



CDC Webinar – #HowIRecommend Flu Vaccine: How to Make Recommendations that Matter to Patients

Webinar Held: December 12, 2018

Questions and Answers

What are your recommendations for women in their first trimester and timing of flu vaccine?

Influenza vaccination during pregnancy is beneficial to both the pregnant mother as well as her developing baby. The Centers for Disease Control and Prevention (CDC) recommends that all people aged ≥ 6 months get an annual influenza vaccination, including pregnant women. Pregnant women are at higher risk for serious flu-related complications, particularly in the second and third trimesters. Influenza illness can also be associated with fever, and maternal fever may be associated with some types of birth defects. Vaccination of pregnant women is recommended, and may occur during any trimester.

Inactivated influenza vaccines have been available for several decades and have a reassuring history of use in pregnancy, though in general there is less information available regarding vaccination during the first trimester. A recent CDC-funded Vaccine Safety Datalink study found an association between vaccination and increased risk of spontaneous abortion (miscarriage) when an H1N1pdm09-containing vaccine had also been received during the previous season. Most of the miscarriages included in the study occurred during first trimester, a time when miscarriages are relatively common. Earlier studies have not found such an association. Results of a follow-up study are anticipated soon.

Women who may be concerned about influenza vaccination during the first trimester of a pregnancy should talk with their obstetricians about the best timing to receive influenza vaccination given their pregnancy as well as their possible exposure to influenza.

Why was the high dose Fluzone only a trivalent vaccine this year?

The manufacturers who produce influenza vaccines determine whether a specific product contains three or four of the circulating influenza A and B viruses. At the time that high-dose influenza vaccine was licensed by the Food and Drug Administration (FDA) (2009), all seasonal influenza vaccines licensed in the United States were trivalent. Since that time, quadrivalent formulations of various vaccines have become available. Licensure of quadrivalent vaccines requires that data from studies of the new formulation be submitted to FDA for consideration.

I have a question regarding reactions to any flu vaccine of which you have heard. In 1990, because I'm an asthmatic, I had my first (and only) flu vaccine. I had no trouble with it at all. However, my husband who always got his flu vaccine, missed it that year, and so in January of 1991, he got the flu – 103 fever, aches, etc. I did not get those symptoms,



however, all my joints swelled up all over my body – had trouble closing my hands, my ankles itched because they were so swollen, it was terrifying. I went to the doctor, but after several days, the swelling resolved. My doctor did a rheumatoid screen (came back negative the first time, but he rechecked it later and it was positive) and an ANA (antinuclear antibody) titer, which was elevated. He was afraid I was developing lupus or rheumatoid, so he sent me to a rheumatologist. I went six weeks later and the rheumatologist explained that four people could have a positive rheumatoid test, but only one develop rheumatoid. He also said that he believed the flu shot created some kind of overreaction or odd immune response so that my body attacked itself when exposed to the flu. I've since seen other allergists over the years for my asthma and one doctor mentioned having seen something similar to my reaction. I was told to not get another flu shot, which I have not, and I am still very curious about this. Of course, I'm terrified to get another flu shot as well because something even worse could happen the second time and people are constantly pushing them on me. I also never get fevers – I had a tiny one when I had orthopedic surgery on my leg and had plate and screws put in in 1998, but that's the last time I had a temperature around 99. I run low, but no matter how miserable I feel, I never get a fever. I do not know if that is related to my not having had the flu since 1990 (or ever before that), but I'm just curious.

CDC can't provide individual medical advice. Your individual healthcare provider can best help assess your situation. In general, we are not aware of a demonstrated association between influenza vaccines and rheumatoid arthritis, or that this is a frequent occurrence. However, symptoms that occur following vaccination that are thought to possibly be related to vaccine can be reported to the Vaccine Adverse Event Reporting System (VAERS). This is a surveillance system that helps to detect vaccine safety problems. More information is available at <https://vaers.hhs.gov/about.html>.

With regard to fevers—while many who get influenza have fevers, some people don't. Older adults may be less likely to develop fever. Fever can also be masked by some medications (for example, acetaminophen, ibuprofen, and steroids).

Can you please explain patient reactions to the flu vaccine? I'm asking specifically if the vaccine for seniors can cause rheumatoid arthritis joint pain or polymyalgia rhuematica symptoms that could be resolved by steroid injections.

We are not aware of a demonstrated association between influenza vaccines and rheumatoid arthritis or polymyalgia rhuematica, or that these are common post-vaccination events. However, symptoms that occur following vaccination that are thought to possibly be related to vaccine can be reported to the Vaccine Adverse Event Reporting System (VAERS). This is a surveillance system that helps to detect vaccine safety problems. More information is available at <https://vaers.hhs.gov/about.html>.



