

THE FLU INFLUENZA



Updated August 2013

Influenza Immunization Guide for Pharmacists

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



CANADIAN
PHARMACISTS
ASSOCIATION

ASSOCIATION DES
PHARMACIENS
DU CANADA



Immunize
Immunsisation **Canada**
immunize.ca

TABLE OF CONTENTS

Conducting an Influenza Immunization Clinic — Suggested Timelines _____	3
Quick Facts About Influenza: The Virus and the Vaccine _____	4
Criteria for Identifying Patients at High Risk of Influenza Complications _____	6
Vaccination Administration Checklist and Storage Information _____	7
Pharmacist Administration of a Drug by Injection Regulations by Province _____	8
Appendix A — Medications Indicative of High-Risk Patients _____	9

MAKE A HEALTHY CHOICE...Protect yourself and those around you. **GET THE FLU SHOT!**



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.

CONDUCTING AN INFLUENZA IMMUNIZATION CLINIC

Introduction

The Canadian Pharmacists Association (CPhA), in collaboration with Immunize Canada (formerly Canadian Coalition for Immunization Awareness & Promotion), has developed the Influenza Immunization Guide so that pharmacists, following a step-by-step influenza program, can initiate immunization clinics in their pharmacies. Many of your patients will appreciate this clinic; it also serves as an opportunity for you to market your professional services. The key is in communicating the value of your services to your patients.

Goal

To increase the overall number of patients immunized against influenza, with a focus on those individuals at high risk of influenza-related complications, those capable of transmitting influenza to individuals at high risk of complications and those who provide essential community services. The recommendations found in the guide are based on the National Advisory Committee for Immunization (NACI) **Statement on Seasonal Influenza Vaccine for 2013–2014.**¹

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 and any liability forms.
- 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 patients 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 available 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.

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.
- 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 local public health agency.

FOLLOWING YEAR

- Send reminders to all past participants.

Be sure to involve staff members in your planning. Take note of tasks that can be delegated to pharmacy staff (e.g. pharmacy students and technicians).

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.

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

The World Health Organization (WHO) recommends that the trivalent vaccine for the 2013–2014 season in the Northern Hemisphere contain the following strains:

- A/California/7/2009 (H1N1)pdm09-like virus
- A/Victoria/361/2011 (H3N2)-like virus
- (A/Texas/50/2012 virus will be used in manufacturing the vaccine); and
- B/Massachusetts/2/2012-like virus (Yamagata lineage).

Eight vaccines are authorized for use in Canada:

- 1) Fluviral®, 2) Vaxigrip®, 3) Agriflu®, 4) Influvac®,
- 5) Intanza®, 6) Fludac® 7) Fluzone® and 8) FluMist®.

Seven of the vaccines are trivalent inactivated vaccines (TIV) and the 8th, FluMist, is a live attenuated influenza vaccine (LAIV).

- Fluviral®, Vaxigrip®, and Fluzone® 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 vaccines. Fluviral®, Vaxigrip® and Fluzone® are authorized for use in adults and children 6 months of age or older.
- Agriflu®, Influvac® and Fludac® are 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. Fludac® on the other hand, is only authorized for persons ≥65 years of age.
- 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.
- 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.

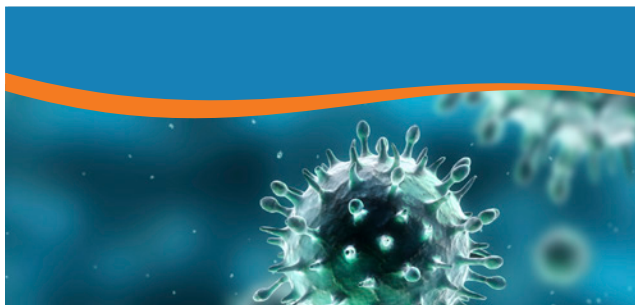
B) The Excipients

- Thimerosal (0.01%) — a preservative that contains mercury (Fluviral® and multi-dose formulations of Fluzone® and Vaxigrip®)
- Antibiotics — undetectable traces used during production (Vaxigrip®, Intanza® and Fluzone® have neomycin; Agriflu® and Fludac® have neomycin and kanamycin; and Influvac® and FluMist have gentamicin)
- Formaldehyde — in each vaccine except FluMist®.

