2019-20 Minnesota Fall Flu Guide

Information to kick off the fall flu (influenza) vaccination season

Contents

DEPARTMENT OF HEALTH

Flu vaccine for 2019-20

This guide provides a summary of CDC's flu vaccination recommendations for the 2019-20 flu season. For more details, read the full MMWR on Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2019–20 Influenza Season (www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm?s_cid=rr6803a1_w).

This season's vaccine contains:

- A/Brisbane/02/2018 (H1N1)-like virus.
- A/Kansas/14/2017 (H3N2)-like virus.
- B/Colorado/06/2017-like virus. (This is a B/Victoria lineage virus.)
- B/Phuket/3073/2013-like virus. (This is a B/Yamagata lineage virus contained in quadrivalent vaccine.)

For more information on flu vaccine antigen selections, see Selecting Viruses for the Seasonal Influenza Vaccine (www.cdc.gov/flu/about/season/vaccine-selection.htm).

New options for flu vaccine are available nearly every season. This makes flu vaccine more accessible, but may also increase medication errors. Double check the package insert for age indication, route, and dosage. This information is summarized in the chart below and is available online in the *2019-20 Seasonal Influenza Vaccine Dosage Chart* on Influenza Vaccine Administration (www.health.state.mn.us/diseases/flu/hcp/vaccine/admin.html).

Manufacturer*	Trade Name	Age	Dose-Presentation	Route
Inactivated Influenza Vaccine, Trivalent (IIV3)				
Sanofi Pasteur	Fluzone High Dose	65 years and older	0.5 mL - prefilled syringe	IM (intramuscular)
Recombinant Influenza Vaccine, Quadrivalent (RIV4)				
Sanofi Pasteur	FluBlok	18 years and older	0.5 mL - prefilled syringe	IM
Inactivated Influenza Vaccine, Adjuvanted, Trivalent (aIIV3)				
Seqirus	Fluad	65 years and older	0.5 mL - prefilled syringe	IM
Cell Culture-Based Inactivated Influenza Vaccine, Quadrivalent (ccIIV4)				
Seqirus	Flucelvax	4 years and older	0.5 mL - prefilled syringe	IM
			0.5 mL - multi-dose vial	
Inactivated Influenza Vaccine, Quadrivalent (IIV4)				
GlaxoSmithKline	Fluarix	6 months and older	0.5 mL - prefilled syringe	IM
GlaxoSmithKline	FluLaval	6 months and older	0.5 mL - multi-dose vial	IM
			0.5 mL - prefilled syringe	
Seqirus	Afluria Quadrivalent	6 through 35 months	0.25 mL - prefilled syringe	IM
			0.25 mL - multi-dose vial	
		3 years and older	0.5 mL - multi-dose vial	
			0.5 mL - prefilled syringe	
Sanofi Pasteur	Fluzone Quadrivalent	6 through 35 months	0.25 mL - prefilled syringe	IM
		6 months and older	0.5 mL - prefilled syringe	
			0.5 mL - single-dose vial	
			0.5 mL - multi-dose vial	
Live Attenuated Influenza Vaccine, Quadrivalent (LAIV4)				
AstraZeneca	FluMist	2 through 49 years	0.2 mL - prefilled intranasal sprayer; 0.1 mL in each nostril	Intranasal

*Make sure you are using the correct codes to enter doses into the Minnesota Immunization Information Connection (MIIC) by going to MIIC Codes for Data Submission and Exchange (www.health.state.mn.us/people/immunize/miic/data/codes.html).