What do you say to someone who is concerned about the adjuvants in the flu vaccine causing the activation of an underlying autoimmune disease?

Most seasonal influenza vaccines that are licensed in the United States are unadjuvanted. There is currently only one adjuvanted seasonal influenza vaccine licensed in the US—Fluad, a trivalent inactivated vaccine. In the United States, it is licensed only for those aged 65 and older. It has previously been used in some other countries for a number of years. The purpose of the adjuvant is to help promote a better immune response in older adults, who tend not to respond as strongly as younger people to vaccines. While overall the safety of the adjuvanted vaccine has been reassuring, there are many different influenza vaccines available, and the Advisory Committee on Immunization Practices (ACIP) makes no preferential recommendation for any one over another. Many influenza vaccines are licensed for those 65 years and older, and are potential options.

We have a policy that if staff do not get a flu vaccine, they must mask in patient care areas during the flu season. We have some staff push back that this is a Health Insurance Portability and Accountability Act (HIPAA) violation and that it is giving us a false sense of security. What would you tell that staff member?

CDC doesn't have recommendations that address whether asymptomatic healthcare personnel who did not receive the seasonal influenza vaccine should wear a facemask or not when performing their job duties. The guideline, "Prevention Strategies for Seasonal Influenza in Healthcare Settings" at <https://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm>, provides CDC recommendations on preventing the spread of influenza in healthcare settings and includes indications for use of personal protective equipment.

What suggestions would you have for those of us who work with pregnant women? About getting them on board for the flu shot. Please discuss any concerns regarding pregnant women receiving the vaccine in the first trimester.

Influenza vaccination during pregnancy is beneficial to both the pregnant mother as well as her developing baby. CDC recommends that all people aged ≥ 6 months get an annual influenza vaccination, including pregnant women. Pregnant women are at higher risk for serious flu-related complications, particularly in the second and third trimesters. Influenza illness can also be associated with fever, and maternal fever may be associated with some types of birth defects. Vaccination of pregnant women is recommended, and may occur during any trimester.

Inactivated influenza vaccines have been available for several decades and have a reassuring history of use in pregnancy, though in general there is less information available regarding vaccination during the first trimester. A recent CDC-funded Vaccine Safety Datalink study found an association between vaccination and increased risk of spontaneous abortion (miscarriage) when an H1N1pdm09-containing vaccine had also been received during the previous season. Most of the miscarriages included in the study occurred during first trimester, a time when



miscarriages are relatively common. Earlier studies have not found such an association. Results of a follow-up study are anticipated soon.

Women who may be concerned about influenza vaccination during the first trimester of a pregnancy should talk with their obstetricians about the best timing to receive influenza vaccination given their pregnancy as well as their possible exposure to influenza.

I saw somewhere that the Sanofi Fluzone for infants will be increased from 0.25cc to 0.5cc possibly in January when or if approved by the Food and Drug Administration (FDA). Any more info?

Fluzone Quadrivalent is currently licensed as a 0.5mL dose for those aged 3 years and older, and as a 0.25mL dose for those aged 6 through 35 months. Changes in dose volumes require FDA approval. More information might be available from FDA or from the manufacturer.

Is there a dose-specific guidelines document available (Fluzone...)?

Information on doses for different influenza vaccines is found in vaccine-specific package inserts, and is also summarized in the Advisory Committee on Immunization Practices (ACIP) influenza recommendations. Regarding Fluzone specifically, package inserts are available on the Food and Drug Administration (FDA) website (<https://www.fda.gov/biologicsbloodvaccines/vaccines/approvedproducts/ucm112854.htm>). There are separate package insert for the standard-dose Fluzone Quadrivalent and Fluzone High-Dose.

Fluzone High-Dose is licensed for persons aged 65 years and older, and is given as a 0.5mL dose. Fluzone Quadrivalent is licensed for persons aged 6 months and older, and is given as a 0.5 mL dose for persons aged 3 years and older and as a 0.25mL dose for children aged 6 through 35 months. Changes in dose volumes require FDA approval. More information might be available from FDA or from the manufacturer.

Sometimes information on dosage, administration, age indications, or other important features of a vaccine changes. For this reason, it is important to consult current FDA-approved prescribing information for all vaccines.

Does the flu vaccine last the whole season? Is it recommended to receive a second vaccine/booster shot if the first one was administered in September or early October? I read somewhere that healthcare personnel need a booster shot. Is that true?

