EDITORIAL COLLABORATION

CDC Centers for Disease Control and Prevention

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Influenza Vaccination Recommendations for the 2015-2016 Season

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Updated Influenza Vaccination Recommendations

Influenza is unpredictable, and it's impossible to say in advance how severe the 2015-2016 flu season will be. Influenza causes millions of illnesses, hundreds of thousands of hospitalizations, and thousands of deaths each season.

Annual influenza vaccination is the best defense against influenza. For the 2015-2016 influenza season, the Centers for Disease Control and Prevention (CDC) and the Advisory Committee on Immunization Practices (ACIP) continue to recommend routine annual influenza vaccination for all persons aged 6 months or older who do not have contraindications.

We summarize the changes to the CDC's influenza vaccination recommendations since the 2014-2015 season and list some additional information on groups recommended for vaccination, timing of vaccination, vaccination of persons with a history of egg allergy, vaccine composition, and new/updated vaccine product approvals. The full recommendations are available on the CDC website.

Updated recommendations for this season include vaccine dosing for children aged 6 months through 8 years, and use of live attenuated influenza vaccine (LAIV) and inactivated influenza vaccine (IIV) when either is available, including removal of the 2015-2015 preferential recommendation for LAIV for healthy children aged 2 through 8 years.

Updates to Influenza Vaccination of Children

Dosing for Children Aged 6 Months Through 8 Years

Children aged 6 months through 8 years in their first season of vaccination must receive two doses of influenza vaccine to optimize response. The doses should be administered at least 4 weeks apart.

Children aged 6 months through 8 years who have received two or more total doses of trivalent or quadrivalent influenza vaccine before July 1, 2015, should receive only one dose for 2015-2016. The two previous doses need not have been given during the same season or consecutive seasons.

Children aged 6 months through 8 years who have not previously received a total of two or more doses of trivalent or quadrivalent influenza vaccine before July 1, 2015, should receive 2 doses for 2015-2016. The doses should be administered at least 4 weeks apart.

These recommendations are available the algorithm in Figure 1.