Immunity varies among individuals but generally lasts for 12 months.

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



Overall, the influenza vaccine is 60–80% effective in preventing influenza in healthy children and adults. Among the elderly, the vaccine has been shown to decrease the incidence of pneumonia, hospital admission and death.



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.

Administration

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

TABLE 1. SUMMARY OF INFLUENZA VACCINATIONS

Product	Influvac®	Fluviral®	Agriflu®	Fluad®	Vaxigrip®	FluZone®	Intanza®	FluMist®
Vaccine Type	Inactivated – subunit	Inactivated – split virus	Inactivated – subunit	Inactivated – subunit	Inactivated – split virus	Inactivated – split virus	Inactivated – split virus	Live attenuated
Route of Administration	IM	IM	IM	IM	IM	IM	Intradermal (ID)	Intranasal spray
Authorized ages for use	≥ 18 years	≥ 6 months	≥ 6 months	≥ 65 years	≥ 6 months	≥ 6 months	≥ 18 years	2–59 years
Antibiotics (traces)	Gentamicin	None	Kanamycin Neomycin	Kanamycin Neomycin	Neomycin	Neomycin	Neomycin	Gentamicin
Thimerosal	No	Yes	No	No	Yes – multi-dose vials only	Yes – multi-dose vials only	No	No
Non-medical ingredients	Egg protein Formaldehyde Cetyltrimethylammonium bromide(CTAB) Polysorbate 80	Egg protein Formaldehyde Sodium deoxycholate Sucrose	Egg protein Formaldehyde Polysorbate 80 CTAB	Egg protein Formaldehyde Polysorbate 80, CTAB	Egg protein Formaldehyde Triton X-100	Egg protein Formaldehyde Triton X-100 Gelatin Sucrose	Egg protein Formaldehyde Triton X-100	Egg protein Gelatin hydrolysate Sucrose Arginine Monosodium glutamate

* Adapted from the National Advisory Committee for Immunization (NACI) Statement on Seasonal Influenza Vaccine for 2013–2014.

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

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.

Medications Indicative of High Risk **

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

** 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.

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.)**
- Individuals who experience mild allergic reactions (e.g. hives), or those who can consume eggs contained in baked goods may participate in regular vaccination clinics.
- However, those with a history of anaphylaxis with respiratory or cardiovascular symptoms should receive their vaccination in a medical clinic, allergy office, or hospital. Health care professionals in these settings are properly trained and have access to equipment to manage respiratory or cardiovascular complications.
- These individuals should be kept under observation for 30 minutes.
- 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).
- Please see Canadian Society of Allergy and Clinical Immunology (CSACI) for more details. http://www.csaci.ca/include/files/CSACI_H1N1_Statement.pdf

VACCINATION ADMINISTRATION CHECKLIST

DID I CHECK?

BEFORE VACCINATION:

Vaccine is indicated according to the recommended immunization schedule?
Vaccine is indicated according to recipient's immunization record?

PRE-VACCINATION COUNSELLING:

Consent was given by the vaccine recipient or guardian?
Vaccine recipient received information regarding risks, side effects, precautions & 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?
Vaccine was stored according to the manufacturer's requirements?
Vaccine has been appropriately reconstituted and/or mixed?

SYRINGE OR NEEDLE SELECTION:

Appropriate needle gauge and length was chosen?

ADMINISTERING THE VACCINE:

Recipient has been explained the administration procedure and restraint position?
Vaccine provider washed his or her hands or used an alcohol?
Vaccine vial and injection site was wiped with a disinfectant?
Correct route has been chosen (ID, IM, SC)?
Correct injection site has been chosen (forearm, thigh, buttock, deltoid)?
Vaccine is administered at the correct angle and depth?