One reason annual influenza vaccination is recommended is because there is a decline in protective antibodies post-vaccination. However, the rate and degree of decline is variable, and findings of waning immunity within a single season have not been consistent for all studies in all seasons. There are also potential negative effects of deferring vaccination, including forgetting to get vaccinated later in the season, missing vaccination campaigns or supply, or getting



vaccinated after influenza has already started circulating. Timing of the onset and peak of the influenza season also varies from season to season, and from one location to another during a single season. In many seasons, influenza activity begins to increase in the US during October, and peak activity is most commonly in January or February. For these reasons, it is recommended that vaccination be offered by the end of October. There is currently no recommendation for re-vaccination of persons who have already been completely vaccinated for a given season.

If a client gets a flu vaccine early in the season and the flu season is extended, would we recommend a second vaccine to cover?

There is currently no recommendation for re-vaccination of persons who have already been completely vaccinated for a given season.

Retail stores receive vaccines in August, and managers start pushing employees to vaccinate customers in August. Do you feel it's better to wait until September?

One reason annual influenza vaccination is recommended is because there is a decline in protective antibodies post-vaccination. However, the rate and degree of decline is variable, and findings of waning immunity within a single season have not been consistent for all studies in all seasons. There are also potential negative effects of deferring vaccination, including forgetting to get vaccinated later in the season, missing vaccination campaigns or supply, or getting vaccinated after influenza has already started circulating. Timing of the onset and peak of the influenza season also varies from season to season, and from one location to another during a single season. In many seasons, influenza activity begins to increase in the US during October, and peak activity is most commonly in January or February. For these reasons, it is recommended that vaccination be offered by the end of October.

If they have never had a flu shot before, should they still get one now? I've heard this and don't believe that but I (one of our nurses) need clarification.

All persons aged ≥ 6 months without a contraindication to influenza vaccine are recommended to get an influenza vaccination annually, even if they have never received the vaccine before. Those who have a contraindication to receipt of influenza vaccine should not be vaccinated. For example, people who have a history of a severe allergic reaction (such as anaphylaxis) to influenza vaccine or to any of its components (other than egg) should not be vaccinated. For egg-allergic persons, the Advisory Committee on Immunization Practices (ACIP) recommends vaccination of persons with egg allergy of any severity (this differs from the Food and Drug Administration (FDA) licensed package inserts, which generally list severe egg allergy as a contraindication). Consult the ACIP influenza vaccination recommendations for specific recommendations concerning vaccination of persons with egg allergy. In addition, current ACIP recommendations and current FDA-approved prescribing information should be consulted for



complete information on contraindications, warnings, and precautions for use of influenza vaccines.

What do you do if a patient says he had a flu shot recently when abroad?

It can be helpful to review vaccination records, if they are available, to determine when and in what country the vaccine was given. Recommendations for viruses to be represented in influenza vaccines are made separately for the Northern and Southern Hemispheres each season, and these recommendations can differ. So, if a patient received an influenza vaccine in a Southern Hemisphere country during the Southern Hemisphere season (e.g., May–September) and is now in the Northern Hemisphere, vaccination with the Northern Hemisphere vaccine may be warranted for protection against Northern Hemisphere viruses, if the recipient will be in the Northern Hemisphere during its influenza season, because the Northern Hemisphere vaccine may have an updated composition and may better reflect circulating Northern Hemisphere viruses.

Is intranasal as effective as intramuscular?

The intranasal vaccine, FluMist Quadrivalent (also called the live attenuated influenza vaccine, or LAIV), had poor effectiveness against influenza A(H1N1)pdm09 viruses among children during the 2013-14 and 2015-16 US seasons (while inactivated vaccines were, as a group, effective against these viruses during these seasons). This vaccine now contains a different H1N1pdm09-like virus. This new virus appeared to replicate better in the nasal passages when studied in children. However, no US effectiveness data are available yet for current LAIV containing this new virus.

Is the FluLaval vaccine a two dose series for infants?

Two important things to consider when vaccinating children are number of doses needed, and the volume needed for each dose. These things depend on the age of the recipient, their vaccination history, and the specific influenza vaccine. Here is how to determine the **number of doses** needed:

- Children aged 6 months through 8 years who have never received influenza vaccine require 2 doses of influenza vaccine (administered a minimum of 4 weeks apart) during their first season of vaccination.
- In addition, children aged 6 months through 8 years who have not received a total of two previous doses prior to July 1, 2018 need two doses (at least 4 weeks apart) for the 2018-19 season.
- Children aged 6 months through 8 years who have received a total of 2 or more doses of influenza vaccine in prior seasons, and all persons aged 9 years and older, require only one dose for 2018-19.



