

NEEDLE TIPS

from the Immunization Action Coalition — www.immunize.org

Thoughts on the final issue of *Needle Tips*

By Deborah L. Wexler, MD, Editor, *Needle Tips*

This is your final issue of *Needle Tips*, the Immunization Action Coalition's (IAC's) flagship periodical since 1994. I've been involved in every aspect of the 62 issues we've published, so I'd like to share with you some history of these 23 years – how *Needle Tips* began, how it grew over the years, why we are saying goodbye, and what's next. I would also like to thank some who have been deeply involved for many years in the work of *Needle Tips*, making it such an inspired, successful, and long-lived publication for readers like you.

How we started...

Needle Tips was preceded by IAC's main periodical during the early 1990s, the *Hepatitis B Coalition News (HBCN)*. The first issue of *Needle Tips* was published side-by-side with HBCN, stapled together and mailed to nearly 50,000 healthcare professionals and others throughout the United States.

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Shots
Don't you fret
Don't you cry
The pain will pass
by and by.
It might hurt
It might swell
but I will help you
to stay well.
IZZ
and
Sarah.

"Shots" appeared on the cover of the premier issue of *Needle Tips* in 1994, and was written by my children Sarah and Isaac Wexler-Mann.

Following this premier issue, and through 2008, *Needle Tips* was printed and mailed twice a year to pediatricians, family physicians, pediatric nurse practitioners, school nurses, state and local health departments, and many others, with a circulation of up to 200,000.

According to IAC surveys, the most popular feature of *Needle Tips* has been its "Ask the Experts" column, where experts from the Centers for Disease Control and Prevention (CDC) provide answers to practical questions about hepatitis B and all other routinely recommended vaccines.

We added a bit of levity to our serious content by sprinkling funny riddles throughout each issue from 1994 until 2009, all of which were illustrated by my artistic children, Sarah, Isaac, and Leo, up until each left for college.

Printing and mailing costs became a problem...

By 2008, the cost of printing and mailing hard copies of publications had become too expensive compared to electronic distribution. As a result, CDC changed its policy and informed us that its

financial support for printing and mailing *Needle Tips* would be discontinued the following year, making it necessary for us to convert to electronic distribution only. The last printed edition of *Needle Tips* was mailed in December 2008. We heard from many disappointed readers.

In 2009, *Needle Tips* went online at www.immunize.org/nt and we began building our email subscriber list. (*Needle Tips* back issues remain available at www.immunize.org/nt/back-issues.asp.) We expanded the number of *Needle Tips* issues to four per year to increase its visibility and impact. *Needle Tips* has always been available free of charge.

Though subscribership rose over the years to nearly 50,000, *Needle Tips* no longer reached the larger audience it had with postal mailings.

Why we are saying goodbye...

Our main website, www.immunize.org, and our weekly email news service, *IAC Express*, are better able to keep *Needle Tips* readers up to date on IAC's ever-expanding educational content and news. The gap of several months between *Needle Tips* issues has rendered it too untimely to keep up with today's fast-changing world of immunization.

Going forward...

Although *Needle Tips* will be gone, *IAC Express* will carry on, bringing all *Needle Tips* content to its readers on a weekly basis. News about recently updated ACIP recommendations, new vaccine licensures, Vaccine Information Statements, and CDC publications will be announced, along with articles about IAC's free, downloadable CDC-reviewed educational materials for patients and clinic staff (e.g., standing orders templates and handouts for patients). At least five times per year, we will publish special editions of *IAC Express* that are exclusively "Ask the Experts" Q&As. If you're not already an *IAC Express* subscriber, please visit www.immunize.org/subscribe.

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**Ask the
Experts**
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Needle Tips

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IAC, a 501(c)(3) charitable organization, publishes practical immunization information for healthcare professionals to help increase immunization rates and prevent disease.

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IAC maintains strict editorial independence in its publications.

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Thank you!

Over these 23 years, I have been honored to work closely with so many wise, talented, and dedicated individuals to bring you every issue of *Needle Tips*. Here are the names of those to whom I am most particularly indebted and about whom I have treasured memories that will never leave me.

CDC's "Ask the Experts" Hall of Fame

Andrew Kroger, MD, MPH, medical officer at CDC's National Center for Immunization and Respiratory Diseases (NCIRD), has served since 2012 as IAC's key *Needle Tips* contact for providing answers to all "Ask the Experts" questions. To do this, he works with NCIRD's expert education team members who include medical officers **Candice L. Robinson, MD, MPH**, and **Raymond A. Strikas, MD, MPH, FACP, FIDSA**; and nurse educators **Donna L. Weaver, RN, MN**, and **JoEllen Wolicki, BSN, RN**. Thank you all for working with us. It has been an honor for me and IAC to collaborate with CDC's entire education team on *Needle Tips*.

William L. Atkinson, MD, MPH, medical epidemiologist at NCIRD answered hundreds of "Ask the Experts" questions (sometimes from beaches of Mexico) between 1995 and his retirement in 2012. Fortunately for IAC, Bill is now our associate director for immu-



Sarah Wexler-Mann, 1995

nization education and continues to coordinate "Ask the Experts" Q&As with the CDC team of experts.

Harold S. Margolis, MD, past director, CDC's Division of Viral Hepatitis (DVH), devoted long hours over many years (even while on mountaintop camping trip with his family) to answering hepatitis A and B questions for *Needle Tips* readers until 2004 when he retired from CDC.

Linda A Moyer, RN, retired chief, Education and Training Team, DVH, likewise devoted many hours for many years to answering "Ask the Experts" hepatitis questions until she retired from CDC in 2006. Following retirement, she became a consultant for IAC and continued to answer "Ask the Experts" questions until she retired in 2015.

IAC staff who are no longer with us

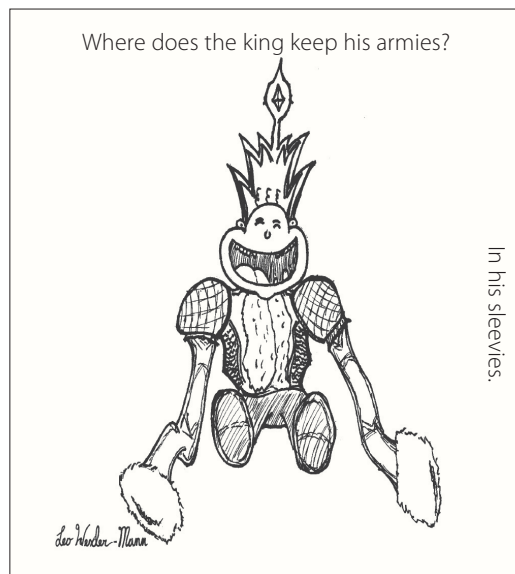
Margaret Vaillancourt, writer and community activist, who started IAC with me in 1991, devoted 10 years to *Needle Tips* and IAC, providing lots of laughs and boundless energy. Margaret passed away in 2014.

Becky Payne, assistant to the director (me), served as editor, proofreader, finder of riddles, and devoted 14 years to IAC and to keeping watch over many aspects of *Needle Tips*. We lost our dear Becky to a massive stroke in 2011.

Current IAC staff

Diane Peterson, IAC's associate director for immunization projects, associate editor, and master organizer has been always ready with the preliminary plan for

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Leo Wexler-Mann, 2006

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DISCLAIMER: *Needle Tips* is available to all readers free of charge. Some of the information in this issue is supplied to us by the Centers for Disease Control and Prevention in Atlanta, Georgia, and some information is supplied by third-party sources. The Immunization Action Coalition (IAC) has used its best efforts to accurately publish all of this information, but IAC cannot guarantee that the original information as supplied by others is correct or complete, or that it has been accurately published. Some of the information in this issue is created or compiled by IAC. All of the information in this issue is of a time-critical nature, and we cannot guarantee that some of the information is not now outdated, inaccurate, or incomplete. IAC cannot guarantee that reliance on the information in this issue will cause no injury. Before you rely on the information in this issue, you should first independently verify its current accuracy and completeness. IAC is not licensed to practice medicine or pharmacology, and the providing of the information in this issue does not constitute such practice. Any claim against IAC must be submitted to binding arbitration under the auspices of the American Arbitration Association in Saint Paul, Minnesota.

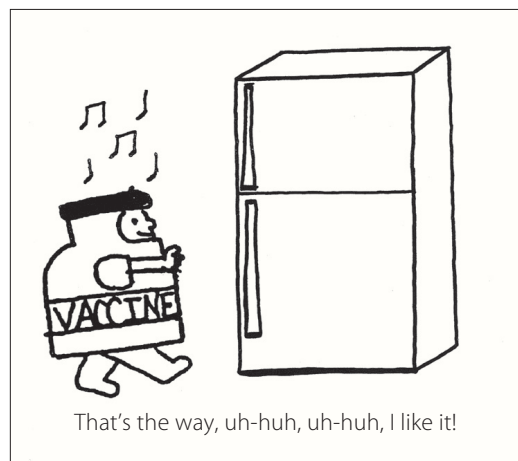
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each issue of *Needle Tips* since she started working at IAC in 2002. Her *Needle Tips* assignments are completed early so she can move to everything else she works on. Diane's motto is "Let's git 'er dun."

William L. Atkinson, MD, MPH, in addition to being IAC's associate director for immunization education, in recent years has joined Diane as associate editor of *Needle Tips*. He selects and develops "Ask the Experts" questions within days of our needing them, and sends them to Dr. Kroger at NCIRD. Bill completes his work with astonishing efficiency and accuracy. His home base is in Missouri, but we all hope that someday Bill will move to Minnesota.

Kathryn de Boer, IAC's creative consultant for several years, works wonders at designing the most beautiful pages for displaying *Needle Tips* content. She makes my job easy and working with her is a joy.

Many more IACers work on *Needle Tips*, and all



Sarah Wexler-Mann, 1994

have contributed in important ways. Thank you to **Teresa Anderson, DDS, MPH**; **Marian Deegan, JD**; **Mike Franey, PhD**; **Sheila Franey, MA**; **Chrystal Mann**; **Jane Myers, EdM**; **Julie Murphy, MA**; **Casey Pauly**; **L.J. Tan, MS, PhD**; **Robin VanOss**; **Pat Vranesich, RN, BSN**; and **Laurel Wood, MPA**.

