with the exception of Intanza®**. Intanza® is a new **intradermal** preparation **only for persons 18 years of age or older**. It is available in 9 μg (for ages 18–59) and 15 μg (for ages 60 and older) formulations. The intradermal administration is thought to stimulate humoral and cell-mediated immunity.

- Agriflu®, Influvac® and Fluad® are trivalent, surface antigen, inactivated subunit vaccines. Agriflu® is authorized for use in adults and children greater than 6 months of age while Influvac® is only for persons 18 years of age or older. Fluad® on the other hand, is only authorized for persons ≥65 years of age. Unlike other vaccines, Fluad® contains an adjuvant called MF59, which has been shown to increase immunogenicity. The implications of this immunogenicity in terms of clinical efficacy are unknown and require further study.
- FluMist® is a LAIV that is administered by intranasal route. FluMist® is authorized for use in persons 2–59 years of age.

However, it is **not recommended for use in pregnant women or in those with immune compromising conditions**. The intranasal route of administration is thought to confer mucosal immunity which may be more important for protection than serum antibodies.

B) The Excipients

- Thimerosal (0.01%) — a preservative that contains mercury (Fluviral® and multi-dose formulations of Fluzone®, Vaxi-grip® and Flulaval™ Tetra)
- Antibiotics — undetectable traces used during production (Vaxigrip®, Intanza® and Fluzone® have neomycin; Agriflu® and Fluad® have neomycin and kanamycin; and Influvac® and FluMist® have gentamicin)
- Formaldehyde — in each vaccine except FluMist®.
- *The preceding information in summarized in Table 1.*

Immunity varies among individuals but generally lasts for 12 months and begins 2 weeks after administration of the vaccine.

Effectiveness of vaccine varies depending on:

- Age and immune status of the recipient
- Amount of influenza activity in the community
- Degree of similarity between the vaccine viral strain and the circulating strain of that season.

Administration

- **Intramuscular** — (Fluviral®, Vaxigrip®, Agriflu®, Influvac®, Fluzone® and Fluad®) Use a 22–25 gauge needle, 2.2–2.5 cm (⅞-1 inch) for children, 2.5–3.8 cm (1-1½ inch) for adolescents and adults. For persons ≥ 1 year old, inject at a 90° angle into the region of the deltoid muscle.
- **Intradermal** — (Intanza®) A pre-filled micro-injection system, injected into the deltoid.
- **Intranasal** — (FluMist®) A prefilled single use glass sprayer, with one-half of the contents administered into each nostril.

Special Considerations

48 hours pre-vaccination
Stop antiviral (oseltamivir and zanamivir) before Flumist® administration

2 weeks post-vaccination
May commence antiviral administration after Flumist® vaccination

Avoid close contact with immunocompromised individuals due to theoretical risk of transmission of live virus after Flumist® administration

Vaccine protection (related to humoral antibody levels) is generally reached

4 weeks post-vaccination
Administration of second dose for children **2 months — 9 years** who have never previously been vaccinated

Ongoing
If overlap of Flumist® and antiviral adminsitration occurs within this time frame, re-immunization is required 48 hours after antivirals are stopped

First time vaccination for children **2 months — 9 years** should be done with **2** regular doses, with administration of each dose separated by a minimum of 4 weeks