Number of doses is different from **dose volume**. For the injectable inactivated influenza vaccines, the dose volume is the same (0.5mL) for everyone aged 3 years and older. BUT, for children aged 6 through 35 months, some vaccines are given at a smaller volume (0.25mL). Some (Fluarix Quadrivalent and FluLaval Quadrivalent) are 0.5mL per dose, while others (Fluzone Quadrivalent, Afluria, and Afluria Quadrivalent) are 0.25mL per dose. Care should be taken to administer the appropriate volume for the age of the recipient and the product being administered. Also, it is important to note that a child who needs two doses—for example, a 1-year-old first time vaccine—needs a second dose at least 4 weeks after the first dose, even if they receive a product that is given as 0.5mL for the first dose (such as FluLaval Quadrivalent or Fluarix Quadrivalent).

Do we have resources translated into other languages?

We have a variety of print materials in Spanish connecting back to flu prevention. They can be found here – <https://www.cdc.gov/flu/resource-center/freeresources/print/print-spanish.htm>.

Multi-language factsheets can also be found here – <https://www.cdc.gov/flu/resource-center/freeresources/multi-language-factsheets.html>.

In addition, the majority of our webpages at cdc.gov/flu can be translated into Spanish by clicking on the dropdown menu in the upper right hand corner of the screen and selecting “Spanish” under language.

How do we approach healthcare workers who voice concerns about "all the additives" in the vaccine? Healthcare workers have expressed concerns about all the chemicals in the vaccine. And also for those healthcare workers who state, "every time I get the flu vaccine, I get sick, but I haven't gotten sick when I don't." Please advise.

It is recommended that healthcare workers receive influenza vaccination to protect themselves and others from getting sick. Healthcare workers can get influenza from patients or coworkers who are infected. Infected workers can potentially transmit influenza to patients or coworkers even if they don't feel sick. These are all great reasons to take concrete preventive actions against influenza, including getting vaccinated.

Influenza vaccines contain small quantities of inactive ingredients. Vaccines in multi-dose vials contain thimerosal, a preservative that helps prevent microbial growth. Currently available US-licensed single-dose vial and pre-filled syringe presentations of influenza vaccines do not contain preservatives, according to the package inserts.

Some, but not all, influenza vaccines contain small quantities of other ingredients such as antibiotics and gelatin. Some individuals have allergies to these substances. The prescribing information for each vaccine lists the ingredients, and can be helpful in choosing an acceptable vaccine in these situations.

Influenza vaccines do not cause influenza, as they contain either inactivated virus, recombinant hemagglutinin, or virus that is live but has been changed (attenuated) so that it cannot establish

infection. Most people experience only local side effects of vaccination, such as soreness at the injection site. Less commonly, one might have more general systemic symptoms such as headache, fever, nausea, and muscle aches. These side effects may be confused by some as being influenza, but they are generally short-lived and more mild than symptoms of actual influenza virus infection.

Is Flublok the only flu vaccine available produced without the use of eggs?

Most influenza vaccines are manufactured using eggs. For these vaccines, specific strains of influenza viruses recommended for inclusion in the vaccine (reference viruses) are provided to manufacturers, and then these viruses are grown in eggs in large quantities to make many doses of vaccine. There are two vaccines licensed in the United States for which manufacturers do not produce large quantities of virus in eggs:

1. The recombinant influenza vaccine (Flublok Quadrivalent) is manufactured without the use of influenza viruses or eggs. It contains influenza virus surface proteins (hemagglutinin) that are manufactured using recombinant technology, rather than influenza viruses.
2. The cell culture-based influenza vaccine (Flucelvax Quadrivalent) contains viruses that are grown by the manufacturer in cell culture rather than in eggs. For this latter vaccine, as of the 2018-19 season, one of the four reference viruses provided to the manufacturer is an egg-based virus (it was grown in egg prior to being provided to the manufacturer). Once provided to the manufacturer, all four viruses in this vaccine are grown in large quantities in cell culture rather than in eggs.

Is there a short (<=5min.) video (YouTube?) you can recommend that I could show to new employees that would SIMPLY promote the PROs, and dispel myths?

There are numerous resources on the web about the benefits of influenza vaccination, especially on the CDC webpages. Unfortunately, CDC has not yet produced a video for patients. Though that would be a good idea. Other medical professional groups may have produced such videos, however.

What tips can you share regarding healthcare workers who refuse vaccination? What does the CDC say regarding mandatory vaccinations?

CDC does not have a policy recommendation for mandated vaccination of healthcare personnel. Healthcare personnel are recommended to receive annual influenza vaccination as a means to protect themselves and their patients from influenza.

How safe is Xofluza in comparison to Tamiflu?

The Food and Drug Administration webpage for Xofluza contains some information about the safety of the product, including the approved package inserts. More information can be found at <https://www.fda.gov/Drugs/InformationOnDrugs/ucm624981.htm>). In the Xofluza package insert, prevalence of the specific adverse reactions discussed in the insert was similar to placebo. In the oseltamivir package insert, frequency of some adverse events was greater than for placebo (e.g., nausea, vomiting, headache).

