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AAP influenza immunization recommendations revised for 2018-'19 season

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Annual seasonal influenza vaccination is recommended for everyone 6 months and older, as vaccination remains the best available preventive measure. Achieving high coverage rates of influenza vaccine in infants and children is a priority to protect them against influenza disease and its complications.

There are new recommendations for the upcoming 2018-'19 influenza season. Unlike the last two seasons, the Academy recommends the limited use of intranasal live attenuated influenza vaccine (LAIV4), as explained below. This recommendation represents a change from the 2016-'17 and 2017-'18 influenza seasons when intranasal LAIV4 was not recommended in any setting in light of the evidence for its poor effectiveness in prior seasons against influenza A (H1N1) pdm09 viruses.

The AAP Committee on Infectious Diseases (COID) and the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC) have reviewed and carefully considered all influenza vaccine efficacy data available to date, as well as new information regarding an updated LAIV4 formulation, for each to provide their latest recommendations.

ACIP voted to recommend LAIV4 as an option for anyone in whom it is otherwise appropriate and stated that no vaccine effectiveness estimates are available for the new formulation of LAIV4.

While the AAP and CDC each support the use of LAIV4 for the 2018-'19 influenza season with the aim of achieving adequate vaccination coverage and optimal protection in children of all ages, the AAP is making the following recommendations:

- Annual influenza vaccination is recommended for everyone 6 months and older.
- For the 2018-'19 season, the AAP recommends inactivated influenza vaccine (IIV3/4) as the primary choice for all children because the effectiveness of LAIV4:

1. was inferior against A/H1N1 during past seasons; and
2. is unknown against A/H1N1 for this upcoming season.

- LAIV4 may be offered for children who would not otherwise receive an influenza vaccine (and for whom it is appropriate by age and health status).
- As always, families should receive counseling on these revised recommendations for the 2018-'19 season.

A summary of the scientific data reviewed by COID that led to the Academy's recommendation for the limited use of LAIV4 in the 2018-'19 season follows:

1. The CDC conducted a systematic review of all published studies evaluating the effectiveness of LAIV3 and LAIV4 in children from the 2010-'11 to the 2016-'17 seasons, including data from U.S. and European studies. The data suggested that the effectiveness of LAIV3 or LAIV4 for influenza strain A/H1N1 was lower than IIV in children 2 to 17 years old. However, LAIV was more effective against influenza B strains and similarly effective against A/H3N2 when compared with IIV.
2. Preliminary influenza vaccine effectiveness data for the A/H3N2 predominant, moderately severe 2017-'18



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season have revealed that IIV provided adequate protection against A/H1N1 and B influenza viruses and low but measurable protection against A/H3N2 viruses and varied by age group.

3. The manufacturer of LAIV4 explored the process of viral strain selection for its vaccine, evaluating the viral shedding and immune responses in U.S. children 2 to less than 4 years of age after receipt of a new formulation of LAIV4 that utilized a different A/H1N1 strain (A/Slovenia/2903/2015). The manufacturer's study data suggest that the new A (H1N1) pdm09-like virus (A/Slovenia/2903/2015) has improved replicative fitness over previous LAIV4 A (H1N1) pdm09-like vaccine strains and leads to immune responses in toddlers. There are no published effectiveness estimates for this vaccine strain formulation against influenza A (H1N1) pdm09 viruses because influenza A (H3N2) and influenza B viruses have predominated during the latest season. The effectiveness of this new formulation of LAIV4 has not been confirmed, since A/H1N1 virus has not widely circulated recently. Neither nasal shedding of vaccine virus nor immunogenicity has been shown to correlate with effectiveness of LAIV.

Based on currently available data, the AAP recommends the administration of IIV for all children and adolescents, particularly those with underlying medical conditions associated with an elevated risk of complications from influenza. Detailed recommendations will be provided in the AAP 2018-'19 influenza policy statement that will be released online in early September.

The CDC also will publish additional information in its *Morbidity and Mortality Weekly Report (MMWR)* and will analyze post-marketing safety and real-time vaccine effectiveness data as they become available during the 2018-'19 influenza season.

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