Table 1. Summary of Influenza Vaccinations

Product		Vaccine Type	Route of Administration	Authorized ages for use	Preferred age for use†	Antibiotics (TRACES)	Thimerosal	Non-medicinal ingredients
TRIVALENT	Influvac®	Inactivated – subunit	IM	≥ 18 years	≥ 18 years	Gentamicin	N	Egg protein Formaldehyde Cetyltrimethyl-ammonium Bromide(CTAB) Polysorbate 80
	Fluviral®	Inactivated – split virus	IM	≥ 6 months	≥ 6 months	None	Y	Egg protein Formaldehyde Sodium Deoxycholate Sucrose
	Agriflu®	Inactivated – subunit	IM	≥ 6 months	≥ 6 months	Kanamycin Neomycin	N	Egg protein Formaldehyde CTAB Polysorbate 80
	Fluad®	Inactivated - subunit	IM	≥ 65 years	≥ 65 years	Kanamycin Neomycin	N	Egg protein Formaldehyde CTAB Polysorbate 80
	Vaxigrip®	Inactivated – split virus	IM	≥ 6 months	≥ 6 months	Neomycin	Y (multi-dose vials only)	Egg protein Formaldehyde Triton X-100
	FluZone®	Inactivated – split virus	IM	≥ 6 months	≥ 6 months	Neomycin	Y (multi-dose vials only)	Egg protein Formaldehyde Triton X-100 Gelatin Sucrose
	Intanza®	Inactivated – split virus	ID	≥ 18 years	18-59 years (9µg) or ≥60 years (15µg)	Neomycin	N	Egg protein Formaldehyde Triton X-100
	FluMist®	Live attenuated	Intranasal spray	2–59 years	≤ 6 years	Gentamicin	N	Egg protein Gelatin Hydrosylate Sucrose Arginine Monosodium Glutamate
QUADRIVALENT	Flulaval™	Tetra Inactivated – split virus	IM	≥ 6 months	≤ 17 years	None	Y	α-tocopheryl hydrogen succinate Polysorbate 80 Formaldehyde Ethanol Sodium deoxycholate Ethanol
	Fluzone®	Quadrivalent Inativated – split virus	IM	≥ 6 months	≤ 17 years	None	N	Egg protein Formaldehyde Triton X-100

* All products may not be available in your jurisdiction. Check with your Ministry of Health for full list of approved vaccines. (Adapted from the National Advisory Committee for Immunization (NACI) Statement on Seasonal Influenza Vaccine for 2014–2015.)

† Demonstrated as most efficacious for this age group.

ID: Intradermal

IM: Intramuscular

Criteria for Identifying Patients at High Risk of Influenza Complications

People at high risk of influenza-related complications, including:

- Adults (including pregnant women) and children with chronic conditions such as:
  - Cardiovascular disease
  - Respiratory disease (e.g. asthma, COPD)
  - Diabetes or other metabolic disease
  - Cancer, immunodeficiency, immunosuppression (due to underlying disease and/or therapy)
  - Renal disease
  - Persons who are morbidly obese (BMI≥40)
  - Anemia or hemoglobinopathy
  - Conditions that compromise the management of respiratory secretions
- Children and adolescents with conditions treated for long periods with acetylsalicylic acid
- All residents of nursing homes or other chronic care facilities
- Seniors aged 65 years or older
- Pregnant women
- Children aged 6 months to 59 months of age
- Aboriginal peoples

People capable of transmitting influenza to those at high risk of complications, including:

- Health care providers in facilities and community settings
- Household contacts of high-risk person including those ≤ 59 months of age
- Members of a household expecting a newborn during influenza season
- Women at all stages of pregnancy or breastfeeding mothers
- Those providing regular child care to children 0–59 months of age
- Those who provide services within closed settings to persons at high risk

Medications Indicative of High Risk **

Amlodipine	Insulin	Salbutamol
Clopidogrel	Lisinopril	Verapamil
Digoxin	Metformin	Warfarin
Diltiazem	Nitroglycerin	Salmeterol
Enalapril	Prednisone	Ipratropium
Fosinopril	Quinapril	Ritonavir
Glyburide	Ramipril	

** For a more detailed list of medications and conditions indicative of high-risk patients, see Appendix A.

These medications were selected based on frequency of use and indication for high-risk disease; for example, salbutamol was chosen as an indicator for asthma and COPD. This will identify the majority of patients with either condition and will decrease the number of drugs to be searched.