I went to a Naturopathic therapist; he was telling me that if I give the vaccine to my son, it causes ADHD (attention-deficit/hyperactivity disorder) and autism. That I should not vaccinate my 7 year old son. What do you say about that?

I use evidence such as this: <https://www.cdc.gov/vaccinesafety/concerns/autism.html>.

How would you address medical staff who are well read and feel that the flu vaccine is often ineffective and or has too many additives to feel safe taking it?

I use evidence such as this: <https://www.cdc.gov/flu/about/qa/vaccineeffect.htm>.

Specifically, for additives, this reference discusses those and addresses the use: <https://www.cdc.gov/vaccines/vac-gen/additives.htm>.

And safety: https://www.vaccines.gov/basics/vaccine_ingredients/index.html.

How do we reply to a person who states that they will not get the influenza shot ever again because I got sick from the shot? We have explained that it is not a live vaccine and that they could have been coming down with something at the time the vaccine was given. What is your recommended way to respond to "I get the flu after I get the shot"?

Explaining that it is not a live vaccine is a great start. It might be great to also include more details such as:

The Vaccine Did Not Have Time to Provide Full Immunity

It takes two weeks to develop immunity to influenza after you get the vaccine. If you get the flu within two weeks of getting the shot, you were probably exposed to the virus right before or right after you were vaccinated.

It is easy to see why someone would believe the flu vaccine gave them the flu right after receiving the vaccine. However, the vaccine is made from killed (shot) virus and cannot give you the flu.



You Have Another Flu-Like Illness

The flu shot does not protect against:

- Common cold
- Pneumonia
- Bronchitis
- “Stomach flu” (norovirus)

It is still possible that you will get sick at some point during flu season with some other illness that you might mistake for the flu. Just because you had a flu shot, that does not mean you will not get sick at all. You might have a similar illness that is caused by a virus other than influenza.

How to answer to patients who say that the vaccine effectiveness is only 15-30% max so why even bother to inject something into the body that does not work?

Flu vaccines always minimize the chance that you’ll get the flu, but also make the flu dramatically less serious if you do get it, converting what could be a weeklong illness into a few hours of nausea. The flu vaccine always works, if “works” means minimizing the overall effects of the flu. Additionally, even if only that percentage is protected, it is better than zero. Even at this level of effectiveness, the impact of resource utilization is decreased so that those that do become sick can access those resources such as hospital beds.

How can we recommend the vaccine to parents who think that the flu vaccine cannot be administered with the rest of the vaccines? Parents will say "next time" and now this is a missed opportunity because the flu vaccine wasn’t administered.

Concurrent Administration of Influenza Vaccine with Other Vaccines:

- Inactivated vaccines do not interfere with the immune response to other inactivated vaccines or to live vaccines.
- Inactivated or live vaccines can be administered simultaneously with live-attenuated influenza vaccine.
- However, after administration of **a live vaccine**, at least 4 weeks should pass before another live vaccine is administered.

Reference: <https://www.cdc.gov/flu/professionals/vaccination/vax-summary.htm>



How to address the preservatives in the vaccine for those who are hypersensitive to multiple drugs, allergens, etc.?

The probability of a serious allergic reaction following any vaccine is extremely low if the person is properly screened.

A previous severe allergic reaction to influenza vaccine, regardless of the component suspected to be responsible for the reaction, is a contraindication to future receipt of the vaccine. For a complete list of vaccine components (i.e., excipients and culture media) used in the production of the vaccine, check the package insert (at www.immunize.org/packageinserts) or go to www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf.

For more details about giving influenza vaccine to people with a history of egg allergy, see www.cdc.gov/mmwr/volumes/67/rr/pdfs/rr6703a1-H.pdf, pages 9–10. You also may find the Immunization Action Coalition (IAC) handout "Influenza Vaccination of People with a History of Egg Allergy" helpful (see www.immunize.org/catg.d/p3094.pdf).

You mentioned nobody likes shots. I understand the LAIV4 spray is available again this season. What are your recommendations for the spray and how do you handle questions from patients or caregivers if they state they had heard the spray hasn't worked in the past?

Influenza vaccine effectiveness (VE) can vary from year to year, among different age and risk groups, by vaccine type, and even by virus type and subtype. While data from 2010-2011 through 2016-2017 indicated that LAIV lacked effectiveness among 2 through 17-year-olds against H1N1pdm09 influenza viruses (2009 H1N1) in the US, LAIV was effective against influenza B viruses, and was similarly effective against H3N2 viruses as inactivated influenza vaccines. **For the 2018-2019 season, the manufacturer of LAIV4 has included a new H1N1 vaccine component.** Some data suggest this will result in improved effectiveness of LAIV4 against H1N1. However, no published effectiveness estimates for this vaccine component against H1N1 viruses are yet available. **The Advisory Committee on Immunization Practices (ACIP) and CDC voted to resume the recommendation for the use of LAIV4 based on evidence suggesting that the new H1N1 component will result in improved effectiveness of LAIV against these viruses.** There is no expressed preference for any flu shot or the nasal spray vaccine.