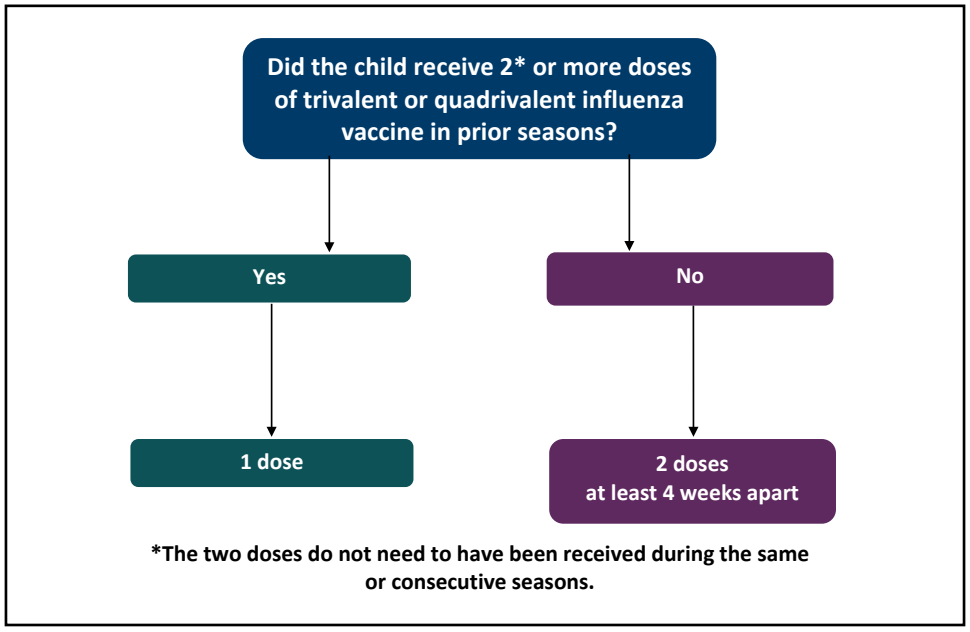
Pediatric flu vaccines

There are now four influenza vaccine products approved for children as young as age 6 months: Fluzone, FluLaval, Fluarix, and Afluria. The dosages differ according to the product. The dosage for Fluzone, FluLaval, and Fluarix is 0.5 mL for all ages. The dosage for Afluria among children ages 6 through 35 months is 0.25 mL; and for 3 years and older the dosage is 0.5 mL. Additionally, Fluzone may be given as a 0.25 mL dose, particularly if that is the product that is available. If a 0.5 mL single-dose vial of Fluzone is used for a 0.25 mL dose, only half the volume would be administered and the other half should be discarded. LAIV is licensed for persons age 2 through 49 years and is given as 0.1 mL in each nostril.

Two-dose recommendations for certain children

Give two doses of influenza vaccine, at least 4 weeks apart to children age 6 months through 8 years who are receiving influenza vaccine for the first time or if they have not received two or more doses of influenza vaccine previously. Two doses are recommended even if the child turns 9 between receipt of dose 1 and dose 2.

See *Influenza vaccine dosing algorithm for children 6 months through 8 years old, 2019-20 influenza vaccination season* below and on Influenza Vaccine Administration (www.health.state.mn.us/diseases/flu/hcp/vaccine/admin.html).



Administering vaccine safely

The route of vaccine administration varies by product. Influenza vaccines recommended for use this season are administered in one of two routes: intramuscular or intranasal.

Screening for contraindications and precautions

Flu vaccine is one of the most widely administered vaccines and in general, most people, even those with egg allergy, can safely receive the vaccine.

- Do not administer flu vaccine to patients who have a contraindication.
- Patients that have a precaution should generally not be vaccinated unless the benefits outweigh the risks as advised by their health care provider.

If you use a protocol from a licensed prescriber to administer flu vaccine, make sure that your screening tools match the criteria for vaccination stated in the protocol. Influenza vaccine protocols should be reviewed every year before vaccination begins. Protocol information and templates can be found on Vaccine Protocols (www.health.state.mn.us/people/immunize/hcp/protocols/index.html).