Who should not be immunized:

- Individuals who developed an anaphylactic reaction to a previous dose of influenza vaccine or to any of the vaccine components (with the exception of egg), or who developed Guillain-Barré Syndrome (GBS) within 6 weeks of influenza vaccination, should not receive a further dose

Others:

- People who provide essential community services
- People in direct contact with avian influenza-infected poultry during culling operations
- Travellers even if they are not in the above priority groups
- **All Canadians aged 6 months and older who do not have contraindications to the influenza vaccine are encouraged to receive the vaccine even if they are not in the above groups, as they can still benefit from influenza protection.**

What to do About Egg Allergies

An egg allergy is no longer considered a contraindication for TIV. After extensive review, NACI concludes that egg-allergic individuals may receive a full dose of TIV without prior influenza vaccine skin test, regardless of previous severe allergic reactions to eggs. **(Please note that this recommendation differs from the product monograph.)** This vaccine may be given in any settings where vaccines are routinely administered, however, immunizers administering vaccine should be prepared for and have the necessary equipment to respond to a vaccine emergency at all times.

- An extended observation period after the administration of a vaccine is not required for these individuals.
- Referral of a patient to an allergy specialist may be required if there is strong concern about possible reaction and if the patient is at high-risk of complications from influenza. Otherwise, the need for vaccination may be reassessed.
- At present, no data are available to support this recommendation for LAIV (i.e. FluMist®), and **this vaccine should therefore not be administered to egg allergic individuals**.
- Please see Canadian Society of Allergy and Clinical Immunology (CSACI) for more details. http://www.csaci.ca/include/files/CSACI_H1N1_Statement.pdf

Changes of Note

- Recent literature has shown that healthy individuals aged 5 to 64 years benefit from influenza vaccination, in addition to the people for whom the vaccine has been indicated in the past. NACI now recommends influenza vaccination for all individuals aged 6 months and older, with particular emphasis on those at high risk.
- Evidence supports LAIV as the preferential recommendation in children ≤6 years of age, but TIV remains the preferential recommendation in adults. Evidence is inconclusive for children >6 years.

Storage

- Influenza vaccines should be stored between +2º to +8ºC at all times in complete darkness and never frozen.
- The temperature of refrigerator should be measured, monitored and recorded for accuracy.
- Check the manufacturer's product leaflet for specific storage instructions.
- Pre-loading vaccines is strongly discouraged, except in clinical and hospital settings where proper labelling and transportation procedures are followed.
- Lyophilized vaccines should be reconstituted immediately before use.
- Disposal of vaccines must be in accordance to local or regional standards. Pharmacies are responsible for purchasing separate sharps containers for flu clinics. The ones supplied by the Health Steward are to be used only by patients at home.

Influenza Vaccination Administration Checklist

DID I CHECK?

Complete for each vaccination:

BEFORE VACCINATION:

- ☐ Vaccine is indicated according to the recommended immunization schedule
- ☐ Vaccine is indicated according to recipient's immunization record
- ☐ Chosen dosing schedule is suitable for patient age and risk group

PRE-VACCINATION COUNSELLING:

- ☐ Consent was given by the vaccine recipient or guardian
- ☐ Vaccine recipient received information regarding risks, side effects, precautions and benefits
- ☐ Vaccine recipient has no contraindications or allergies to the vaccine or ingredients

VACCINE PREPARATION:

- ☐ Drug, dose and D.I.N. are correct
- ☐ Vaccine has not expired and is devoid of any impurities and/or discolouration
- ☐ Vaccine was stored according to the manufacturer's requirements and cold chain procedures
- ☐ Vaccine has been appropriately reconstituted and/or mixed
- ☐ Emergency kit available (diphenhydramine, epinephrine)

SYRINGE OR NEEDLE SELECTION:

- ☐ Appropriate needle gauge and length was chosen

ADMINISTERING THE VACCINE:

- ☐ Recipient has been explained and understands the administration procedure and restraint position
- ☐ Vaccine provider washed his or her hands or used an alcohol substitute (i.e. hand sanitizer)
- ☐ Vaccine vial and injection site was wiped with a disinfectant (i.e. alcohol wipe)
- ☐ Correct route has been chosen (ID, IM, intranasal)
- ☐ Vaccine is administered at the correct angle and depth