Reference: <https://www.cdc.gov/flu/about/qa/nasalspray.htm>

I am hoping to hear about how to talk to people who are skeptical of immunizations, with distrust of medical professionals/the CDC. I am the school nurse in a childcare facility. Every adult who works here is required to get a flu shot in order to keep their job. For some of our staff, this feels very bad: like the dominant culture/the government is forcing them to take a possible poison (mercury is often mentioned) into their body because they are poor, or less valued, than teachers of older children (who can choose to skip a flu shot.) No amount of sharing statistics or my own experience, or that I have my own

children vaccinated, seems to matter—there is so much skepticism about this requirement. For people in this situation, who do not have the option to "opt out," what is the best way to make a flu shot seem like a sensible, safe, health-promoting choice instead of a government conspiracy? How can I help them feel comfortable with taking an immunization, when it is a job requirement/not really a choice?

One strategy that I have effectively used in a situation like this is to bring in a speaker, not associated with medical professionals or CDC, to speak of their experiences related to not being vaccinated. One of the most effective groups has been the post-polio support group. They have offered to speak to groups or individuals who are against vaccines to speak about the importance of vaccination. You can google post-polio groups in your area and reach out to them to see if they might have someone available.

Additionally, if a person has been required to be vaccinated in previous years, it is good to walk them through their previous experience. Likely a good group of them did not experience any issues with the vaccine itself so it might remind them that it was hopefully not a bad experience.

As I mentioned in the webinar, at the end of the day, you will not necessarily convince everyone, but if you are able to get a couple of more people to say yes, then you have succeeded.

Do you need to wait a certain timeframe before/after receiving steroids (Medrol pack) when getting flu vaccination?

Corticosteroid therapy such as methylprednisolone usually does not contraindicate vaccination with live-virus vaccines when such therapy is of short-term (< 2 weeks); low to moderate dose; long-term alternate day treatment with short-acting preparations; maintenance physiologic doses (replacement therapy); or via topical administration (skin or eye), by aerosol, or by intra-articular, bursal, or tendon injection. Patients on corticosteroid treatment for 2 weeks or more may be vaccinated after steroid therapy has been discontinued for at least 3 months in accordance with general recommendations for the use of live vaccines. CDC has stated that discontinuation of steroids for 1 month prior to live vaccine administration may be sufficient. Live vaccines should not be given to individuals who are considered to be immunocompromised until more information is available.

Because injectable flu vaccine is inactive, there is even less concern than with the live attenuated nasal flu vaccine.

Reference: <https://www.pdr.net/drug-summary/Medrol-methylprednisolone-1014>

Pharmacists at our hospital do not give the flu shots. Are all pharmacists licensed to give flu shots and trained?

Not necessarily, most of the new pharmacy graduates are receiving this training in their curriculum, but pharmacists that have been out in practice for a number of years might not have done the training. Also, because of the practice, it might not be part of the role they play because there are other personnel that can vaccinate.



Do you have any recommendations for increasing participation at corporate wellness "travel" flu shot clinics?

Promoting upcoming clinics and distributing information about the vaccine to employees are great strategies. Others are outlined in CDC's toolkit, "Make It Your Business to Fight the Flu." It can be found at

https://www.cdc.gov/flu/pdf/business/toolkit_seasonal_flu_for_businesses_and_employers.pdf

My not-for-profit healthcare employer does not mandate flu vaccination. Are there any barriers to mandating, or in hospitals, for example, is it just considered a condition of employment? How would I approach such a conversation, any national benchmarks for home health/hospice agencies?

Programs mandating influenza vaccination for healthcare employees can vary greatly from state to state because immunization requirements are determined by each state. We suggest contacting the immunization program at your state or local health department. They would be your best source of information about any state requirements or laws, along with other healthcare agencies in your area that have mandated influenza vaccination for employees.

Other excellent resources can be found on the Immunization Action Coalition website at <http://www.immunize.org/honor-roll/influenza-mandates/> and http://www.immunize.org/honor-roll/cha_guidance_mandatory_influenza_policy_hcp.pdf.

When do you advise cessation of flu immunizations? Do you continue until the expiration date of the serum?

Peak influenza activity generally occurs in January or February. The Advisory Committee on Immunization Practices and CDC recommend providers should continue vaccinating patients throughout the influenza season, including into the spring months (for example, through May), as long as they have unexpired vaccine in stock and unvaccinated patients in their offices.