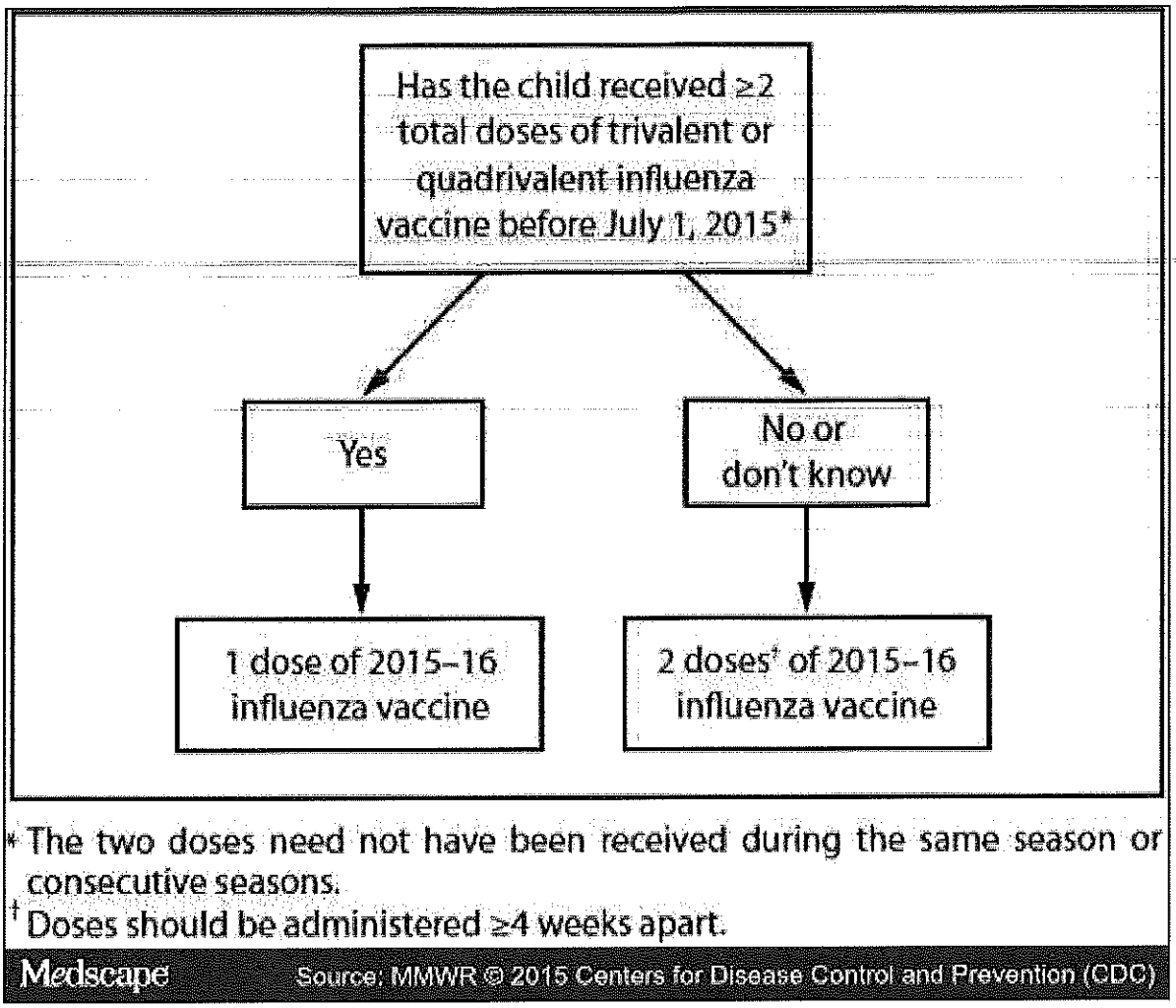

Figure 1. Influenza vaccine dosing algorithm for children aged 6 months through 8 years—Advisory Committee on Immunization Practices, United States, 2015-2016 influenza season. From Grohskopf LA, Sokolow LZ, Olsen SJ, Bresee JS, Broder KR, Karron RA. Prevention and control of influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices, United States, 2015-16 influenza season. MMWR Morb Mortal Wkly Rep. 2015;64:818-825.

Use of LAIV or IIV in Children When Either Is Available and Appropriate

In June 2014, ACIP recommended that when immediately available, LAIV should be used for healthy children aged 2 through 8 years for whom there are no contraindications or precautions. This was the result of a review of evidence on the relative efficacy of LAIV and IIV. However, data from subsequent observational studies of the effectiveness of LAIV and IIV indicated that LAIV did not perform as well as expected on the basis of observations in earlier randomized trials.

In the absence of data demonstrating consistent greater relative effectiveness of the current quadrivalent formulation of LAIV, preference for LAIV over IIV is no longer recommended.[1] The ACIP will continue to review the effectiveness of influenza vaccines in future seasons and update these recommendations if warranted.

Groups Recommended for Vaccination

For the 2015-2016 influenza season, the CDC and ACIP continue to recommend routine annual influenza vaccination for all persons aged 6 months or older who do not have contraindications.

Vaccination to prevent influenza is particularly important for persons who are at increased risk for severe complications from influenza. When vaccine supply is limited, efforts should focus on delivering vaccination to the following persons (no hierarchy is implied by the order of listing):

- All children aged 6 through 59 months;
- All persons aged 50 years or older;
- Adults and children who have chronic pulmonary (including asthma) or cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus);
- Persons who have immunosuppression (including immunosuppression caused by medications or by HIV infection);
- Women who are or will be pregnant during the influenza season;
- Children and adolescents (aged 6 months through 18 years) who are receiving aspirin therapy and who might be at risk of experiencing Reye syndrome after influenza virus infection;
- Residents of nursing homes and other long-term care facilities;
- American Indians/Alaska Natives; and
- Persons who are obese, with a body mass index of 40 kg/m^2 or greater.

Continued emphasis should be placed on vaccination of persons who live with or care for persons at higher risk for influenza-related complications. When vaccine supply is limited, vaccination efforts should focus on delivering vaccination to the persons at higher risk for influenza-related complications listed above, as well as the following persons:

- Healthcare personnel;
- Household contacts (including children) and caregivers of children aged 59 months or older (ie, younger than 5 years) and adults aged 50 years or older, with particular emphasis on vaccinating contacts of children younger than 6 months; and
- Household contacts (including children) and caregivers of persons with medical conditions that put them at high risk for severe complications from influenza.

Pregnant women. Recommendations for vaccination of pregnant women remain the same as for the 2014-2015 season. Women who are or will be pregnant during influenza season should receive IIV. LAIV is not recommended for use during pregnancy. Postpartum women can receive either LAIV or IIV. Pregnant and postpartum women do not need to avoid contact with persons recently vaccinated with LAIV.

Adults aged 65 years or older. For persons aged 65 years or older, an age-appropriate standard-dose IIV (IIV3 or IIV4), high-dose IIV3, or trivalent recombinant influenza vaccine (RIV3) are acceptable options. High-dose IIV3 (available as Fluzone® High-Dose) is approved for persons aged 65 years or older. No preferential recommendation is made for high-dose IIV over standard-dose IIV for persons aged 65 years or older.

RIV3 (Flublok®) is now indicated for persons aged 18 years or older. Approval for persons aged 50 years or older is based on studies of immunogenicity and safety of the vaccine in three randomized trials; data demonstrating a decrease in influenza disease in persons aged 50 years or older after vaccination with Flublok are not available.