AFTER VACCINATION:

- ☐ Needle was immediately placed in a designated biohazard sharps container for safe disposal
- ☐ Recipient understands the common side effects and how to report adverse events
- ☐ Vaccine information (lot #, expiry date, pharmacist name) was documented
- ☐ Recipient waits at least 15 minutes (preferably 30 minutes to ensure no anaphylactic reaction) after the vaccination for monitoring

Pharmacist Administration of a Drug by Injection Regulations by Province

Province	Injections	Reimbursement	Description	Training*	Additional Information
BC	Y	$10/injection	Pharmacists can administer IM, SC or TD injections. Restricted to injections and treatment of anaphylaxis for patients >5 years old.	Pharmacists must complete the Administration of Injections Certificate Program (offered through BCPhA) with an online pre-study (8 hours) and live workshop (1 day) component.	College of Pharmacists of British Columbia: http://www.bcpharmacists.org/about_us/key_initiatives/index/articles70.php
AB	Y	$20/day per patient for assessment and injection	Pharmacists can administer drugs by injections including the flu shot to patients ≥9 years old. Scope does not include influenza vaccinations (injectable or non-injectable) for children under 9.	Pharmacists must complete an ACP-approved or a CCCEP Stage 2 accredited program for pharmacist injection training.	Alberta Pharmacists Association: http://www.rxa.ca/media/185776/Influenza-Program-Update-June-3-for-pharmacists-Final-2.pdf Alberta College of Pharmacists: https://pharmacists.ab.ca/administering-drugs-injection
SK	N	—	—	—	—
MN	P	—	Regulations pending but pharmacists may proceed with training.	Pharmacists must complete the online Immunization Competencies Education Program (14 hours), including an online Manitoba-specific module (1 to 2 hours), and an in-person practical skills workshop (5 to 7 hours).	Manitoba Pharmaceutical Association: http://mpha.in1touch.org/uploaded/38/web/Notice%20to%20Pharmacists%20-%20Injection%20Program.pdf
ON	Y	$7.50/injection	Pharmacists can provide influenza immunizations (in accordance with UIIP) to patients ≥5 years old.	Pharmacists must complete an OCP-approved course for pharmacist injection training.	Ontario College of Pharmacists: http://www.ocpinfo.com/client/ocp/OCPHome.nsf/web/Injection+Training
QC	P	—	Regulation pending. Pharmacists can provide injections for demonstration purposes only.	—	—
NB	Y	$12/injection	Pharmacists can administer drugs by injection to patients >5 years old.	Pharmacists must complete a Society- approved accredited education program on administration of injections by IM and SC routes. An additional program must be completed if pharmacists wish to inject via ID or IV routes.	New Brunswick Pharmaceutical New Brunswick Pharmaceutical Society: http://www.nbpharmacists.ca/ LinkClick.aspx?fileticket=tMyaMOLIwJw%3d&tabid=261&mid=695
NS	Y	$11.75/injection (for 2014) increasing by $0.25 next year	Pharmacist can administer drugs by injection (IM or SC) to patients >5 years old.	Pharmacists must complete an immunization and injection education and training program approved by Council (e.g. Dalhousie IIATP) and obtain an NSCP Drug Administration by Injection permit.	Nova Scotia College of Pharmacists: http://www.nspharmacists.ca/standards/documents/DrugAdministrationStandardsofPracticeMay2013_FINAL.pdf
PEI	N	—	—	—	—
NF	N	—	—	—	—
YT	N	—	—	—	—
NT	N	—	—	—	—
NU	N	—	—	—	—

Y = provincial regulations allow pharmacists to immunize and administer a drug by injection
P = provincial regulations expected to pass soon allowing pharmacists to administer vaccines
N = pharmacists are not allowed to administer vaccines or not paid for service

**All pharmacists must be certified in CPR and First Aid as part of the training requirements for administering injections.*

Patient FAQ

I have never had a flu shot before. Why should I get one?