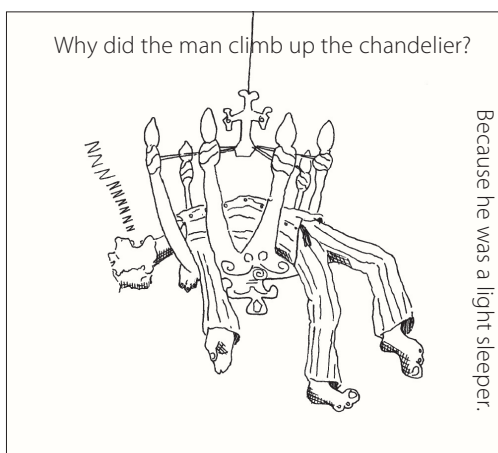
And, of course, my family

Michael Mann, my dear husband of nearly 40 years who thought up the title *Needle Tips*, is so easy-going about my schedule and deadlines, and his presence is such a gift to me and our children.

Sarah Wexler-Mann, our first-born child, was IAC's earliest illustrator featured in *Needle Tips*. Sarah is now an organic hops and flower-growing farmer, communications director, graphic designer, and mom residing outside of Houston, Minnesota.

Isaac Mann, our second-born and second *Needle Tips* illustrator – the one who brought Batman and Robin drawings to *Needle Tips* (and to the Encyclopedia Britannica in 1997) – is now a painter and teacher of master's level art students. He lives in New York City.

Leo Wexler-Mann, our third-born child, was IAC's



Isaac Wexler-Mann, 1999

talented riddle illustrator until 2008. Leo has grown up to become a conservatory-trained pianist, composer, piano teacher, and podcaster, and he continues to draw. He also lives in New York City.

Mark Wexler, my father, who died in 2006, founded Medical Arts Press, a printing company in Minneapolis, Minnesota. I am a printer's daughter. As a child, I spent time learning how to hand set lead type and, to my mother's horror when she found out, how to hand-feed a printing press. Dad taught me about designing printed pages, the importance of white space, font choice, line spacing, and placement of art. When he received his copies of *Needle Tips* in the mail, he would send them right back to me, *covered* with edits and advice so I would get it right in the next issue. Thank you, Dad.

And, finally, our readers

Thank you for reading *Needle Tips*. You, the front lines of immunization in the U.S., have been our most important audience. Your appreciative words over the years have enhanced our passion for our work. Thanks for writing to us. A sampling of your messages can be read online at www.immunize.org/aboutus/what_ntva.asp. We will miss hearing from you about *Needle Tips*, but look forward to receiving your messages about *IAC Express*. Please keep in touch.

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Isaac Wexler-Mann, 1992

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Ask the Experts

The Immunization Action Coalition extends thanks to our experts, medical officers Andrew T. Kroger, MD, MPH; Candice L. Robinson, MD, MPH; Raymond A. Strikas, MD, MPH, FACP, FIDSA; and nurse educators Donna L. Weaver, RN, MN, and JoEllen Wolicki, BSN, RN, all with the National Center for Immunization and Respiratory Diseases at the Centers for Disease Control and Prevention (CDC).

Influenza vaccines

What's new in the 2017–18 influenza vaccine recommendations?

The 2017–18 ACIP influenza vaccine recommendations were published on August 25, 2017, and are available online at www.cdc.gov/mmwr/volumes/66/rr/pdfs/rr6602.pdf. The new guidance

- Describes the vaccine composition for this season (a change in the A/H1N1 component);
- Discusses recent FDA licensure and labelling changes including
 - approval of Afluria Quadrivalent (Seqirus) and Flublok Quadrivalent (Protein Sciences);
 - expansion of the age indication for FluLaval Quadrivalent (GSK) to age 6 months and older (previously licensed for people 3 years and older);
 - expansion of the age indication for Afluria (Seqirus) to include persons 5 years and older (previously recommended for persons 9 years and older); and
- Recommends that live attenuated influenza vaccine (LAIV, FluMist; AstraZeneca) not be used during the 2017–18 season.

Which influenza vaccines will be available during the 2017–18 influenza season?

Multiple manufacturers are producing influenza vaccine for the U.S. market for the 2017–18 season. Inactivated vaccines will be produced using egg-based, cell culture-based, and recombinant technologies. Some of the inactivated influenza vaccines will be quadrivalent (containing four strains of influenza virus) rather than trivalent (three strains). LAIV may be available but is not recommended for use during the 2017–18 season. A complete listing of influenza vaccine products is available from the Immunization Action Coalition (IAC) at www.immunize.org/catg.d/p4072.pdf.

Who is recommended to be vaccinated against influenza?

ACIP recommends annual vaccination for all people ages 6 months and older who do not have a contraindication to the vaccine.

When should influenza vaccine be given?

You can begin administering vaccine as soon as it becomes available. Optimally, vaccination should occur before onset of influenza activity in the community. Healthcare providers should offer vaccination by the end of October, if possible, and vaccination activity should continue through the fall and winter months, as long as influenza virus is circulating in the community. Early vaccination of children younger than age 9 years who need 2 doses of vaccine can be helpful in assuring routine second doses are given before the influenza season begins.

When administering influenza vaccine, is giving patients a VIS mandatory or is it only “recommended”?

Giving patients an influenza Vaccine Information Statement (VIS) is mandatory under the National Childhood Vaccine Injury Act of 1986. The VIS must be given to all adults as well as to parents or guardians of children prior to vaccination. Two VISs are available, one for LAIV (although LAIV is not recommended to be used during the 2017–18 season) and one for inactivated influenza vaccine (IIV). Each can be found at www.immunize.org/vis along with many translations. The influenza VIS has been modified so that it does not need to be replaced each year. The 2015–16 influenza VIS (used for the past two years) should be used during the 2017–18 season.

Which influenza vaccines can we give to children?

Among the injectable inactivated influenza vaccines, both Fluzone (Sanofi Pasteur) and FluLaval are approved by the FDA for use in children ages 6 through 35 months. There are several inactivated influenza vaccines that can be given to children age 3 years or older.

Please provide details about the use of FluLaval influenza vaccine in children younger than 3 years.

On November 18, 2016, the FDA approved an extension of the age range of quadrivalent FluLaval IIV to include children 6 through 35 months of age. FluLaval was previously approved for people 3 years of age and older. The approval of the extended age range for FluLaval was based on a study showing an equivalent (“non-inferior”) response compared to children who received the Fluzone pediatric dosage. The vaccine is supplied for this indication in manufacturer-filled syringes and multi-dose vials. The dosage approved for children 6 through 35 months of age is 0.5 mL – the same dosage as for people 3 years of age and older.

Which children younger than age 9 years will need 2 doses of influenza vaccine in this influenza season?

Children age 6 months through 8 years should receive a second dose 4 weeks or more after the first dose 1) if they are receiving influenza vaccine for the first time, 2) if they did not receive a total

of at least two doses of trivalent or quadrivalent influenza vaccine before July 1, 2017, or 3) if their vaccination history is unknown. The two doses need not have been received during the same season or consecutive seasons. IAC’s handout titled “Guide for Determining the Number of Doses of Influenza Vaccine to Give to Children Ages 6 Months Through 8 Years” provides guidance on this issue; it is available at www.immunize.org/catg.d/p3093.pdf.

Can a child 6 through 35 months of age who needs 2 doses of influenza vaccine this season receive one each of Fluzone and FluLaval vaccine?

Yes. Both Fluzone (0.25 mL dose) and FluLaval (0.5 mL dose) are approved by the FDA for use in children 6 through 35 months of age.

If a child receives Fluzone vaccine (0.25 mL) at age 34 or 35 months for the first time and then returns for the second dose at age 37 months, should we give another 0.25 mL dose of Fluzone or should we give the 0.5 mL dose that is indicated for age 3 and older?

The child should always receive the dose appropriate for his or her age at the time of the clinic visit; at age 37 months that would be 0.5 mL.

A 1-year-old was inadvertently given a 0.25 mL dose of FluLaval rather than the recommended 0.5 mL dose. What should we do?

If the error is discovered while the child is still in the office, you can administer the other “half” of the FluLaval dose. If the error is discovered later, the dose should not be counted, and then the child should be recalled to the office and given a full age-appropriate repeat dose, either a 0.5 mL dose of FluLaval or a 0.25 mL dose of Fluzone.

Is influenza vaccine recommended for pregnant women?

Yes. It is especially important to vaccinate pregnant women because of their increased risk for influenza-related complications. An increased risk of severe influenza infection was also observed in postpartum women (those who delivered within the previous 2 weeks) during the 2009–10 H1N1 pandemic. Vaccination can occur in any trimester, including the first. Only inactivated vaccine should be given to pregnant women.

I heard that a recent study suggested an increase in miscarriage among women who received inactivated influenza vaccine. Please provide details.

A CDC-funded study found that women who had been vaccinated early in pregnancy with an influenza vaccine containing the pandemic H1N1 (H1N1pdm09) component and who also had been vaccinated the prior season with an H1N1pdm09-containing influenza vaccine had an increased risk of spontaneous abortion (miscarriage) in the 28

Ask the Experts...continued on page 5 ►

IAC's "Ask the Experts" team from the Centers for Disease Control and Prevention



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Ask the Experts...continued from page 4

days after vaccination. This study does not quantify the risk of miscarriage and does not prove that influenza vaccine was the cause of the miscarriage. Earlier studies have not found a link between influenza vaccination and miscarriage. There is an ongoing investigation to study this issue further among women who were pregnant and eligible to receive influenza vaccine during the 2012–13 through 2014–15 influenza seasons. Results are anticipated in late 2018 or 2019.

CDC and ACIP have not changed the recommendation for influenza vaccination of pregnant women. It is recommended that pregnant women receive influenza vaccine during any trimester of their pregnancy because influenza poses a danger to pregnant women and the vaccine can prevent influenza in pregnant women.

Please tell me about Flud, the new influenza vaccine for people age 65 years and older.

In November 2015, FDA licensed Flud (Seqirus), a trivalent, MF59-adjuvanted inactivated influenza vaccine, for people age 65 years and older. Flud is the first adjuvanted influenza vaccine marketed in the U.S. An adjuvant is a substance added to a vaccine to increase its immunogenicity. The MF59 adjuvant is based on squalene, an oil that occurs naturally in many plants and animals. Flud has been used in Europe since 1997 and is approved in 38 other countries. In contrast to Fluzone High-Dose (Sanofi Pasteur), Flud is a standard-dose vaccine, containing 15 mcg of hemagglutinin per dose.

A study published in 2014 found that the injectable vaccine Fluzone High-Dose protects people 65 years and older better than standard-dose Fluzone. Does ACIP preferentially recommend use of Fluzone High-Dose for all people age 65 years and older?