Core screening criteria

- A previous severe allergic reaction to flu vaccine, regardless of the component suspected of being responsible for the reaction, is a contraindication to future receipt of the vaccine.
- A person who has experienced Guillain-Barre Syndrome (GBS) within 6 weeks of receipt of a flu vaccine may be vaccinated after having a conversation with their medical provider regarding the risks and benefits of vaccination. While GBS is extremely rare after vaccination, a person who has experienced GBS within 6 weeks of a flu vaccination could be at higher risk to experience it again after vaccination.
- Mild illness is neither a contraindication nor precaution to flu vaccination. A mild illness is one in which there are no expectations of a worsening illness course. Examples include otitis media in which antibiotics are prescribed and fever may or may not still be present, or cold symptoms that have been declining. Immunization programs should have a policy with clear criteria about what symptoms would warrant deferral (e.g., fever >100.5 degrees F, or an acute illness that began within the past 24-48 hours) and when the patient may be vaccinated.
- LAIV: Because LAIV is a live vaccine, additional contraindications and precautions include, pregnancy, conditions that suppress the immune system, and receipt of antivirals. In 2015, the ACIP clarified that asthma and underlying medical conditions that place a person at high risk for influenza (diabetes, heart disease, etc.) are precautions to the receipt of LAIV rather than contraindications.

Egg allergy and flu vaccination

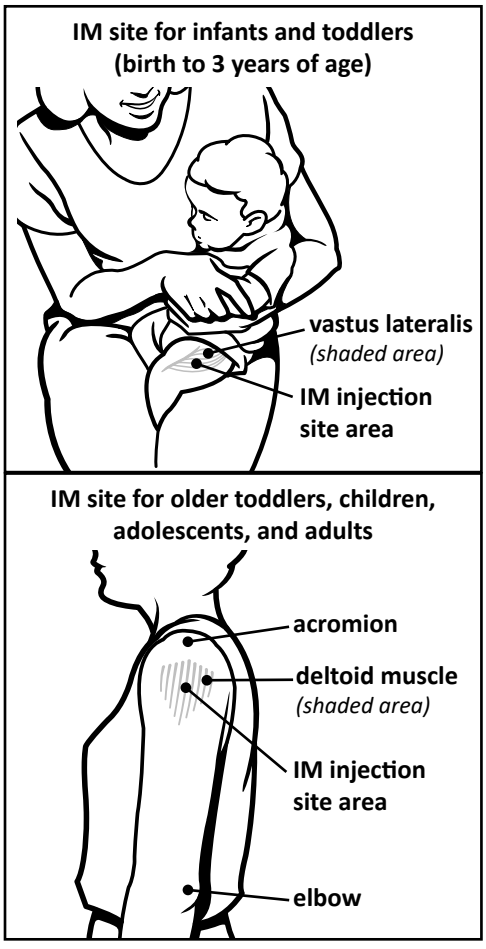
- People with egg allergies can receive any licensed, recommended, age-appropriate flu vaccine (IIV, RIV4, or LAIV4) and should be observed for the standard 15 minutes.
- People who have severe egg allergies should be vaccinated in a medical setting and be supervised by a health care provider who is able to recognize and manage severe allergic conditions.
- All vaccination providers should be familiar with the procedure for treating an acute reaction and be currently certified in cardiopulmonary resuscitation (CPR). Epinephrine and equipment for maintaining an airway should be available for immediate use.

Intramuscular (IM) administration

Injection technique is the most important factor in delivering the vaccine into the muscle. Proper intramuscular injection ensures the vaccine will be most effective, cause the patient the least amount of discomfort, and reduce potential injury.

- **Select the appropriate needle length**
  - Appropriate needle length depends on age and body mass. For all IM injections, the needle should be long enough to reach the muscle mass and prevent vaccine from seeping into subcutaneous tissue, but not so long as to involve underlying nerves, blood vessels, or bone.
  - Needle size and site of injection must be decided for each person based on the size of the muscle and the thickness of adipose tissue around the muscle. This is usually a 1 to 1 ½ inch needle for adults.
- **Prevent injection injuries**
  - Place three fingers from the top of the shoulder. Have the patient lift their arm (you should be able to see and feel the muscle contract). Once you have located the middle of the muscle, have the patient relax their arm and give the injection at a 90-degree angle at that point.
  - Giving the IM injection too close to the shoulder joint can cause bursitis, fasciitis, and other injury. These types of injuries are reported more often during flu vaccination season.

See How to Administer IM (Intramuscular) Injections (www.health.state.mn.us/people/immunize/hcp/admim.pdf) for more information.