- Each year, it is estimated that there are 12,000 hospitalizations and 3,500 deaths related to influenza infection.
- 10-20% of the population becomes infected every year, with the highest rate found in children 5-9 years of age.
- Influenza infection is a primary illness, but it can also lead to secondary complications including viral pneumonia, secondary bacterial pneumonia, and worsening of any underlying medical conditions.
- Immunization has shown to reduce the number of physician visits, hospitalizations and deaths for high-risk individuals ages 18-64, hospitalizations for cardiac disease and stroke in the elderly, and hospitalizations and deaths in diabetic patients ≥18 years of age.

I had the flu shot last year. Why should I get another one this year?

- Immunity diminishes within a year of immunization and re-immunization reinforces optimal protection.
- The new vaccine, updated yearly with the most current circulating strains, is needed to protect against new infections.

I have never had a flu shot before. What are some of the common side effects?

- Injection site soreness is common and can last up to 2 days, but it rarely interferes with normal activities.
- LAIV administration is associated with nasal congestion and coryza.

I always seem to get sick after the flu shot. Does the flu shot make you sick?

- No, inactivated influenza vaccines do not contain live virus therefore they cannot cause infection.

I am pregnant, should I get vaccinated?

- Yes. NACI identifies all pregnant women, no matter what trimester of pregnancy, as high priority recipients. This is due to: "1) risk of influenza-associated morbidity in pregnant women, 2) evidence of adverse neonatal outcomes associated with maternal respiratory hospitalization or influenza during pregnancy, 3) evidence that vaccination of pregnant women protects their newborns from influenza and influenza-related hospitalization, and 4) evidence that infants born during influenza season to vaccinated women are less likely to be premature, small for gestational age, and low birth weight."

I have a latex allergy, is it safe for me to get the flu shot?

- Yes, all influenza vaccines currently available in Canada are considered safe in persons with latex allergies.

I have egg allergies, is it safe for me to get the flu shot?

- Yes, without a prior influenza vaccine skin test, egg allergic individuals may be vaccinated with TIV or QIV, but not LAIV as its safety has not yet been studied.

I have a serious acute illness, should I wait to get my flu shot?

- Yes. Vaccination should be postponed until symptoms have subsided.

I have a minor acute illness, should I wait to get my flu shot?

- No. Minor acute illness does not warrant postponed vaccination, regardless of fever.

Why should I choose the intranasal route?

- Intranasal is thought to develop an immune response that mimics one induced by a natural infection.
- It offers injection-free immunization for children.

I've heard that GBS (Guillian-Barré Syndrome) is associated with the flu shot. What is my risk of GBS?

- In the United States, in the period following seasonal flu vaccination the absolute risk of GBS is about 1 excess case per 1 million vaccines per year.

I have had ORS (oculorespiratory syndrome) before. Can I be re-immunized?

- Yes. Individuals who experienced ORS without lower respiratory tract symptoms may be re-immunized safely.

I care for a high risk individual, but they already got immunized. Do I still need to get immunized?

- Yes. Regardless of the high risk individual's immunization status, any contact of an individual at high risk for influenza-associated complications should be immunized.

I am travelling during flu season. Will my flu shot cover me for infections when I travel?

- Possibly. In the tropics, influenza occurs year round, and specific vaccines prepared for use in the Southern Hemisphere are not available in Canada.

IT'S A FACT

LAIV provides several advantages to children such as needle-free administration.