Timing of Vaccination

Healthcare providers should offer vaccination by the end of October, if possible. To avoid missed opportunities for vaccination, providers should offer vaccination to unvaccinated persons aged 6 months or older during routine healthcare visits and hospitalizations when vaccine is available.

Optimally, vaccination should occur before the onset of influenza activity in the community. Children who require two doses of vaccine should receive their first dose as soon as possible after vaccine becomes available, and the second dose at least 4 weeks later.

Vaccination of Persons With History of Egg Allergy

Severe allergic and anaphylactic reactions can occur in response to various influenza vaccine components, but such reactions are rare. Occasional cases of anaphylaxis in egg-allergic persons have been reported to the Vaccine Adverse Event Reporting System (VAERS) after administration of influenza vaccine. Compared with IIV, fewer data are available concerning the use of LAIV in the setting of egg allergy. For the 2015-2016 flu season, ACIP recommends the following[1]:

- Persons with a history of egg allergy who have experienced only hives after exposure to egg should receive flu vaccine. They can receive RIV3 if they are 18 years of age or older and have no other contraindications, or they may receive IIV with some additional safety measures.

- Persons who report having had reactions to egg involving such symptoms as angioedema, respiratory distress, lightheadedness, or recurrent emesis, or who required epinephrine or another emergency medical intervention, may receive RIV3 if they are aged 18 years or older and there are no other contraindications. If RIV3 is not available or the recipient is not within the indicated age range, IIV should be administered by a physician with experience in the recognition and management of severe allergic conditions.

- Regardless of allergy history, all vaccines should be administered in settings in which personnel and equipment for rapid recognition and treatment of anaphylaxis are available.

- Persons who are able to eat lightly cooked egg (eg, scrambled egg) without reaction are unlikely to be allergic. Egg-allergic persons might tolerate egg in baked products (eg, bread or cake). Tolerance to egg-containing foods does not exclude the possibility of egg allergy.[2]

- For persons with no known history of exposure to egg, but who are suspected of being egg-allergic on the basis of previously performed allergy testing, consultation with a physician with expertise in the management of allergic conditions should be obtained before vaccination. Alternatively, RIV3 may be administered if the recipient is older than 18 years.

- A previous severe allergic reaction to influenza vaccine, regardless of the component suspected of being responsible for the reaction, is a contraindication to future receipt of the vaccine.

This information is summarized in the algorithm in Figure 2.