Aging decreases the body's ability to develop a good immune response after getting influenza vaccine, which places older people at greater risk of severe illness from influenza. A higher dose of antigen in the vaccine should give older people a better immune response and therefore provide better protection against influenza. However, despite published evidence of better protection from Fluzone High-Dose when compared to standard-dose

Fluzone (*N Engl J Med* 2014; 371:635–45), ACIP has not stated a preference for this vaccine for people age 65 years and older.

May Fluzone High-Dose or Flud be administered to patients younger than age 65 years?

No. Fluzone High-Dose and Flud are licensed only for people age 65 years and older and are not recommended for younger people.

What is the latest ACIP guidance on influenza vaccination and egg allergy?

ACIP revised its guidance on vaccination of people with egg allergy for the 2016–17 season. This guidance did not change for the 2017–18 season. ACIP recommends that people with a history of egg allergy who have experienced only hives after exposure to egg should receive any inactivated influenza vaccine without specific precautions (except a 15-minute observation period for syncope). People who report having had an anaphylactic reaction to egg (more severe than hives) may also receive any age-appropriate influenza vaccine. The vaccine for those individuals should be administered in a medical setting (such as a physician office or health department clinic). Vaccine administration should be supervised by a healthcare provider who is able to recognize and manage severe allergic conditions. Although not specifically recommended by ACIP, providers may prefer to administer an egg-free recombinant vaccine (Flublok; Protein Sciences) for people age 18 years and older with severe egg allergy.

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/66/rr/pdfs/rr6602.pdf, pages 10–12. You also may find the IAC handout "Influenza Vaccination of People with a History of Egg Allergy" helpful (see www.immunize.org/catg.d/p3094.pdf).

Should staff at drive-through influenza vaccination clinics encourage drivers to park and wait for 15 minutes after vaccination to make sure they don't have a syncopal (fainting) episode?

Yes. Syncope has been reported following vaccination. It is prudent for all persons to be observed for syncope for at least 15 minutes after vaccination.

When removing both pediatric (0.25 mL) and adult (0.5 mL) doses from a multi-dose vial of Fluzone, we can get more than 10 doses from the 5.0 mL vial. Can we continue to remove doses from the vial until it is empty?

No. Only the number of doses indicated in the manufacturer's package insert should be withdrawn from the vial. For a 5.0 mL vial of Fluzone this is 10 doses. After the maximum number of doses has been withdrawn, the vial should be discarded, even if there is vaccine remaining in the vial and the expiration date has not been reached.

We inadvertently administered intradermal influenza vaccine to a patient who is outside the recommended age range of 18 through 64 years. What should we do now?

Because people younger than age 12 years or older than 65 years are more likely to have skin that is too thin for proper intradermal administration, a dose of Fluzone ID (Sanofi Pasteur) given to a person in these age ranges should be considered invalid, and the patient should be revaccinated. For people age 12 through 17 years, the dose can be counted as valid on the presumption that their skin thickness is similar to someone 18 through 64 years of age.

How should influenza vaccines be stored?

Both IIV and LAIV should be refrigerated at 2° to 8°C (36° to 46°F). Neither vaccine should be frozen.

Some of my patients refuse influenza vaccination because they insist they "got the flu" after receiving the injectable vaccine in the past. What can I tell them?

There are several reasons why this misconception persists:

- Less than 1% of people who are vaccinated with the injectable vaccine develop flu-like symptoms, such as mild fever and muscle aches, after vaccination. These side effects are not the same as having influenza, but people confuse the symptoms.
- Protective immunity doesn't develop until 1–2 weeks after vaccination. Some people who get vaccinated later in the season (December or later) may be infected with influenza virus shortly afterward. These late vaccinees develop influenza because they were exposed to someone with the virus before they became immune. It is not the result of the vaccination.

Ask the Experts...continued on page 6 ►

Ask the Experts...continued from page 5

- For many people, “the flu” is any illness with fever and cold symptoms or gastrointestinal symptoms. If they get any viral illness, they may blame it on flu vaccine or think they got “the flu” despite being vaccinated. Influenza vaccine only protects against certain influenza viruses, not all viruses.
- Influenza vaccine is not 100% effective, especially in older persons.

For more information on this topic, go to: www.cdc.gov/flu/professionals/vaccination/effectiveness_qa.htm.

Does ACIP recommend one influenza product over another for pregnant women?

Pregnant women can receive any inactivated or recombinant influenza vaccine. They should not be given LAIV (FluMist).

If quadrivalent vaccine includes one additional strain, why isn't it preferred for use over trivalent vaccines?

Two different types of influenza B virus are likely to cause disease during an influenza season, but trivalent influenza vaccines contain only one type of influenza B virus. The quadrivalent vaccine includes both types of B virus. While quadrivalent vaccines may eventually replace trivalent vaccines, during the current season, the quantity of quadrivalent vaccine available may be limited. Consequently, ACIP does not express a preference for use of one type of influenza vaccine over another type (that is, quadrivalent over trivalent) for those for whom more than one type of vaccine is indicated and available.

Sometimes patients age 65 years and older who have received the standard-dose influenza vaccine hear about the high-dose (Fluzone High-Dose) or adjuvanted vaccine (Fluad) and want to receive that, too. Is this okay to administer?

No. ACIP does not recommend that anyone receive more than one dose of influenza vaccine in a season except for certain children age 6 months through 8 years for whom two doses are recommended.

The influenza VIS states that giving pneumococcal conjugate vaccine and inactivated influenza vaccine simultaneously may increase the risk of febrile seizures. Can we continue to give these two vaccines at the same time?

Yes, you can. Some, but not all studies, have reported increased rates of febrile seizures among children, especially those age 12 through 23 months, who received simultaneous vaccination with IIV and pneumococcal conjugate vaccine (PCV13; Pfizer), when compared with children who received these vaccines separately. However, because of the risks associated with delaying either of these vaccines, ACIP does not recommend administering them at separate visits or deviating

from the recommended vaccine schedule in any way.

Febrile seizures, occurring in 2% to 5%, of all children, are not uncommon, and they are generally benign. Healthcare providers should be prepared to answer parents' questions about febrile seizures and fever when discussing vaccinations. Here is a helpful CDC resource: www.cdc.gov/vaccine-safety/Concerns/FebrileSeizures.html.

The pneumococcal conjugate vaccine (PCV13) package insert says that in adults, antibody responses to PCV13 were diminished when given with inactivated influenza vaccine. Does this mean we should not give PCV13 and influenza vaccine at the same visit?

The available data have been interpreted that any changes in antibody response to either of the vaccines' components were clinically insignificant. The antibody response was only lowered for three components, and ONLY in patients younger than 65 years of age. In this age group, if PCV13 is recommended, it means there is a high risk of invasive pneumococcal disease for those unvaccinated. If PCV13 and influenza vaccine are both indicated and recommended, they should be administered at the same visit. See the PCV13 ACIP recommendations at www.cdc.gov/mmwr/pdf/wk/mm6337.pdf, page 824.

Some of our patients believe that they have had reactions to influenza vaccine in the past and request the dose to be split into 2 doses administered on different days. Is this an acceptable practice?

This is definitely not an acceptable practice. Doses of influenza vaccine (or any other vaccine) should never be split into “half doses.” If a “half dose” is administered, it should not be accepted as a valid dose and should be repeated as soon as possible with a full age-appropriate dose.

Is it acceptable to draw up vaccine into syringes at the beginning of the day? If it isn't, how much in advance can this be done?

CDC discourages the practice of prefilling vaccine into syringes for several reasons, including

- The increased possibility of administration and dosing errors,
- The increased risk of inappropriate storage,
- The probability of bacterial contamination since the syringe will not contain a bacteriostatic agent, and
- The probability of reducing the vaccine's potency over time because of its interaction with the plastic syringe components.

Prefilling vaccine into syringes also violates basic medication administration guidelines, which state that an individual should administer only those medications he or she has prepared and drawn up.

Although pre-drawing vaccine is discouraged, a limited amount of vaccine may be pre-drawn in a mass-immunization clinic setting under the following conditions:

- Only a single type of vaccine (for example, influenza) is administered at the mass-immunization clinic setting,
- Vaccine is not drawn up in advance of its arrival at the mass-vaccination clinic site,
- These pre-drawn syringes are stored at temperatures appropriate for the vaccine they hold,
- No more than 1 vial or 10 doses (whichever is greater) is drawn into syringes, and
- Clinic staff monitor patient flow carefully and avoid drawing up unnecessary doses or delaying administration of pre-drawn doses.
- At the end of the clinic day, any remaining vaccine in syringes prefilled by staff should be discarded.

Ask the Experts

About IAC's Question of the Week

Each week, *IAC Express* highlights a new, topical, or important-to-reiterate Q&A. This feature is a cooperative venture between IAC and CDC. William L. Atkinson, MD, MPH, IAC's associate director for immunization education, chooses a new Q&A to feature every week from a set of Q&As prepared by experts at CDC's National Center for Immunization and Respiratory Diseases.

To find more than **1,000** Ask the Experts Q&As answered by CDC experts, visit

www.immunize.org/askexperts

Please encourage your healthcare professional colleagues to sign up to receive *IAC Express* at www.immunize.org/subscribe.

1 Influenza: Questions and Answers

INFORMATION ABOUT THE DISEASE AND VACCINES

What causes influenza?
Virus cause influenza. There are two basic types, A and B, which can cause clinical illness in humans. Their genetic material differentiates them. Influenza A can cause moderate to severe illness in all age groups and infect humans and other animals. Influenza B causes milder disease and affects only humans, primarily children.

In the United States, the number of influenza-associated deaths has increased since 1990. This increase is due in part to the substantial increase in the number of people age 65 years or older who are at increased risk for death from influenza complications. The Centers for Disease Control and Prevention (CDC) estimates that from the 1975-76 influenza season to the 2006-07 season, influenza-associated deaths ranged from a low of about 1,000 to a high of about 45,000 each year. It is

2 Don't take chances with your family's health – make sure you all get vaccinated against influenza every year!

Here's how influenza can hurt your family...

Influenza can make you, your children, or your parents really sick.

Influenza spreads easily from person to person.

Influenza usually comes on suddenly. Symptoms can include high fever, chills, headaches, exhaustion, sore throat, cough, and all-over body aches. Some people say, "It felt like a truck hit me!" Symptoms can also be contagious: they can spread influenza to others when well – before their symptoms have even begun.

An infected person can spread influenza when they cough, sneeze, talk near others. They can also spread it by touching or sneezing that someone else touches later. And, an infected person does just as contagious: they can spread influenza to others when well – before their symptoms have even begun.

3 Seek emergency medical care if you or a family member shows the signs below – a life could be at risk!

It's a fact – every year, people of all ages in the U.S. die from influenza and its complications.