APPENDIX A:
Medications Indicative of High Risk Patients

CLASS	DRUG
Respiratory Medications	Beclomethasone Budesonide Cromolyn Epinephrine Fenoterol Fluticasone Formoterol Ipratropium Montelukast Nedocromil Omalizumab Prednisone Salbutamol Salmeterol Terbutaline Theophylline Tiotropium Zafirlukast
Cancer, Immunosuppressive Agents	Azathioprine Cyclosporine Daclizumab Methotrexate Mycophenolate mofetil Sirolimus Tacrolimus
Corticosteroids	Cortisone acetate Dexamethasone Hydrocortisone Methylprednisolone Prednisolone Prednisone
Antidiabetic Agents	Acarbose Chlorpropamide Gliclazide Insulins Metformin Nateglinide Pioglitazone Repaglinide Rosiglitazone Tolbutamide
Antiviral Agents, HIV/AIDS	Abacavir Amprenavir Delavirdine Didanosine Efavirenz Enfuvirtide Indinavir Lamivudine Nelfinavir Nevirapine Ritonavir/Lopinavir Saquinavir Stavudine Tenofovir Tipanavir Zalcitabine Zidovudine

CLASS	DRUG
Other	Acyclovir Famciclovir Ganciclovir Ribavirin
Anemia and Hemoglobinopathy Treatments	Epoetin alfa Darbepoetin alfa Filgrastim
Cardiovascular Disease Therapies (such as antiarrythmics and heart failure medications)	Beta Blockers ACE Inhibitors Angiotensin Receptor Blockers Calcium Channel Blockers Statins Other: — Amiloride — Amiodarone — Cholestyramine* — Clopidogrel — Chlorthalidone — Digoxin — Dispyramide — Ethacrynic acid — Furosemide — Gemfibrozil* — Hydrochlorothiazide — Isosorbide dinitrate — Metolazone — Nicotinic acid* — Nitroglycerin — Propafenone — Quinidine — Spironolactone — Triamterene
Antimicrobials	Amphotericin B Ethambutol Fluconazole Griseofulvin Isoniazid Itraconazole Ketoconazole Nystatin Pyrazinamide Rifampin Streptomycin Terbinafine

Please note: This is not an exhaustive list, but a summary of the most commonly used medications for the indicated conditions. Pharmacists must exercise professional judgment when using this list to screen for patients that may require the influenza vaccine.

*as secondary prevention

APPENDIX B:
Influenza Vaccination Resources Guide

Pharmacy Associations with Influenza Resources

British Columba Pharmacy Association: http://www.bcpharmacy.ca/seasonal-flu

Alberta Pharmacists' Association: http://www.rxa.ca/pharmacy-initiatives/influenza-immunization-program.aspx

Ontario Pharmacists Association: https://www.opatoday.com/professional/resources/for-pharmacists/programs/uiip

Ministry Websites:

British Columbia: http://www.immunizebc.ca/healthcare-professionals/influenza (1)

http://www.health.gov.bc.ca/pho/influenza.html (2)

Alberta: http://www.albertahealthservices.ca/influenza.asp

Saskatchewan: http://www.health.gov.sk.ca/influenza-flu

Manitoba: http://www.gov.mb.ca/health/flu/pro.html

Ontario: http://www.health.gov.on.ca/en/pro/programs/publichealth/flu/

Quebec: http://sante.gouv.qc.ca/problemes-de-sante/grippe-influenza/

New Brunswick: http://www2.gnb.ca/content/gnb/en/departments/ocmoh/for_healthprofessionals/cdc/NBImmunizationGuide.html (1)

http://www2.gnb.ca/content/gnb/en/services/services_renderer.10775.html#serviceDescription (2)

Nova Scotia: http://novascotia.ca/dhw/CDPC/flu.asp

Prince Edward island: http://www.gov.pe.ca/health/index.php3?number=1021145&lang=E

Newfoundland: http://www.health.gov.nl.ca/health/publichealth/cdc/infoforpros_edu.html

Yukon: http://www.hss.gov.yk.ca/flu.php

NW Territories: http://www.hss.gov.nt.ca/health/diseases-conditions/flu-influenza

Nunavut: http://www.gov.nu.ca/health/information/influenza

For more information, visit fightflu.ca and immunize.ca

Canadian Pharmacists Association
Association des Pharmaciens du Canada

Immunize Immunisation Canada
immunize.ca