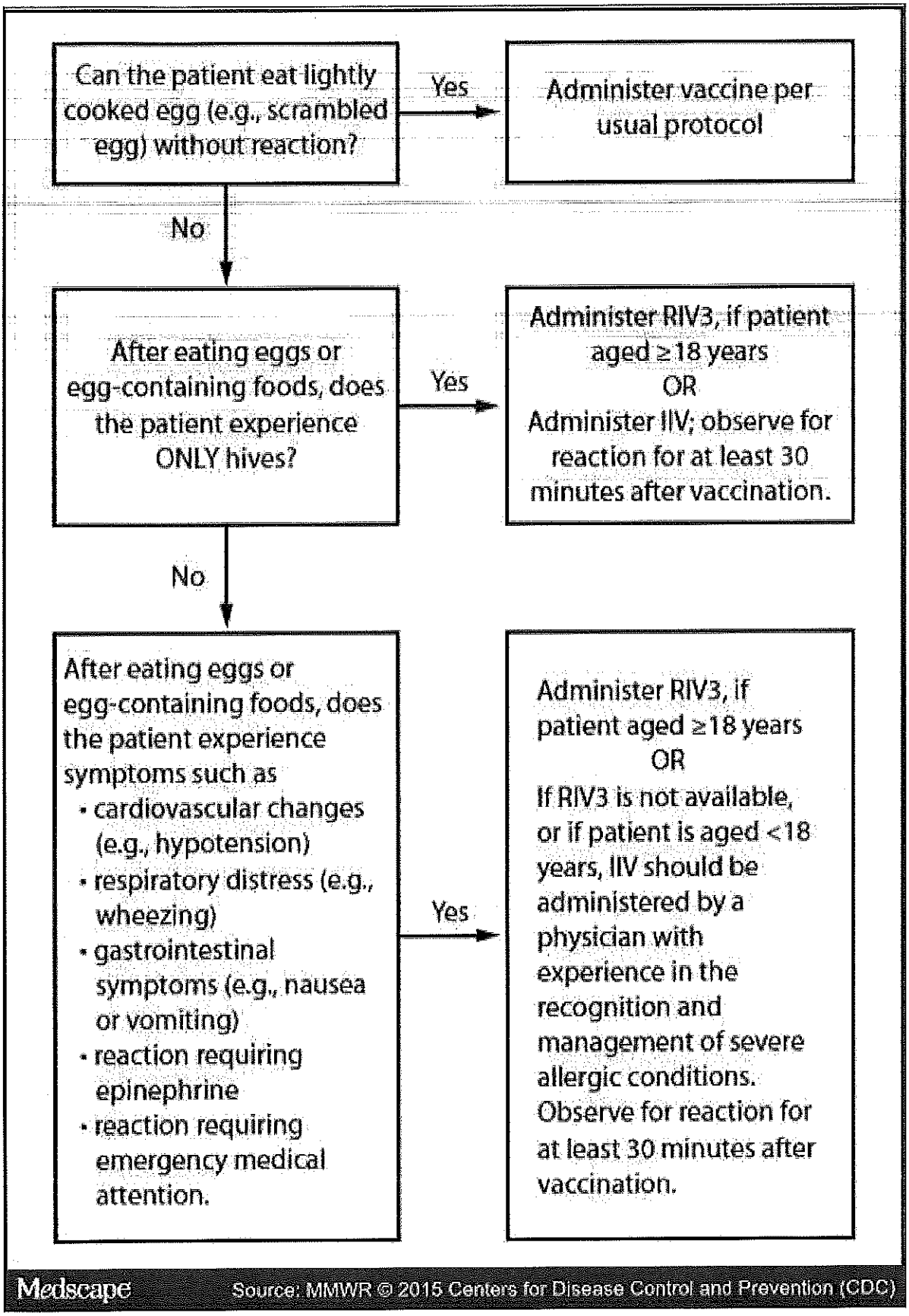

Figure 2. Recommendations for influenza vaccination of persons who report allergy to eggs. IIV = inactivated influenza vaccine, trivalent or quadrivalent; RIV3 = recombinant influenza vaccine, trivalent. From Grohskopf LA, Sokolow LZ, Olsen SJ, Bresee JS, Broder KR, Karron RA. Prevention and control of influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices, United States, 2015-16 influenza season. MMWR Morb Mortal Wkly Rep. 2015;64:818-825.

The 2015-2016 Influenza Vaccines

Vaccine Composition

For the 2015-2016 flu season, US-licensed trivalent flu vaccines will contain:

- Hemagglutinin derived from an A/California/7/2009 (H1N1)-like virus;
- An A/Switzerland/9715293/2013 (H3N2)-like virus; and
- A B/Phuket/3073/2013-like (Yamagata lineage) virus.

This represents changes in the influenza A (H3N2) virus and the influenza B virus compared with the 2014-2015 season. Quadrivalent influenza vaccines will contain these vaccine viruses and a B/Brisbane/60/2008-like (Victoria lineage) virus, which is the same Victoria lineage virus recommended for quadrivalent formulations in 2013-2014 and 2014-2015.

Available Vaccine Products

Various influenza vaccine products are available for the 2015-2016 season. New and updated influenza vaccine product approvals are summarized below:

- In August 2014, the US Food and Drug Administration (FDA) approved Afluria® (inactivated flu vaccine) for intramuscular administration using the Stratis® needle-free jet injector (PharmaJet; Golden, Colorado) for persons aged 18 through 64 years. Adults aged 18 through 64 years may receive Afluria either by the Stratis injector or with a sterile needle and syringe. All other inactivated flu vaccines are approved for administration by sterile needle and syringe only. The Stratis injector is a reusable, spring-powered device that injects the vaccine through a single-use, sterile, needle-free syringe into the deltoid muscle.
- In October 2014, the FDA approved an expanded age indication for the use of Flublok, which was previously approved for persons aged 18 through 49 years. Flublok is now indicated for persons aged 18 years or older.
- In December 2014, the FDA approved Fluzone Intradermal Quadrivalent for persons aged 18 through 64 years. This formulation replaces the previously available trivalent Fluzone Intradermal for the 2015-2016 flu season.

Your recommendation to your patients that they receive the flu vaccine is more effective in increasing acceptance of vaccination than any other influencing factor. Brochures, posters, fact sheets, customizable reminder cards, and social media tools designed to help healthcare providers educate and reach their patients with a reminder to get vaccinated are available on the CDC Influenza Free Resources page.

For more information, visit CDC Seasonal Influenza Vaccination Resources for Health Professionals or download CDC's influenza app for clinicians and healthcare professionals.

References

1. Grohskopf LA, Sokolow LZ, Olsen SJ, Bresee JS, Broder KR, Karron RA. Prevention and control of influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices, United States, 2015-16 influenza season. MMWR Morb Mortal Wkly Rep. 2015;64:818-825. Abstract
2. Erlewyn-Lajeunesse M, Brathwaite N, Lucas JS, Warner JO. Recommendations for the administration of influenza vaccine in children allergic to egg. BMJ 2009;339:b3680.

Public Information from the CDC and Medscape

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