Emergency warning signs for children or teens with Any child or teen who shows the following emergency warning signs needs urgent medical attention – take them

4 Protect yourself from influenza... Get vaccinated!

What is influenza? Influenza (flu) is a serious disease caused by a virus. Influenza can make you feel miserable! Fever, cough, shaking chills, body aches, and extreme weakness are common symptoms.

How do you catch it? You can catch influenza from people who cough, sneeze, or even just talk around you. It is very contagious.

Is it serious? Yes! Tragically, every year infants, children, teens, and adults die from influenza. Influenza is very unpredictable. No one knows how deadly influenza will be each year. Even if you have a mild case of influenza, you can still pass the virus on to your friends, family, and coworkers who could get very sick or even die.

Am I at risk? Yes, Influenza is most dangerous for people with health conditions like heart and lung disease, the very young and very old, and pregnant women. But anyone can become seriously sick from influenza – even young, healthy people.

How can I protect myself from influenza? Vaccination is the best way to prevent influenza. Everyone age 6 months and older should get vaccinated against influenza every year. Vaccination not only protects the person who gets immunized, it also protects the people around them – for example, babies who are too young to be vaccinated.

► For more information, visit www.vaccineinformation.org

5 Declination of Influenza Vaccination

My employer or affiliated health facility, _____ has recommended that I receive influenza vaccination to protect the patients I serve.

I acknowledge that I am aware of the following facts:

- Influenza vaccination is a serious respiratory disease that kills thousands of people in the United States each year.
- Influenza vaccination is recommended for me and all other healthcare workers to protect myself and my patients.
- If I contract influenza, I may shed the virus.
- If I become infected, I may spread it to others.
- I understand that and, even if I am against influenza, I understand that.
- The consequences to my health are:
- all patients at risk
- my coworkers
- my family
- my community

Despite these facts, I:

- do not understand that I am still available
- I have read and
- Signature: _____
- Name (print): _____
- Department: _____

6 Keep your kids safe – get them vaccinated every fall or winter!

Is influenza more serious for kids? Infants and young children are at risk for getting seriously ill from influenza. That's why health experts recommend that all children 6 months and older get vaccinated against influenza each fall or winter.

Influenza vaccine may save your child's life. Most people with influenza are sick for about a week, and then they feel better. But, some people, especially young children, pregnant women, older people, and people with chronic health problems can get very sick. Some even die. A yearly vaccination against influenza is the best way to protect your child from this serious disease. It is recommended for everyone 6 months and older.

What is influenza? Influenza, or "flu," is an infection of the nose, throat, and lungs. It can easily spread from person to person.

What types of vaccine are available for children?

- Influenza shots can be given to children 6 months and older.
- The nasal spray influenza vaccine can be given to healthy children 2 years and older. It can provide better protection in healthy children ages 2 through 8 years and is preferred for children of this age if it is available in the office or clinic. However, if your clinic doesn't have the vaccine, your child should get the influenza shot.
- Children younger than 5 years who have had wheezing in the past year – any child with chronic health problems – should get the injectable vaccine (a shot), not the nasal-spray vaccine.
- Children younger than 5 years old who are getting influenza vaccine for the first time need two doses separated by 4 weeks.

How else can I protect my child?

- Every year, get an influenza vaccination yourself.
- Upp your child's close contacts to get vaccinated, too. This is extremely important if your child is younger than 5 or if she or he has a chronic health problem such as asthma or diabetes. Because children younger than 6 months can't be vaccinated, they rely on those around them to get vaccinated.
- Wash your hands often and cover your coughs and sneezes. It's best to use a tissue and quickly throw it away. If you don't have a tissue, you should cough or sneeze into your upper elbow, not your hands. This will prevent the spread of germs.
- Tell your children to:
 - Stay away from people who are sick.
 - Wash their hands often.
 - Keep their hands away from their face, and
 - Cover coughs and sneezes to protect others.

► For more information, visit www.vaccineinformation.org

7 Influenza is a serious disease... Make sure your child is protected!

What is influenza? Influenza (flu) is a serious disease caused by a virus. Influenza can make your child feel miserable. Fever, cough, shaking chills, body aches, and extreme weakness are common symptoms.

How do you catch influenza? Your child can catch influenza from people who cough, sneeze, or even just talk around him or her. It is very contagious.

Is influenza serious? Yes, Tragically, every year infants, children, teens, and adults die from influenza. Influenza is dangerous for children as well as for people of all ages. Children younger than 2 years of age are at particularly high risk for hospitalization due to complications of influenza. Influenza is not only serious for your child, but it can be serious for others, such as babies and grandparents, if your child passes the virus on to them.

Is my child at risk? Yes. Anyone can become seriously sick from influenza – even healthy children.

How can I protect my child from influenza? Vaccination is the best way to protect your child from getting influenza. Everyone 6 months of age and older should get vaccinated against influenza every year. Vaccination not only protects people who get immunized, it also protects others who are around them.

► For more information, visit www.vaccineinformation.org

8 Influenza Vaccination of People with a History of Egg Allergy

Recommendations regarding influenza vaccination of persons who report allergy to eggs – Advisory Committee on Immunization Practices, United States, 2015-16 influenza season

People with a history of egg allergy who have experienced only mild or moderate allergic reactions to egg should receive influenza vaccine. Because relatively few people have severe allergic reactions to egg, the Advisory Committee on Immunization Practices (ACIP) recommends that people with a history of egg allergy who have experienced only mild or moderate allergic reactions to egg should receive influenza vaccine. However, if you have a severe allergic reaction to egg, you should consult your healthcare provider for more information.

Can the person eat lightly cooked egg (e.g., scrambled egg) without reacting?

- YES: Administer vaccine per usual protocol.
- NO: Administer BIV, if patient is age 18 years or older. OR Administer AIV, if patient is age 18 years or older.

Alter eating habits to eat cooked eggs, such as hard-boiled eggs, omelets, etc.

- YES: Administer vaccine per usual protocol.
- NO: Administer BIV, if patient is age 18 years or older. OR Administer AIV, if patient is age 18 years or older.

9 Guide for Determining the Number of Doses of Influenza Vaccine to Give to Children Age 6 Months Through 8 Years During the 2015–2016 Influenza Season

Did the child receive at least 2 doses of trivalent or quadrivalent influenza vaccine* before July 1, 2015?

YES → Give 1 dose of 2015–16 influenza vaccine this season.

NO / DON'T KNOW → Give 2 doses of 2015–16 influenza vaccine this season, spaced at least 4 weeks apart.

* The two doses need not have been received during the same season or consecutive seasons. The two doses can both be trivalent influenza vaccine (TIV), or, for children age 6 through 8 years who are not allergic to egg, one can be trivalent inactivated influenza vaccine (TIV) and the other can be quadrivalent inactivated influenza vaccine (QIV). For children age 6 through 8 years who are allergic to egg, both doses should be quadrivalent inactivated influenza vaccine (QIV).

For 8½ x 11" copies of the pieces above, visit IAC's website

www.immunize.org/handouts/influenza-vaccines.asp

1 Influenza: Questions and Answers
www.immunize.org/catg.d/p4208.pdf

2 Don't take chances with your family's health – make sure you all get vaccinated against influenza every year!
www.immunize.org/catg.d/p4069.pdf

3 Seek emergency medical care if you or a family member shows the signs below – a life could be at risk!
www.immunize.org/catg.d/p4073.pdf

4 Protect yourself from influenza... Get vaccinated!
www.immunize.org/catg.d/p4408.pdf

5 Declination of Influenza Vaccination
www.immunize.org/catg.d/p4068.pdf

6 Keep your kids safe – get them vaccinated every fall or winter!
www.immunize.org/catg.d/p4070.pdf

7 Influenza is a serious disease... Make sure your child is protected!
www.immunize.org/catg.d/p4312.pdf

8 Influenza Vaccination of People with a History of Egg Allergy
www.immunize.org/catg.d/p3094.pdf

9 Guide for Determining the Number of Doses of Influenza Vaccine to Give to Children Age 6 Months Through 8 Years During the 2016–2017 Influenza Season
www.immunize.org/catg.d/p3093.pdf

Influenza Vaccine Products for the 2017–2018 Influenza Season

Manufacturer	Trade Name (vaccine abbreviation) ¹	How Supplied	Mercury Content (mcg Hg/0.5mL)	Age Group	Vaccine Product Billing Code ²	
					CPT	Medicare
AstraZeneca	FluMist ³ (LAIV4)	0.2 mL (single-use nasal spray)	0	2 through 49 years	90672	90672
GlaxoSmithKline	Fluarix (IIV4)	0.5 mL (single-dose syringe)	0	3 years & older	90686	90686
ID Biomedical Corp. of Quebec, a subsidiary of GlaxoSmithKline	FluLaval (IIV4)	0.5 mL (single-dose syringe)	0	6 months & older	90686	90686
		5.0 mL (multi-dose vial)	<25	6 months & older	90688	90688
Protein Sciences Corp.	Flublok (RIV3)	0.5 mL (single-dose vial)	0	18 years & older	90673	90673
	Flublok (RIV4)	0.5 mL (single-dose syringe)	0	18 years & older	90682	90682
Sanofi Pasteur, Inc.	Fluzone (IIV4)	0.25 mL (single-dose syringe)	0	6 through 35 months	90685	90685
		0.5 mL (single-dose syringe)	0	3 years & older	90686	90686
		0.5 mL (single-dose vial)	0	3 years & older	90686	90686
		5.0 mL (multi-dose vial)	25	6 through 35 months	90687	90687
		5.0 mL (multi-dose vial)	25	3 years & older	90688	90688
	Fluzone High-Dose (IIV3-HD)	0.5 mL (single-dose syringe)	0	65 years & older	90662	90662
	Fluzone Intradermal (IIV4-ID)	0.1 mL (single-dose microinjection system)	0	18 through 64 years	90630	90630
Seqirus	Afluria (IIV3)	0.5 mL (single-dose syringe)	0	5 years & older ⁴	90656	90656
		5.0 mL (multi-dose vial)	24.5		90658	Q2035
	Afluria (IIV4)	0.5 mL (single-dose syringe)	0	5 years & older ⁴	90686	90686
		5.0 mL (multi-dose vial)	24.5		90688	90688
	Fluad (aIIV3)	0.5 mL (single-dose syringe)	0	65 years & older	90653	90653
	Fluvirin (IIV3)	0.5 mL (single-dose syringe)	≤1	4 years & older	90656	90656
		5.0 mL (multi-dose vial)	25		90658	Q2037
	Flucelvax (ccIIV4)	0.5 mL (single-dose syringe)	0	4 years & older	90674	90674
		5.0 mL (multi-dose vial)	25		90749/90756 ⁵	Q2039/90756 ⁶

FOOTNOTES

1. IIV3/IIV4 = egg-based trivalent/quadrivalent inactivated influenza vaccine (injectable); where necessary to refer to cell culture-based vaccine, the prefix "cc" is used (e.g., ccIIV3/ccIIV4); RIV3/RIV4 = trivalent/quadrivalent recombinant hemagglutinin influenza vaccine (injectable); aIIV3 = adjuvanted trivalent inactivated influenza vaccine.
2. An administration code should always be reported in addition to the vaccine product code. Note: Third party payers may have specific policies and guidelines that might require providing additional information on their claim forms.
3. Live attenuated influenza vaccine (LAIV4; FluMist) is not recommended by CDC's Advisory Committee on Immunization Practices for use in the U.S. for the 2017–18 influenza season.
4. Afluria is approved by the Food and Drug Administration for intramuscular administration with the PharmaJet Stratis

Needle-Free Injection System for persons age 18 through 64 years.

