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The 2014-2015 influenza season: What you need to know

A nasal spray vaccine is now preferred for children ages 2 through 8 years.

As physicians and the Centers for Disease Control and Prevention (CDC) prepare for the upcoming influenza season, many of the recommendations remain unchanged from last season. Vaccination continues to be recommended for everyone 6 months of age and older. However, for the first time, a specific vaccine is preferred for children ages 2 through 8 years. Here's what you need to know about this change, as well as how to handle vaccination in patients who are, or might be, allergic to eggs.

Use LAIV for kids ages 2 through 8 (if available)

For the first time, the CDC's Advisory Committee on Immunization Practices (ACIP) has stated a preference for a specific influenza vaccine for a specific age group. It recommends using the live attenuated influenza vaccine (LAIV), which is a nasal spray, for children ages 2 through 8 years.¹

A systematic review found evidence of increased efficacy of LAIV compared to inactivated influenza vaccine (IIV) in this age group; both types of vaccine have similar rates of adverse reactions.² This increased effectiveness results in 46 fewer cases of confirmed influenza per 1000 children vaccinated (number needed to treat=24). Although the evidence of LAIV's increased effectiveness was found for children ages 2 to 6 years, ACIP extended this recommendation through age 8 because this is the age through which physicians need to consider 2 doses of vaccine for a child pre-

viously unvaccinated with the influenza vaccine. Children younger than age 2 should receive IIV3 or IIV4.³

ACIP realizes that due to programmatic constraints it would be difficult to vaccinate all children with LAIV this year and is emphasizing that it should be implemented when feasible this year but no later than the 2015 to 2016 influenza season. IIV is effective in children and should be given if LAIV is not available or is contraindicated. Vaccine should not be delayed in the hopes of receiving LAIV if IIV is available.¹

LAIV should not be used in children <2 years or adults >49. This vaccine is contraindicated in children and adolescents who are taking chronic aspirin therapy, pregnant women, those who are immunosuppressed, those with a history of egg allergy, or those who have taken influenza antiviral medications in the past 48 hours.¹ LAIV also is not recommended for children ages 2 through 4 years who have asthma or had a wheezing episode in the past 12 months.¹

There are precautions for the use of LAIV in patients with chronic medical conditions that can place them at high risk for complications from influenza, such as chronic lung, heart, renal, neurologic, liver, blood, or metabolic disorders, including asthma and diabetes.¹

Which vaccine for patients who are allergic to eggs?

Two influenza vaccines are now available that are not prepared in embryonated eggs:

recombinant influenza vaccine (RIV3) and cell culture-based inactivated influenza vaccine (ccIIV3). Both are trivalent products that contain antigens from 2 influenza A viruses and one influenza B virus and were introduced in time for the 2013 to 2014 flu season. The RIV3 is considered egg-free but ccIIV3 is not, although the amount of egg protein in it is miniscule, estimated at 5×10^{-8} mcg/0.5 mL dose.¹ Neither product is licensed for children younger than 18 years and RIV3 is licensed only for those ages 18 through 49 years.

Patients who experience only hives after egg exposure can receive any of the flu vaccines except LAIV, and only because of a lack of data on this product, not because it has been shown to be less safe than the other vaccines. Patients who are unsure if they have an egg allergy or only get hives when they eat eggs should be observed for at least 30 minutes¹ following injection as a precaution. Those ages 18 through 49 who have a history of severe reactions to eggs should receive RIV3. Patients younger than 18 years of age and older than 49 years of age can receive IIV vaccines approved for their specific age group. Any patient who is severely allergic and who cannot receive an egg-free vaccine should be vaccinated by a physician with experience managing severe allergic conditions.

Although severe, anaphylactic reactions to influenza vaccine are very rare, physicians should be equipped and prepared to respond to a severe allergic reaction after providing influenza vaccine to anyone with a history of an egg allergy.

Additional tips and resources

In addition to the LAIV, RIV3, and ccIIV3 vaccines described here, 10 other vaccines are

available, including 5 egg-based IIV3 products in standard-dose form, 1 IIV3 vaccine for intradermal use, 1 high-dose IIV3 product for patients ages 65 or older, and 3 standard-dose IIV4 products. More details on each of these vaccines are available at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6207a1.htm?_cid=rr6207a1_w#Tab1.

Regardless of which type of flu vaccine they receive, children 6 months through 8 years should receive 2 doses, at least 4 weeks apart, unless they received:

- 1 dose in 2013 to 2014, or
- 2 or more doses of seasonal influenza vaccine since July 2010, or
- 2 or more doses of seasonal influenza vaccine before July 2010 and ≥ 1 dose of monovalent H1N1 vaccine, or
- at least 1 dose of seasonal influenza vaccine prior to July 2010 and ≥ 1 after.

■ **Vaccine effectiveness.** The CDC estimated that vaccine effectiveness during the 2013 to 2014 flu season was 66%.³ While this degree of effectiveness is important for minimizing the morbidity and mortality from influenza each year, it's important to appreciate the limitations of the vaccine and not rely on it as the only prevention intervention.

■ **Other forms of prevention.** We need to advise and practice good respiratory hygiene, frequent hand washing, self-isolation when sick, effective infection control practices at health care facilities, targeted early treatment with antivirals, and targeted pre- and post-exposure antiviral chemoprevention. Details on each of these interventions, including recommendations on the use of antiviral medications, can be found on the CDC Web site at <http://www.cdc.gov/flu>. **JFP**



Patients between the ages of 18 and 49 with severe egg allergies should receive RIV3.

References

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