Intranasal administration

See the FluMist Quadrivalent: Resources for you (www.flumistquadrivalent.com/flu-vaccine-resources.html) for instructions on proper vaccine administration.

Managing acute vaccine reactions

Administer vaccines in settings where staff are trained to recognize and respond to reactions.

- Have a signed hardcopy of a medical management of vaccine reaction plan and protocol that staff have reviewed and are ready to implement.
- Immediate systemic reactions can include syncope (fainting) and anaplylaxis.
  - To minimize syncope, have a place for patients to sit down while they are vaccinated, and be ready to lower them to a laying position if needed.
  - Although rare, anaphylaxis to a vaccine can occur and is a life-threatening event. Have the appropriate equipment on hand, and have trained staff available to administer epinephrine and maintain an airway in settings where vaccinations are given.
- The Immunization Action Coalition has examples of emergency plans. See Medical Management of Vaccine Reactions in Children and Teens (www.immunize.org/catg.d/p3082a.pdf) and Medical Management of Vaccine Reactions in Adult Patients (www.immunize.org/catg.d/p3082.pdf) for more information.

Vaccine Adverse Event Reporting System (VAERS)

- Health care providers are required to report any event after vaccination that requires medical attention, regardless of whether it is related to vaccination. Report events electronically to the Vaccine Adverse Event Reporting System (VAERS) (https://vaers.hhs.gov/index).
- While it is relatively rare to experience any kind of event, CDC relies on reports of adverse events to signal any problems with flu or other vaccines.

Documenting flu vaccination

Include the following information in your permanent electronic or paper records.

Federal law requires:

- Published date of the Vaccine Information Statement (VIS).
- Date the VIS was given to the patient.
- Name, address (office address), and title of the person who administers the vaccine.
- Date the vaccine is administered.
- Vaccine type, manufacturer, and lot number of each dose administered.

Best practice (may be required by agency):

- Site
- Route
- Dose

Minnesota Immunization Information Connection (MIIC)

Flu vaccine is given in a variety of settings. It is important for health care providers to be able to access immunization records for their patients no matter where the vaccines were given. Minnesota's immunization information system, MIIC (www.health.state.mn.us/miic), stores electronic immunization records that combine immunizations individuals received at different locations across the state. It is a best practice for all providers to enter vaccines they administer – including flu – into MIIC. MIIC's combined immunization records help make sure Minnesotans get the right vaccines at the right times.

Providers can enter vaccine into MIIC in several ways:

- Submissions directly from electronic health record systems.
  - Current MIIC users with electronic health record systems can submit immunization information to MIIC through an electronic connection with their systems. Find more information about setting up a connection with MIIC at Process for Working on Data Exchange with MIIC (www.health.state.mn.us/people/immunize/miic/data/dxprocess.html).
- MIIC Flu Spreadsheet uploads.
  - The MIIC Flu Spreadsheet is an Excel template for providers to quickly record and upload administered vaccines. The template is especially useful for mass vaccination clinics and targeted vaccination campaigns.
- Direct data entry.
  - Providers who administer only a few doses of flu vaccine may enter these data directly into the MIIC application (https://miic.health.state.mn.us/miic/security_ui.showLogin).

In addition to combined immunization records, MIIC offers several other tools to support immunization practice, monitoring, and improvement in Minnesota. If you need help using MIIC, or would like to enroll your organization, contact the MIIC Help Desk:

- Email: health.miichelp@state.mn.us
- Phone: 651-201-5503, 800-657-3970

Learn more about MIIC

- Participating in MIIC (www.health.state.mn.us/people/immunize/miic/participate/index.html). Information for health care providers, other health professionals, schools, and child cares that want to participate in MIIC.
- MIIC User Guidance and Training Resources (www.health.state.mn.us/people/immunize/miic/train/index.html). How-to guides and e-learning modules for MIIC features, as well as a sign-up for email updates on MIIC user guidance and training.