AFTER VACCINATION:

Needle was immediately placed in a yellow biohazard sharps container for safe disposal?
Recipient understands the common side effects and how to report adverse events?
Vaccine information was documented?
Recipient waits at least 15 minutes (at least 30 minutes if they have an egg-allergy) after the vaccination for monitoring?

STORAGE

- Influenza vaccines should be stored between +2° to +8°C at all times in complete darkness.
- 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.
- Vaccines should not be frozen unless stated in the manufacturer's product leaflet.
- Always check the expiry date of vaccines and only administer vaccines which are not expired.
- Disposal of vaccines must be in accordance to local or regional standards.

PHARMACIST ADMINISTRATION OF A DRUG BY INJECTION REGULATIONS BY PROVINCE

Province	Injections	Reimbursement	Description	Training*	For more information see
BC	✓	\$ 10 / injection	Pharmacists can administer IM, SC or TD injections. Restricted to immunizations and treatment of anaphylaxis for patients > 5 years old.	<i>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.</i>	College of Pharmacists of British Columbia: http://www.bcparmacists.org/about_us/key_initiatives/index/articles70.php
AB	✓	\$ 20/day per patient for assessment and injection	Pharmacists can administer drugs by injection including the flu shot to patients > 9 years old.	<i>Pharmacists must complete an ACP-approved or a CCCEP Stage 2 accredited program for pharmacist injection training.</i>	Alberta College of Pharmacists: https://pharmacists.ab.ca/nPharmacistResources/Injecting.aspx
SK	✗	✗	—	—	—
MB	➔	✗	Regulations pending, but pharmacists may proceed with training.	<i>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).</i>	Manitoba Pharmaceutical Association: http://mpha.in1touch.org/uploaded/38/web/Notice%20to%20Pharmacists%20-%20Injection%20Program.pdf
ON	✓	\$7.50 / injection	Pharmacists can provide influenza immunizations (in accordance with the UIIP) to patients ≥ 5 years old.	<i>Pharmacists must complete an OCP-approved course for pharmacist injection training.</i>	Ontario College of Pharmacists: http://www.ocpinfo.com/client/ocp/OCPHome.nsf/web/Injection+Training
QC	➔	✗	Regulations pending. Pharmacists can provide injections only for demonstration purposes	—	—
NB	✓	\$ 10 / injection	Pharmacists can administer drugs by injection to patients > 5 years old.	<i>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.</i>	New Brunswick Pharmaceutical Society: http://www.nbpharmacists.ca/LinkClick.aspx?fileticket=tMyaMOLlwJw%3d&tabid=261&mid=695
NS	✓	\$11.50 / injection (for 2013), increasing by 25 cents per year for the next two years.	Pharmacists can administer drugs by injection (IM or SC) to patients ≥ 5 years old.	<i>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.</i>	Nova Scotia College of Pharmacists: http://www.nspharmacists.ca/standards/documents/DrugAdministrationStandardsofPracticeMay2013_FINAL.pdf
PE	✗	✗	—	—	—
NL	✗	✗	—	—	—
YT	✗	✗	—	—	—
NT	✗	✗	—	—	—
NU	✗	✗	—	—	—

✓ = provincial regulations allow pharmacists to immunize and administer a drug by injection

➔ = provincial regulations expected to pass soon allowing pharmacists to administer vaccines

✗ = 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.

Appendix A

MEDICATIONS INDICATIVE OF HIGH RISK PATIENTS

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
- Glyburide
- 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
- Tipranavir
- Zalcitabine
- Zidovudine

Other

- Acyclovir
- Famciclovir
- Ganciclovir
- Ribavirin

Anemia And Hemoglobinopathy Treatments

- Epoetin alfa
- Darbepoetin alfa
- Filgrastim

Cardiovascular Disease Therapies (such as antiarrhythmics and heart failure medications):

- Beta Blockers
- ACE Inhibitors
- Angiotensin Receptor Blockers
- Calcium Channel Blockers
- Statins
- Other:
 - Amiloride
 - Amiodarone
 - Cholestyramine*

- Clopidogrel
- Chlorthalidone
- Digoxin
- Disopyramide
- 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

*as secondary prevention



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.