5. CPT code 90756 was released on July 1, 2017 for implementation on January 1, 2018. Payers may implement the code based on beneficiaries' needs any time after the code's release. The CPT Editorial Panel allotted a 6-month period to allow payers adequate time to prepare their systems; however, processing periods for individual payers may accommodate a more abbreviated timeframe.
6. The Centers for Medicare & Medicaid Services (CMS) will implement vaccine code 90756 on January 1, 2018. Before January 1, 2018, claims should use the HCPCS (Healthcare Common Procedure Coding System) Q2039 when billing Medicare.

Screening Checklist for Contraindications to Inactivated Injectable Influenza Vaccination

Information for Healthcare Professionals about the Screening Checklist for Contraindications to Inactivated Injectable Influenza Vaccination (IIV or RIV)

Are you interested in knowing why we included a certain question on the screening checklist? If so, read the information below. If you want to find out even more, consult the sources listed at the bottom of this page.

1. Is the person to be vaccinated sick today?

There is no evidence that acute illness reduces vaccine efficacy or increases vaccine adverse events. People with a moderate or severe illness usually should not be vaccinated until their symptoms have improved. Minor illnesses with or without fever do not contraindicate use of influenza vaccine. Do not withhold vaccination if a person is taking antibiotics.

2. Does the person to be vaccinated have an allergy to a component of the vaccine?

All vaccines, including influenza vaccines, contain various components that might cause allergic and anaphylactic reactions. Not all such reactions are related to egg proteins. However, the possibility of a reaction to influenza vaccines in egg-allergic people might be of concern to both the person and vaccine providers.

An egg-free recombinant vaccine (RIV) is available for people age 18 years and older. ACIP does not state a preference for the use of RIV for egg-allergic people although some providers may choose to administer RIV to their severely egg-allergic patients.

Reviews of studies of IIV and LAIV indicate that severe allergic reactions to egg-based influenza vaccines in persons with egg allergy are unlikely. For the 2017–18 influenza season, ACIP recommends that persons with a history of egg allergy who have experienced only hives after exposure to egg should receive influenza vaccine. Any licensed age-appropriate influenza vaccine (IIV or RIV) may be used. Providers should consider observing all patients for 15 minutes after vaccination to decrease the risk for injury should they experience syncope.

Persons who report having had reactions to egg involving symptoms other than hives, such as angioedema, respiratory distress, lightheadedness, or recurrent vomiting; or who required epinephrine or another emergency medical intervention, may also receive any age-appropriate influenza vaccine (IIV or RIV). The vaccine should be administered in a medical setting (e.g., a health department or physician office). Vaccine administration should be supervised by a healthcare provider who is able to recognize and manage severe allergic conditions.

Some inactivated influenza vaccines contain thimerosal as a preservative. Most people who had sensitivity to thimerosal when it was used in contact lens solution do not have reactions to thimerosal when it is used in vaccines. Check the package insert at www.immunize.org/packageinserts for a list of the vaccine components (i.e., excipients and culture media) used in the production of the vaccine, or go to www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf.

Some vaccines also contain latex in the prefilled syringe cap

which may cause allergic reactions in latex-sensitive people. Check the package inserts at www.immunize.org/packageinserts for information on which vaccines are affected, or go to www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/latex-table.pdf.

3. Has the person to be vaccinated ever had a serious reaction to influenza vaccine in the past?

Patients reporting a serious reaction to a previous dose of inactivated influenza vaccine should be asked to describe their symptoms. Immediate – presumably allergic – reactions are usually a contraindication to further vaccination against influenza.

Fever, malaise, myalgia, and other symptoms often affect people to moderate local vaccination. Also, vaccination with influenza vaccine is most likely a coincidence. These people can be vaccinated after evaluation.

4. Has the person to be vaccinated ever had Guillain-Barré syndrome?

It is prudent to avoid vaccination for severe illness. If a person is known to have had Guillain-Barré syndrome within 6 weeks after vaccination, it is prudent to avoid vaccination. As an alternative, if a person has had Guillain-Barré syndrome, antinatal chemoprophylaxis is limited, the establishment of the majority of people at high risk for severe illness is not clear.

SOURCES

1. CDC. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. 13th ed. Washington, DC: American Public Health Association; 2015.
2. CDC. *Best Practices for Influenza Vaccination*. www.cdc.gov/vaccines/imz/downloads/pinkbook/downloads/appendices/B/latex-table.pdf.
3. CDC. *Prevention and Control of Influenza in the United States, 2015–2016*. www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/latex-table.pdf.

► This checklist covers contraindications and precautions for injectable influenza vaccine.

► Ask your patients to complete the checklist on page 1. Page 2 is not for patients; it is reference material for you.

Screening Checklist for Contraindications to Inactivated Injectable Influenza Vaccination

PATIENT NAME _____

DATE OF BIRTH _____ / _____ / _____
month day year

For patients (both children and adults) to be vaccinated: The following questions will help us determine if there is any reason we should not give you or your child inactivated injectable influenza vaccination today. If you answer “yes” to any question, it does not necessarily mean you (or your child) should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your healthcare provider to explain it.

	yes	no	don't know
1. Is the person to be vaccinated sick today?	☐	☐	☐
2. Does the person to be vaccinated have an allergy to a component of the vaccine?	☐	☐	☐
3. Has the person to be vaccinated ever had a serious reaction to influenza vaccine in the past?	☐	☐	☐
4. Has the person to be vaccinated ever had Guillain-Barré syndrome?	☐	☐	☐

FORM COMPLETED BY _____ DATE _____

FORM REVIEWED BY _____ DATE _____

Immunization Action Coalition • Saint Paul, Minnesota • 651-647-9009 • www.immunize.org

For a ready-to-copy 8½ x 11" version of this 2-page form, visit www.immunize.org/catg.d/p4066.pdf.



Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org
www.immunize.org/catg.d/p4066.pdf • Item #P4066 (9/17)

Technical content reviewed by the Centers for Disease Control and Prevention

Use These Standing Orders Templates for Administering Influenza Vaccine in Your Healthcare Setting

Download these standing orders and use them “as is,” or modify them to suit your work setting.

Standing orders for other vaccines are available at www.immunize.org/standing-orders. Note: This standing orders template may be adapted per a practice's discretion without obtaining permission from IAC. As a courtesy, please acknowledge IAC as its source.

STANDING ORDERS FOR Administering Influenza Vaccine to Adults

Purpose
To reduce morbidity and mortality from influenza by vaccinating all adults who meet the criteria established by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices.

Policy
Where allowed by state law, standing orders enable eligible nurses and other healthcare professionals (e.g., pharmacists) to assess the need for vaccination and to vaccinate adults who meet any of the criteria below.

NOTE: Live attenuated influenza vaccine (LAIV4; FluMist), is not recommended by CDC's Advisory Committee on Immunization Practices for use in the U.S. during the 2017–18 influenza season. Because LAIV4 is still a licensed vaccine that might be available and that some providers might elect to use, for informational purposes, reference is made to previous recommendations for its use.

Procedure

- 1 Assess Adults for Need of Vaccination against influenza
 - All adults are recommended to receive influenza vaccination each year.
 - Pregnant women
 - Age-appropriate people
- 2 Screen
 - Do not give prior dose package append
 - Do not give if patient has any of the following:
 - is pregnant
 - is age 2 through 4 years who has received a diagnosis of asthma or who has experienced wheezing or asthma within the past 12 months, based on a healthcare provider's statement or medical record
 - has immunosuppression (including that caused by medications or HIV)
 - is age 2 through 17 years and is on long-term aspirin or salicylate-containing therapy
 - received influenza antivirals (e.g., amantadine, rimantadine, zanamivir, or oseltamivir) within the previous 48 hours
 - is a close contact of or who provides care for a severely immunosuppressed person who requires a protective environment
- 3 Document Vaccination
 - Document each patient's vaccine administration information and follow up in the following places:
 - **Medical record:** Document the date the vaccine was administered, the manufacturer and lot number, the vaccination site and route, and the name and title of the person administering the vaccine. You must also document, in the patient's medical record or office log, the publication date of the VIS and the date it was given to the patient. Note that medical records/charts should be documented and retained in accordance with applicable state laws and regulations. If vaccine was not administered, record the reason(s) for non-receipt of the vaccine (e.g., medical contraindication, patient refusal). Offer the vaccine to the patient at the next visit.
 - **Personal immunization record card:** Record the date of vaccination and the name/location of the administering clinic.
 - **Immunization Information System (IIS) or "registry":** Report the vaccination to the appropriate state/local IIS, if available.
- 4 Be Prepared to Manage Medical Emergencies
 - Be prepared to manage medical emergencies while the vaccine is being administered.
- 5 Report
 - Report a medical emergency to the appropriate authority.

Standing Orders for Administering Influenza Vaccine to Adults (continued) page 3 of 3

Immunization Action
This policy and procedure is effective _____ and is the property of _____ Medical Director _____

Standing orders for other vaccines are available at www.immunize.org/standing-orders. Note: This standing orders template may be adapted per a practice's discretion without obtaining permission from IAC. As a courtesy, please acknowledge IAC as its source.

STANDING ORDERS FOR Administering Influenza Vaccine to Children and Adolescents

Purpose
To reduce morbidity and mortality from influenza by vaccinating all children and adolescents who meet the criteria established by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP).

Policy
Where allowed by state law, standing orders enable eligible nurses and other healthcare professionals (e.g., pharmacists) to assess the need for vaccination and to vaccinate children and adolescents who meet any of the criteria below.