Storage and handling

Proper storage and handling of flu vaccine is critical to its effectiveness. Inactivated vaccines, like IIV, are especially sensitive to freezing temperatures. Here are some key tips to help ensure that your flu vaccine remains effective:

- Follow CDC and manufacturer specifications for maintaining the recommended temperature range (36° through 46°F/2° through 8°C, aim for 40°F/5°C) for storing flu vaccine.
- “Stand alone” or pharmacy grade units for storing vaccine are optimal; they provide uniform temperatures inside the unit. If using a combination unit, avoid using the freezer compartment to store vaccines because the freeze-thaw cycles impact the temperatures in the refrigerator portion and increase the risk of exposure to freezing temperatures. Include water bottles in the refrigerator to add additional temperature buffering.
- Use a calibrated temperature monitoring device; a continuous temperature monitoring device, such as a data logger, is recommended.
- Check and document the current temperature twice a day and the minimum and maximum teperature once a day. Take action if the temperature goes out of range.
- See the CDC’s Vaccine Storage and Handling Toolkit (www.cdc.gov/vaccines/hcp/admin/storage/toolkit/) for full guidance on storage and handling of vaccines.

Note: There are specific storage requirements for those that participate in the Minnesota Vaccines for Children (MnVFC) Program (www.health.state.mn.us/vfc). Refer to your site's *Policies and Procedures Manual* for guidance.

Transport of flu vaccine

Vaccine should be delivered directly to the location where vaccination takes place whenever possible. If flu vaccine must be transported off-site from its main storage area, keep these key things in mind:

- Temperatures need to be continuously monitored and recorded. Take action if the temperature goes out of range.
- Follow specific packing recommendations. Better yet, use portable refrigeration units whenever possible.
- Storing vaccine in a home refrigerator is not acceptable. If overnight storage is a frequent aspect of your flu vaccination program, use portable refrigeration units.

Transport packing guidance can be found in CDC's *Packing vaccines for Transport during Emergencies* on Vaccine Storage and Handling: Recommendations and Guidelines (www.cdc.gov/vaccines/hcp/admin/storage).

Antiviral recommendations

Antiviral use is recommended as soon as possible for patients with suspected or confirmed flu who are:

- Hospitalized.
- Have severe, complicated, or progressive illness.
- Outpatients at higher risk for influenza complications (e.g., children under age 2 years, pregnant women, those with immunosuppression, etc.).
- Residents of nursing homes and other chronic-care facilities.
- Have uncomplicated influenza and present within 48 hours of illness (based on clinical judgment).

For more information on influenza antivirals, see CDC's Influenza Antiviral Medications (www.cdc.gov/flu/professionals/antivirals/index.htm).

Rapid flu testing

While rapid flu testing can be useful, it has limitations.

- False negative flu rapid testing results are common, and a negative rapid test result does not rule out flu.
- Likewise, a positive rapid test does not confirm flu, especially during times of low prevalence of disease in the community.

Antiviral treatment should not be withheld from patients with signs and symptoms suggestive of flu and a negative rapid flu test result. Providers are encouraged to use clinical judgment for treatment and infection control decisions. More information on rapid tests can be found at Rapid Influenza Diagnostic Testing (www.health.state.mn.us/diseases/flu/hcp/rapid.html).

Recap of 2018-19 flu season in Minnesota

- 2,522 hospitalizations
- 385 outbreaks of influenza-like illness (ILI) in schools
- 61 outbreaks of influenza in long-term care facilities
- 2 pediatric deaths

The 2018-19 flu season began with A/H1 as the dominant strain, but A/H3 became more prevalent as the season progressed. Very little influenza B was detected throughout the season. Although not nearly as severe as the 2017-18 season, the 2018-19 season was long. Flu continued to circulate into the late spring and early summer months.

Providing information before vaccination

An essential part of flu vaccination is providing information about the risks and benefits of flu vaccination, which includes the Vaccine Information Statement (VIS), alerting vaccinees of common symptoms after vaccination, and instructions for follow-up care if needed.