Additional information on influenza vaccine can be found at <https://www.cdc.gov/flu/protect/keyfacts.htm>.

Maintaining high adult immunization rates among clients receiving care from home health agencies is a challenge due varying regulations among states. Many agencies do not stock or transport vaccines. Any suggestions?

Home-bound patients may not have the opportunity to obtain vaccines in traditional clinical settings. Home health agencies (HHAs) can develop immunization programs. There are a number of resources available from CDC and others that can help. For those patients that do have clinical encounters, communication between the HHA and the facility is a key factor. HHA staff can assess for needed vaccines and communicate this to facility staff prior to the healthcare visit. Some agencies do provide vaccines in home settings. HHAs that do not can provide referrals to those within the community that do.



CDC vaccine storage and handling webpage:

<https://www.cdc.gov/vaccines/hcp/admin/storage/index.html>

CDC vaccine administration webpage: <https://www.cdc.gov/vaccines/hcp/admin/administer-vaccines.html>

CDC healthcare personnel educational materials and programs:

<https://www.cdc.gov/vaccines/ed/index.html>

Tools to Assist Satellite, Temporary, and Off-Site Vaccination Clinics:

<https://www.izsummitpartners.org/naiis-workgroups/influenza-workgroup/off-site-clinic-resources/>

Can you direct us to SIRVA (Shoulder Injury Related to Vaccine Administration) statistics?

About 2% of the reports received annually by the Vaccine Adverse Event Reporting System (VAERS) since 2010 are of atypical shoulder pain and dysfunction following influenza vaccination. For the 2017-18 influenza season, there were 178 reports, which is 1.9% of all influenza vaccine-related reports to VAERS. VAERS is not able to determine if these reports are shoulder injuries related to vaccination. VAERS is a passive reporting system, meaning it relies on individuals to send in reports of their experiences to CDC and the Food and Drug Administration (FDA). VAERS is not designed to determine if a vaccine caused a health problem.

My question is concerning SIRVA (Shoulder Injury Related to Vaccine Administration) also. Is damage temporary or permanent?

The Vaccine Injury Compensation Program timeframes for Shoulder Injury Related to Vaccine Administration are:

- The onset of symptoms had to have started within 48 hours of vaccination and the duration of symptoms lasts for 6 months.

Type and duration of symptoms vary from patient to patient.

Please discuss the recent news that is telling patients to wait and not get the flu vaccine till November since the vaccine may not cover the whole flu season.

There has been some recent news about some studies that have come out suggesting that the immunity that you get from a flu vaccine wanes across the season, or declines as the season goes on. We continue to recommend at CDC that people receive their flu vaccination by October, so that they are protected prior to the start of widespread flu activity in their area, and we continue to recommend flu vaccination even after October, while viruses are still circulating.



Do you recommend the flu shot for the over 65 population?

Yes.

Should providers be recommending high dose flu vaccine to high-risk patients under age 65? Is there evidence to provide to providers regarding the use of high dose flu vaccine? What is the senior flu vaccine? Why not recommend it to every patient?

There are several vaccines that are licensed for adults age 65 years and older, and those include a high dose vaccination and an adjuvant vaccine. Those different types of vaccines are targeted for that older age group because those vaccines hopefully induce a greater immune response against the flu virus. They're targeted for those older age groups because of that immune response – we want to make it a little bit better in those older adults because they tend to not have as strong of an immune response to standard dose vaccine or standard influenza vaccination. There are moves to get those vaccines licensed in the younger sections of our population, but that's ongoing and the manufacturers have to do trials in those other age groups in order to get them licensed by the Food and Drug Administration (FDA) for use.

Are there good posters or infographics that explain about last year's flu season – the number of deaths, etc.

There are plenty of resources on our website, cdc.gov/flu. There was a [good infographic that was put out around the burden of last year's flu season](#), putting those numbers in social math. There are also the [HCP Fight Flu Toolkit](#) and the [Digital Campaign Toolkit](#), both of which include good resources.

A variety of posters, graphics, and infographics can be found at our seasonal flu resource center webpage (<https://www.cdc.gov/flu/resource-center/freeresources/index.htm>).

An infographic describing last season's flu burden can be found here – <https://www.cdc.gov/flu/resource-center/freeresources/graphics/flu-burden.htm>.

Can you discuss coverage related to the type of flu we are seeing this season?

Early coverage data is not out yet. As a result, it will not be included on this webinar. However, that data could be coming out soon. Stay tuned.

What if the patient asks for documented scientific evidence of the efficacy of the flu vaccine?