NOTE: Live attenuated influenza vaccine (LAIV4; FluMist), is not recommended by CDC's Advisory Committee on Immunization Practices for use in the U.S. during the 2017–18 influenza season. Because LAIV4 is still a licensed vaccine that might be available and that some providers might elect to use, for informational purposes, reference is made to previous recommendations for its use.

Procedure

- 1 Assess Children and Adolescents for Need of Vaccination against influenza
 - All children and teens 6 months of age and older are recommended to receive influenza vaccination each year.
 - A second dose of influenza vaccine is recommended 4 weeks or more after the first dose for children age 6 months through 8 years if they have not received 2 doses in previous years (not necessarily in the same season).
- 2 Screen for Contraindications and Precautions
 - **Contraindications for use of all influenza vaccines**
Do not give influenza vaccine to a child or adolescent who has experienced a serious systemic or anaphylactic reaction to a prior dose of the vaccine or to any of its components. For a list of vaccine components, refer to the manufacturer's package insert (www.immunize.org/packageinserts) or go to www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipt-table-2.pdf.
 - **Contraindications only for use of live attenuated influenza vaccine (LAIV4; FluMist, nasal spray)**
Do not give live attenuated influenza vaccine (LAIV4; nasal spray) to a child or adolescent who:
 - is pregnant
 - is age 2 through 4 years who has received a diagnosis of asthma or who has experienced wheezing or asthma within the past 12 months, based on a healthcare provider's statement or medical record
 - has immunosuppression (including that caused by medications or HIV)
 - is age 2 through 17 years and is on long-term aspirin or salicylate-containing therapy
 - received influenza antivirals (e.g., amantadine, rimantadine, zanamivir, or oseltamivir) within the previous 48 hours
 - is a close contact of or who provides care for a severely immunosuppressed person who requires a protective environment
 - **Precautions for use of all influenza vaccines**
 - Moderate or severe acute illness with or without fever
 - History of Guillain-Barré syndrome within 6 weeks of a previous influenza vaccination
 - **Precautions for use of LAIV only**
 - Age 5 years or older with asthma
 - Other chronic medical conditions that might predispose the person to complications of influenza infection (e.g., chronic pulmonary, cardiovascular [excluding isolated hypertension], renal, hepatic, neurologic, or metabolic disorders [including diabetes mellitus])

Patients with Egg Allergy: People with egg allergy of any severity can receive any licensed influenza vaccine.

Continued on the next page

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www.immunize.org/catg.d/p3074a.pdf • Item #P3074a (9/17)

Standing Orders for Administering Influenza Vaccine to Children and Adolescents
www.immunize.org/catg.d/p3074a.pdf

Standing Orders for Administering Influenza Vaccine to Adults
www.immunize.org/catg.d/p3074.pdf

Additional standing orders templates for all routinely recommended vaccines are available at
www.immunize.org/standing-orders

Standing Orders for Administering Influenza Vaccine to Adults (continued) page 2 of 3

and recommended influenza vaccine (i.e., any IIV or RIV) that is otherwise appropriate for the patient's age and health status. For people with a history of severe allergic reaction to egg involving any symptom other than hives (e.g., angioedema, respiratory distress, lightheadedness, or recurrent emesis), or who required epinephrine or another emergency medical intervention, the selected vaccine should be administered in a medical setting (e.g., health department or physician office). Vaccine administration should be supervised by a healthcare provider who is able to recognize and manage severe allergic conditions.

3 Provide Vaccine Information Statements
Provide all patients with a copy of the most current federal Vaccine Information Statement (VIS). Provide non-English speaking patients with a copy of the VIS in their native language, if one is available and desired; these can be found at www.immunize.org/vis. (For information about how to document that the VIS was given, see section 6 titled "Document Vaccination.")

4 Prepare to Administer Vaccine
For vaccine that is to be administered intramuscularly, choose the needle gauge, needle length, and injection site according to the following chart:

GENDER AND WEIGHT OF PATIENT	NEEDLE GAUGE	NEEDLE LENGTH	INJECTION SITE
Female or male less than 130 lbs	22-25	5/8"-1"	Deltoid muscle of arm
Female or male 130-152 lbs	22-25	1"	Deltoid muscle of arm
Female 153-200 lbs	22-25	1-1 1/8"	Deltoid muscle of arm
Male 153-260 lbs	22-25	1-1 1/8"	Deltoid muscle of arm
Female 200+ lbs	22-25	1 1/8"	Deltoid muscle of arm
Male 260+ lbs	22-25	1 1/8"	Deltoid muscle of arm

* A 5/8" needle may be used in patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin is stretched tight; the subcutaneous tissue is not bunched, and the injection is made at a 90-degree angle to the skin.

For vaccine that is to be administered intranasally or intradermally, prepare the vaccine according to directions in the package insert.

5 Administer Influenza Vaccine according to the criteria and guidance in the table below:

TYPE OF VACCINE	AGE GROUP	DOSE	ROUTE	INSTRUCTIONS ¹
Inactivated influenza vaccine (IIV)	All ages	0.5 mL	Intramuscular (IM)	Administer vaccine in deltoid muscle.
IIV-intradermal	18 through 64 years	0.1 mL	Intradermal (ID)	Insert needle of the microinjection system at a 90 degree angle in the deltoid area.
IIV-high dose	65 years and older	0.5 mL	Intramuscular (IM)	Administer vaccine in deltoid muscle.
Adjuvanted inactivated influenza vaccine (aIIV)	65 years and older	0.5 mL	Intramuscular (IM)	Administer vaccine in deltoid muscle.
Cell culture-based IIV (ccIIV)	All ages	0.5 mL	Intramuscular (IM)	Administer vaccine in deltoid muscle.
Recombinant influenza vaccine (rIIV)	18 years and older	0.5 mL	Intramuscular (IM)	Administer vaccine in deltoid muscle.
Live attenuated influenza vaccine (LAIV)	Healthy, younger than age 50 years (except pregnant women)	0.2 mL (0.1 mL into each nostril)	Intranasal spray (NAS)	Spray half of vaccine into each nostril while the patient is in an upright position.

¹ For complete instructions on how to administer influenza vaccine, see "How to Administer Intramuscular, Intradermal, and Intranasal Influenza Vaccine" at www.immunize.org/catg.d/p3074a.pdf

CONTINUED ON THE NEXT PAGE

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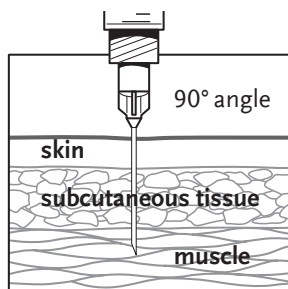
How to Administer Intramuscular, Intradermal, and Intranasal Influenza Vaccines

Intramuscular injection (IM)

Inactivated Influenza Vaccines (IIV), including recombinant hemagglutinin influenza vaccine (RIV), cell culture-based vaccine (ccIIV), and adjuvanted influenza vaccine (aIIV)

- 1 Use a needle long enough to reach deep into the muscle. Infants age 6 through 11 mos: 1"; 1 through 10 yrs: 1–1¼", and children and adults 11 years and older: 1–1½".
- 2 With your left hand*, bunch up the muscle.
- 3 With your right hand*, insert the needle at a 90° angle to the skin with a quick thrust.
- 4 Push down on the plunger and inject the entire contents of the syringe. There is no need to aspirate.
- 5 Remove the needle and simultaneously apply pressure to the injection site with a dry cotton ball or gauze. Hold in place for several seconds.
- 6 If there is any bleeding, cover the injection site with a bandage.
- 7 Put the used syringe in a sharps container.

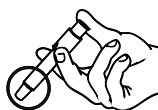
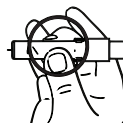
*Use the opposite hand if you are left-handed.



Intradermal administration (ID)

Inactivated Influenza Vaccine (IIV)

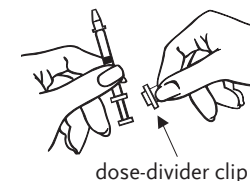
- 1 Gently shake the microinjection system before administering the vaccine.
- 2 Hold the system by placing the thumb and middle finger on the finger pads; the index finger should remain free.
- 3 Insert the needle perpendicular to the skin, in the region of the deltoid, in a short, quick movement.
- 4 Once the needle has been inserted, maintain light pressure on the surface of the skin and inject using the index finger to push on the plunger. Do not aspirate.
- 5 Remove the needle from the skin. With the needle directed away from you and others, push very firmly with the thumb on the plunger to activate the needle shield. You will hear a click when the shield extends to cover the needle.
- 6 Dispose of the applicator in a sharps container.



Intranasal administration (NAS)

Live Attenuated Influenza Vaccine (LAIV)

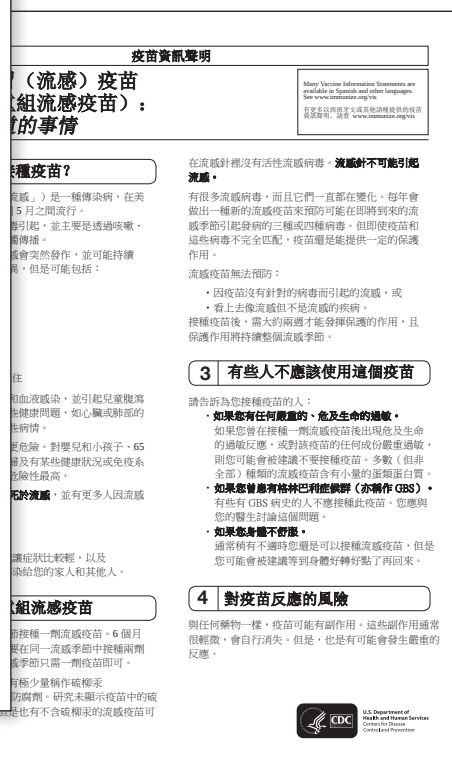
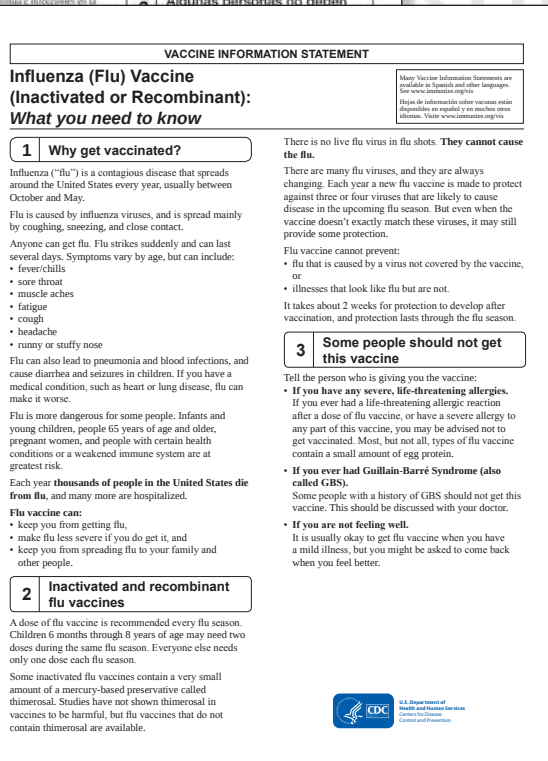
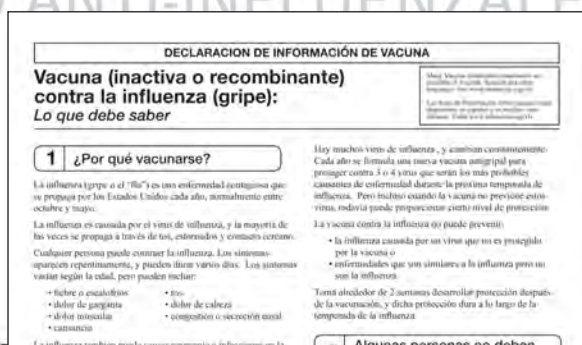
- 1 FluMist (LAIV) is for intranasal administration only. Do not inject FluMist.
- 2 Remove rubber tip protector. Do not remove dose-divider clip at the other end of the sprayer.
- 3 With the patient in an upright position, place the tip just inside the nostril to ensure LAIV is delivered into the nose. The patient should breathe normally.
- 4 With a single motion, depress plunger as rapidly as possible until the dose-divider clip prevents you from going further.
- 5 Pinch and remove the dose-divider clip from the plunger.
- 6 Place the tip just inside the other nostril, and with a single motion, depress plunger as rapidly as possible to deliver the remaining vaccine.
- 7 Dispose of the applicator in a sharps container.