Vaccine Information Statements (VISs)

- Providing the VIS before administering the vaccine is required by federal law.
- The VIS gives patients basic informaiton on flu disease and vaccine risks and benefits.
- The VIS is available in multiple languages from the Immunization Action Coalition at Vaccine Information Statements (www.immunize.org/vis).

Potential side effects

Preparing a patient about what to expect and when to follow-up with a health care provider is a best practice and can ease anxiety about vaccination. Most reactions to flu vaccine are mild, resolve on their own, and do not result in serious outcomes. Common side effects include:

- Pain or redness at the injection site
- Achiness
- Headache
- Mild fever

These symptoms usually resolve in a day or two and should not be mistaken for flu disease.

Commonly asked questions

Sometimes patients ask for more information about flu vaccine. Review answers to these commonly asked questions so you can provide reassurance to patients who may be hesitant and build confidence in vaccination.

What is flu (influenza)?

- Flu (influenza) is caused by viruses that attack the lungs, nose, and throat. This group of viruses is very different from those that cause stomach upset and diarrhea–or what some call the “stomach flu.”
- Flu symptoms can be mild or severe, but typically cause a cough, sore throat, body aches, and fever.
- Usually flu is more severe than a cold, and symptoms start very suddenly.

Who is at high risk for flu?

Most healthy people will recover from flu without complication; however, many people are in an age group or have a condition that places them at high risk for complications from flu. These groups include:

- Children under age 5 years, but especially those under 2 years
- Adults over age 65 years
- Pregnant women
- Persons with a chronic medical condition, such as asthma, neurological and neurodevelopmental conditions, lung and heart disease, chronic kidney disease and diabetes, weakened immune system, and obesity (especially those with BMI ≥40).

Why does flu vaccine change every year?

- The flu virus is continuously changing, which results in a change of the most common strains circulating. The flu vaccine changes each year to try and match the strains that are expected to cause the most illness in the upcoming season.
- Whether the strains change or not, it’s important to get a flu vaccine every year since immunity decreases over time.
- Everyone 6 months of age and older should get a flu vaccine each year.

How effective is flu vaccine?

- Efficacy can vary based on things like how healthy you are, how old you are, and whether you've been vaccinated before.
- While the vaccine won't prevent every case of flu, it is the most specific tool we have against the flu.

Is flu vaccine safe?

- Year after year, flu vaccine is shown to be safe. They have been extensively studied for safety and are continuously monitored for safety.

Can people with egg allergies get the vaccine?

- Yes. Extensive reviews of data indicate that severe allergic reactions are rare among persons with egg allergy who receive flu vaccination. Flu vaccination is safe for these individuals.

When is the best time to get vaccinated?

- Flu vaccine is usually available in late summer or early fall, but the start and peak of flu activity is typically months later. This raises questions about the ideal time to get vaccinated.
- In general, providers should begin offering vaccine as soon as they have it, and the public should take advantage of flu vaccination services in their community whenever they have the opportunity.
- For those requiring only 1 dose for the season, early vaccination (i.e., July and August) is likely to be associated with suboptimal immunity before the end of the influenza season, particularly among older adults.
- Booster doses of flu vaccine during the influenza season does not provide benefit and is not recommended.
- Delaying vaccination until later in fall or winter may lead to missed opportunities and non-vaccination.
- Continue to vaccinate throughout the season until you run out of vaccine or it expires.

Stay informed about flu

- For information on flu activity in Minnesota, subscribe to our Weekly Influenza & Respiratory Activity: Statistics (www.health.state.mn.us/diseases/flu/stats/index.html).
- Get an email alert when updates are made to Influenza Information for Health Professionals (www.health.state.mn.us/diseases/flu/hcp/index.html).
- Subscribe to *Got Your Shots? News* (www.health.state.mn.us/people/immunize/hcp/gys/index.html) for monthly immunization updates from MDH.

Get ready for National Influenza Vaccination Week!

December 1-7, 2019
www.cdc.gov/flu/resource-center/nivw/index.htm

Questions?

MDH Immunization Program
651-201-5503 or 1-800-657-3970
health.flu@state.mn.us
www.mdhflu.com

CDC INFO: 1-800-232-4636