There are some CDC resources. Every season, there's an update in the Advisory Committee on Immunization Practices (ACIP) guidance around flu vaccination, and a lot of that guidance points to the randomized trials and the observational studies that have looked at the efficacy as



well as the effectiveness of influenza vaccination. Also on the CDC website, every year, the flu division measures vaccine effectiveness in the outpatient as well as the inpatient setting, and every time those estimates are published, whether they are interim estimates in the middle of a flu season or final published estimates of the flu vaccine effectiveness, those also go up on the CDC website.

Have you determined how many deaths related to flu were among people who were not vaccinated? If so, can we know how many of those deaths were children, teens, adults, etc.?

Flu deaths in the general population are not reportable to CDC. The exception is that deaths in children less than 18 years are a nationally notifiable disease, and when we hear about a report of a pediatric death related to flu, we do ask follow-up questions and the health department may contact that family to get more information about the vaccination status of the child. That's the only systematic place where we capture information about whether someone who has died from the flu was vaccinated, and that information is on the CDC website, on the FluView surveillance platforms. You can see for past seasons how many of the reported pediatric deaths related to flu were among children who had been vaccinated or not. What we see is that, in the kids who die from flu, it's not 100% who are unvaccinated, but it's about 80% who are unvaccinated. An analysis that came out a couple of years ago looking at these pediatric deaths related to flu and comparing the vaccination coverage in those kids to kids in the broader US population did find a significant association between flu vaccination and being protected against death. That is available in the scientific literature, and there is some communications information on the CDC website about that vaccine effectiveness estimate against pediatric death. But in the broader population, in those 18 years and over, we do not have a systematic way to capture how many people who die from flu were or were not vaccinated.

If someone has the flu already, how long should you wait until giving them a vaccination? If someone is on Tamiflu, when should they get an immunization?

Our guidance for basically any individual who's had an acute illness is that they should wait until they are well again and afebrile before receiving a vaccination. That's probably across the board, but definitely in terms of the flu vaccination. This also brings up a good point – if you have had the flu, you can get the flu again even in the same flu season because several different influenza viruses circulate. Even if you got flu early on, it's still a good idea to get a flu vaccination because it's going to protect you from those other types of viruses that are out there. Each flu vaccine contains either three or four different influenza viruses, so you're getting protected by those viruses, even if you've been exposed to a different flu virus. It is still a good idea to get vaccinated even if you had the flu in the season, just make sure that you are well enough to be active again, and you might want to consult your doctor too.

In terms of Tamiflu, if you've been given Tamiflu, we'd follow the same guidelines that you should receive a flu vaccination when you are not acutely ill anymore, and that might be a discussion to have with your clinician.

I have read that people with egg allergies are ok to get the vaccine now. Is that evidence-based practice or from a study? Wondering if it is something to push or not.

There are some good resources on the CDC website. The Advisory Committee on Immunization Practices (ACIP) weighed in on this – egg allergies and flu vaccination in people who have an egg allergy – and so there'll be specific details on [cdc.gov/flu](https://www.cdc.gov/flu), as well as on the ACIP minutes. By and large, as long as somebody doesn't have an anaphylactic-type reaction to eggs, flu vaccination is safe and can be given. Those people who are concerned about a reaction related to their egg allergy are encouraged to seek their healthcare provider and discuss it with them. The ACIP did weigh in on that, and they said it was safe to give to people who had egg allergies.

I'm a pharmacist who recently gave a presentation on influenza recommendations in pediatrics. I included some of the data related to decreased morbidity and mortality from previous seasons. One of the physicians in the room asked if we have any information comparing our influenza morbidity/mortality rates to other countries (i.e., Europe) where they only vaccinate high-risk populations. More specifically, they asked, if there is no difference, is it pressure from drug companies that lead us to make a blanket recommendation that everyone should be vaccinated. I would like to dispute this idea, but I cannot find a good answer to this. I could not find any studies comparing. Do any of you have an appropriate response to this question?

One of the things that I try to do is use resources like the CDC. I can't think of another agency that I find more credible than the CDC. When I get a question like that about pharma or anything that's a concern like that, I go to the source that I think is the most credible, and I think that oftentimes helps. It's very hard to change perception sometimes, so I really try to understand what the source of the concern is, have they had an experience where they had some sort of underlying bias, and try to get to the root of where that question is coming from. I think because I feel very comfortable, and in general most people have a lot of confidence in someone, and they like the CDC, if you stick to those sources, and you don't use materials that could be perceived as biased, something from a pharmaceutical company or something like that, then you can hopefully stay away from those types of conversations and go to the guidelines and speak based on the information that we have from a very credible source.

Visit the Public Health Foundation website to access the [archived #HowIRecommend Flu Vaccine: How to Make Recommendations that Matter to Patients](#) webinar and related resources.