NOTE: Live attenuated influenza vaccine (LAIV4; FluMist), is not recommended by CDC's Advisory Committee on Immunization Practices for use in the U.S. during the 2017–18 influenza season. Because LAIV4 is still a licensed vaccine that might be available and that some providers might elect to use, for informational purposes, reference is made to previous recommendations for its use.

Vaccine Information Statements Are Available in Many Languages!

Spanish, Arabic, Chinese (simplified and traditional), French (European), Russian, Somali, Vietnamese, and more



► For all Vaccine Information Statements published in the United States and translations in more than 35 languages, visit www.immunize.org/vis.

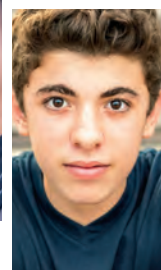
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Vaksen kont Influenza

인플루엔자 백신

You're 16...

We recommend these vaccines for you!

You have the rest of your life in front of you. Be sure you're protected against these serious diseases!



This vaccine	helps protect you from...	Dose(s) you need at this age
Meningitis vaccine against types A, C, W, and Y (MenACWY)	the most serious types of meningitis that can cause: • Dangerous infections of the brain and spinal cord • Blood infections that can lead to death within 24 hours • Brain injury, limb amputations, deafness, skin grafts, and kidney damage	MenACWY vaccine • Dose #2 at age 16 • (Dose #1 at age 11–12)
Meningitis vaccine against type B (MenB)		MenB vaccine <i>(talk with your provider about this vaccine)</i> • Dose #1 at age 16 • Dose #2 is given 1 or 6 months after dose #1, depending on the vaccine brand used
Human Papillomavirus (HPV) vaccine	viruses that can cause: • Cancers of the cervix • Cancers of the penis, vagina, vulva, and anus • Cancers of the throat • Genital warts	HPV vaccine • The vaccine series is given as 2 or 3 doses, beginning at age 11–12. • Ask your provider if you're up to date with this vaccine
Flu vaccine (influenza)	a virus that can cause: • High fevers • Severe body aches everywhere • Serious complications, including pneumonia, hospitalization, and death	Influenza vaccine • 1 dose every year

If you're behind on your shots, you may need these vaccines, too. Check with your provider.

- Chickenpox (varicella)
- Hepatitis A
- Hepatitis B
- MMR (measles, mumps, rubella)
- Tdap (tetanus, diphtheria, pertussis/whooping cough)
If you're pregnant, you'll need an additional dose.

Remember: Getting shots is better than getting these diseases. Don't miss out on everything life has in store for you. Get protected!

Immunization Schedule for Children 0–10 Years – Now in 7 Languages!

Here's the link: www.immunize.org/catg.d/p4019.pdf

IAC's 1-page immunization schedule for parents of young children. Download, print, and make copies, then give them to your patients!

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www.immunize.org/catg.d/p4019-09.pdf
- **Russian**
www.immunize.org/catg.d/p4019-07.pdf
- **Vietnamese**
www.immunize.org/catg.d/p4019-05.pdf

Vaccinations for Infants and Children, Age 0–10 Years

Getting your child vaccinated on time will help protect him or her against 15 vaccine-preventable diseases. Ask your child's healthcare provider if your child is up to date with all recommended vaccines.

Vaccine	Is your child up to date?
Chickenpox (varicella; Var)	Your child needs 2 doses of chickenpox vaccine. The first dose is given at 12–15 months and the second at 4–6 years.
Diphtheria, tetanus, and whooping cough (pertussis; DTaP)	Your child needs 5 doses of DTaP vaccine. The first dose is given at 2 months, the second at 4 months, the third at 6 months, the fourth at 15–18 months, and the fifth at 4–6 years.
Haemophilus influenzae type b (Hib)	Your child needs 3–4 doses of Hib vaccine, depending on the brand of vaccine. The first dose is given at 2 months, the second at 4 months, the third at 6 months (if needed), and the last at 12–15 months.
Hepatitis A (HepA)	Your child needs 2 doses of hepatitis A vaccine. The first dose is given at age 1 year and the second 6–12 months later.
Hepatitis B (HepB)	Your child needs 3–4 doses of hepatitis B vaccine, depending on the brand of vaccine. The first dose is given at birth, the second at 1–2 months, the third at 4 months (if needed), and the last at 6–18 months.
Influenza (Flu)	Everyone age 6 months and older needs influenza vaccination every fall or winter and for the rest of their lives. Some children younger than age 9 years need 2 doses. Ask your child's healthcare provider if your child needs more than 1 dose.
Measles, mumps, rubella (MMR)	Your child needs 2 doses of MMR vaccine. The first dose is given at 12–15 months and the second at 4–6 years.
Meningococcal (MenACWY [MCV4], MenB)	Infants and children age 0–10 years with certain health conditions (such as a non-functioning spleen) need one or both meningococcal vaccines. Talk with your healthcare provider to find out if your child needs meningococcal vaccination.
Pneumococcal (Pnevnar [conjugate vaccine, PCV], Pneumovax [polysaccharide vaccine, PPSV])	Your child needs 4 doses of Pnevnrar (PCV). The first dose is given at 2 months, the second at 4 months, the third at 6 months, and the fourth at 12–15 months. Some children also need a dose of Pneumovax (PPSV). Ask your child's healthcare provider if your child needs this extra protection against pneumococcal disease.
Polio (IPV)	Your child needs 4 doses of polio vaccine (IPV). The first dose is given at 2 months, the second at 4 months, the third at 6–18 months, and the fourth at 4–6 years.
Rotavirus (RV)	Your child needs 2–3 doses of rotavirus vaccine (RV), depending on the brand of vaccine. The first dose is given at 2 months, the second at 4 months, and the third (if needed) at 6 months.

Will your child be traveling outside the United States? Visit the Centers for Disease Control and Prevention's (CDC) website at wwwnc.cdc.gov/travel/destinations/list for travel information, or consult a travel clinic.



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Immunization Schedule for Preteens and Teens – Now in 7 Languages!

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IAC's 1-page immunization schedule for parents of preteens and teens. Download, print, and make copies, then give them to your patients!

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- **French**
www.immunize.org/catg.d/p4020-10.pdf
- **Korean**
www.immunize.org/catg.d/p4020-09.pdf
- **Russian**
www.immunize.org/catg.d/p4020-07.pdf
- **Vietnamese**
www.immunize.org/catg.d/p4020-05.pdf

Vaccinations for Preteens and Teens, Age 11–19 Years

Getting immunized is a lifelong, life-protecting job. Make sure you and your healthcare provider keep your immunizations up to date. Check to be sure you've had all the vaccinations you need.

Vaccine	Do you need it?
Chickenpox (varicella; Var)	Yes! If you haven't been vaccinated and haven't had chickenpox, you need 2 doses of this vaccine. Anybody who was vaccinated with only 1 dose should get a second dose.
Hepatitis A (HepA)	Yes! You need 2 doses of hepatitis A vaccine if you would like to be protected from this disease or if you have a risk factor (such as international travel) for hepatitis A. Check with your healthcare provider to find out if you have a risk factor for this vaccine.
Hepatitis B (HepB)	Yes! This vaccine is recommended for all people age 0–18 years. You need a hepatitis B vaccine series if you have not already received it.
Haemophilus influenzae type b (Hib)	Maybe. If you haven't been vaccinated against Hib and have a high-risk condition (such as a non-functioning spleen), you need this vaccine.
Human papillomavirus (HPV)	Yes! All preteens and teens age 11 and older need a series of doses of HPV vaccine. The vaccine protects against HPV, the most common cause of cervical cancer. It also protects against some other types of cancers, such as cancer of the anus, penis, and throat. HPV vaccine also protects against genital warts.
Influenza (Flu)	Yes! Everyone age 6 months and older needs annual influenza vaccination every fall or winter and for the rest of their lives.
Measles, mumps, rubella (MMR)	Yes! You need 2 doses of MMR vaccine if you have not already received them. MMR vaccine is usually given in childhood.
Meningococcal ACWY (MenACWY, MCV4)	Yes! All preteens and teens need 2 doses of MenACWY vaccine, the first at age 11–12 years and the second at age 16 years. If you are a first-year college student living in a residence hall, you need a dose of MenACWY if you never received it or received it when you were younger than 16. Check with your healthcare provider.
Meningococcal B (MenB)	Yes! Teens who want to be protected from meningitis type B are recommended to receive 2 doses of MenB vaccine starting at age 16. Teens with certain risk conditions (such as a non-functioning spleen) should be vaccinated also. Ask your healthcare provider if you have a risk factor.
Pneumococcal (Pneumovax, PPSV; Prevnar, PCV)	Maybe. Do you have an ongoing health condition? If so, check with your healthcare provider to find out if you need one or both of the pneumococcal vaccines.
Polio (IPV)	Yes! You need a series of at least 3 doses of polio vaccine if you have not already received them. Polio vaccine is usually given in childhood.
Tetanus, diphtheria, and whooping cough (pertussis; Tdap)	Yes! All preteens and teens (and adults!) need a dose of Tdap vaccine, a vaccine that protects you from tetanus, diphtheria, and whooping cough (pertussis). After getting a dose of Tdap, you will need a tetanus-diphtheria (Td) shot every ten years. If you become pregnant, however, you will need another dose of Tdap during any pregnancy, preferably during the third trimester.

Will you be traveling outside the United States? Visit the Centers for Disease Control and Prevention's (CDC) website at www.cdc.gov/travel/destinations/list for travel information, or consult a travel clinic.



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www.immunize.org/catg.d/p4020.pdf • Item #P4020 (6/17)

IAC AND ACOG'S Immunization Schedule for Pregnant Women – Now in 7 Languages!

Here's the link: www.immunize.org/catg.d/p4040.pdf

IAC and the American College of Obstetricians and Gynecologists created this 1-page immunization schedule for pregnant women. Download, print, and make copies, then give them to your patients!

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www.immunize.org/catg.d/p4040-07.pdf
- **Vietnamese**
www.immunize.org/catg.d/p4040-05.pdf

Vaccinations for Pregnant Women

The table below shows which vaccinations you may or may not need during your pregnancy.

Vaccine	Do you need it during your pregnancy?
Influenza	Yes! You need a flu shot every fall (or even as late as winter or spring) for your protection and for the protection of your baby and others around you. It's safe to get the vaccine at any time during your pregnancy.
Tetanus, diphtheria, whooping cough (pertussis) (Tdap, Td)	Yes! Women who are pregnant need a dose of Tdap vaccine (the adult whooping cough vaccine) during each pregnancy, preferably in the early part of the third trimester. It's safe to be given during pregnancy and will help protect your baby against whooping cough in the early months of life when he or she is most vulnerable. After Tdap, you need a Td booster dose every 10 years. Consult your healthcare provider if you haven't had at least 3 tetanus and diphtheria toxoid-containing shots sometime in your life or if you have a deep or dirty wound.
Human papillomavirus (HPV)	No. This vaccine is not recommended to be given during pregnancy, but if you inadvertently receive it, this is not a cause for concern. HPV vaccine is recommended for all women age 26 or younger, so if you are in this age group, make sure you are vaccinated before or after your pregnancy. The vaccine is given in 2 or 3 doses (depending on the age at which the first dose is given) over a 6-month period.
Measles, mumps, rubella (MMR)	No. MMR vaccine is not recommended to be given during pregnancy, but if you somehow do receive it, this is not a cause for concern. At least 1 dose of MMR is recommended for you if you were born in 1957 or later. (And you may need a second dose.*) During your prenatal care, your healthcare provider will test your blood to assess your need for MMR following your delivery. It's best for you (and any future baby) to receive the protection vaccination provides before trying to become pregnant.
Varicella (Chickenpox)	No. Varicella vaccine is not recommended to be given during pregnancy, but if you inadvertently receive it, this is not a cause for concern. If you've never had chickenpox, never were vaccinated, or were vaccinated but received only 1 dose, it's best for you (and any future baby) to be protected with the vaccine before trying to become pregnant, or after you've completed your pregnancy. The vaccine is given in 2 doses 4–8 weeks apart.
Hepatitis A (HepA)	Maybe. You need this vaccine if you have a specific risk factor for hepatitis A virus infection* or simply want to be protected from this disease. The vaccine is usually given in 2 doses, 6–12 months apart. If you need to get or continue the HepA vaccine series, it's safe to do so during pregnancy.
Hepatitis B (HepB)	Maybe. You need this vaccine if you have a specific risk factor for hepatitis B virus infection* or simply want to be protected from this disease. The vaccine is given in 3 doses, usually over 6 months. If you need to get or continue the HepB vaccine series, it's safe to do so during pregnancy. It's important, too, that your newborn baby gets started on his or her hepatitis B vaccination series before leaving the hospital.
Hib (Haemophilus influenzae type b)	Maybe. Some adults with certain high-risk conditions, for example, lack of a functioning spleen, need vaccination with Hib. If you need to get Hib vaccine, it's safe to receive it at any time during your pregnancy.
Meningococcal ACWY (MenACWY, MCV4)	Maybe. You may need MenACWY vaccine if you have one of several health conditions,* for example, if you don't have a functioning spleen. You need MenACWY if you are age 21 or younger and a first-year college student living in a residence hall and you either have never been vaccinated or were vaccinated before age 16. During pregnancy, if you need MenACWY, it is safe to receive it.
Meningococcal B (MenB)	Maybe. You should consider MenB vaccine if you are age 23 or younger (even if you don't have a high-risk medical condition). You may need MenB if you have one of several health conditions,* for example, if you do not have a functioning spleen. Because no studies have been conducted on MenB vaccine in pregnant women, your healthcare provider will need to determine if the benefits of vaccination are considered to outweigh the potential risks.
Pneumococcal (Pneumovax, PPSV; Prevnar, PCV)	Maybe. You need 1 or both of these vaccines if you have a certain risk factor* for pneumococcal disease, for example, diabetes (but not gestational diabetes). If you're unsure of your risk, talk to your healthcare provider to find out if you need either of these vaccines. If you are a candidate for either pneumococcal vaccine, it's safe to get it during pregnancy.

* Consult your healthcare provider to determine your level of risk for infection and your need for this vaccine.

Are you planning to travel outside the United States? Visit the Centers for Disease Control and Prevention's (CDC) website at www.cdc.gov/travel/destinations/list for travel information, or consult a travel clinic.



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The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

IAC's Immunization Schedule for Adults – Now in 7 Languages!

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This 1-page immunization schedule covers adults ages 19 and older. Download, print, and make copies, then give them to your patients!

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- **French**
www.immunize.org/catg.d/p4030-10.pdf
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- **Russian**
www.immunize.org/catg.d/p4030-07.pdf
- **Vietnamese**
www.immunize.org/catg.d/p4030-05.pdf

Vaccinations for Adults

You're never too old to get vaccinated!

Getting vaccinated is a lifelong, life-protecting job. Don't leave your healthcare provider's office without making sure you've had all the vaccinations you need.

Vaccine	Do you need it?
Hepatitis A (HepA)	Maybe. You need this vaccine if you have a specific risk factor for hepatitis A virus infection* or simply want to be protected from this disease. The vaccine is usually given in 2 doses, 6–12 months apart.
Hepatitis B (HepB)	Maybe. You need this vaccine if you have a specific risk factor for hepatitis B virus infection* or simply want to be protected from this disease. The vaccine is given in 3 doses, usually over 6 months.
Hib (<i>Haemophilus influenzae</i> type b)	Maybe. Some adults with certain high-risk conditions, for example, lack of a functioning spleen, need vaccination with Hib. Talk to your healthcare provider to find out if you need this vaccine.
Human papillomavirus (HPV)	Maybe. You need this vaccine if you are a woman age 26 or younger or a man age 21 or younger. Men age 22 through 26 with a risk condition* also need vaccination. Any man age 22 through 26 who wants to be protected from HPV may receive it, too. The vaccine is usually given in 3 doses over a 6-month period.
Influenza	Yes! You need a dose every fall (or winter) for your protection and for the protection of others around you.
Measles, mumps, rubella (MMR)	Maybe. You need at least 1 dose of MMR vaccine if you were born in 1957 or later. You may also need a second dose.*
Meningococcal ACWY (MenACWY, MCV4)	Maybe. You may need MenACWY vaccine if you have one of several health conditions,* for example, if you don't have a functioning spleen. You need MenACWY if you are age 21 or younger and a first-year college student living in a residence hall and you either have never been vaccinated or were vaccinated before age 16.
Meningococcal B (MenB)	Maybe. You should consider MenB vaccine if you are age 23 or younger (even if you don't have a high-risk medical condition). You may need MenB if you have one of several health conditions,* for example, if you do not have a functioning spleen.
Pneumococcal (Pneumovax, PPSV; Prevnar, PCV)	Maybe. If you are age 65 (or older), you need both pneumococcal vaccines, Prevnar (if you haven't had it before) and Pneumovax. Get Prevnar first and then get Pneumovax 1 year later. If you are younger than age 65 and have a certain high-risk condition (for example, asthma, heart, lung, or kidney disease, immunosuppression, or lack of a functioning spleen, or are a smoker),* you need 1 or both vaccines. Talk to your healthcare provider to find out when you need them.*
Tetanus, diphtheria, whooping cough (pertussis) (Tdap, Td)	Yes! Adults who have not received a dose of Tdap during their lifetime need to get Tdap (the adult whooping cough vaccine). And, all women need to get a dose during each pregnancy. After that, you need a Td booster dose every 10 years. Consult your healthcare provider if you haven't had at least 3 tetanus and diphtheria toxoid-containing shots sometime in your life or if you have a deep or dirty wound.
Varicella (Chickenpox)	Maybe. If you've never had chickenpox, never were vaccinated, or were vaccinated but received only 1 dose, talk to your healthcare provider to find out if you need this vaccine.*
Zoster (shingles)	Maybe.* If you are age 60 or older, you should get a 1-time dose of this vaccine now.

* Consult your healthcare provider to determine your level of risk for infection and your need for this vaccine.

Are you planning to travel outside the United States? Visit the Centers for Disease Control and Prevention's (CDC) website at wwwnc.cdc.gov/travel/destinations/list for travel information, or consult a travel clinic.



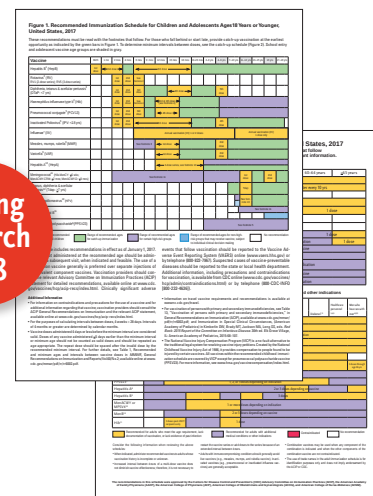
Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

Technical content reviewed by the Centers for Disease Control and Prevention
www.immunize.org/catg.d/p4030.pdf • Item #P4030 (6/17)

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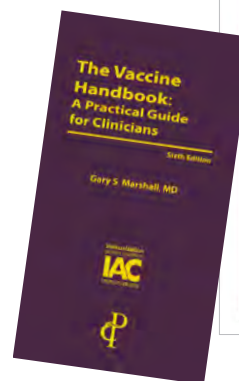


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