

PREGLED LITERATURE – REVIEW ARTICLE

Influenza Vaccination in the United States

Vakcinacija protiv gripa u SAD

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Summary Influenza (flu) is a prominent seasonal virus found all over the world that has caused epidemics and deaths for centuries. Prompt immunization of children with chronic medical conditions such as lung disease due to prematurity, asthma, diabetes, heart disease, and those that are immunocompromised is crucial due to their higher risk of influenza complications including superimposed bacterial pneumonia. Childcare providers, pregnant women, and health care personnel are also encouraged, if not mandated, to be vaccinated promptly in order to minimize disease communicability. A current review of vaccine efficacy, as well as patient and physician compliance is presented.

Key words: influenza, vaccine, children

Sažetak Influenza (grip) je dominantna sezonska virusna infekcija u celom svetu, koja se javlja epidemijski. Vakcinacija dece sa hroničnim oboljenjima (dijabet, srčana oboljenja, imunodeficientni), a posebno dece sa plućnim bolestima zbog prenameriteta, astme, ima veliki značaj u prevenciji rizika kod obolelih od influence od razvoja teških formi i sekundarnih bakterijskih komplikacija. Prenosenje infekcije se suzbija i vakcinacijom zdravstvenih radnika, vaspitača, nastavnika, i posebno se štite trudnice i mlađa deca u porodici. U ovom preglednom radu predstavljene su neke stvari u vezi vakcinacije u Sjedinjenim Američkim državama.

Ključne reči: influence, vakcina, deca

What is it?

Influenza (flu) is a prominent seasonal virus found all over the world that has caused epidemics and deaths for centuries. Flu is most prevalent between October (strain A) and April (strain B) in the United States. Due to its unpredictable and potentially severe course, the American Academy of Pediatrics (AAP) recommends an annual influenza vaccination for everyone 6 months and older (1). The inactive intramuscular vaccine is comprised of flu strains expected to be the most prominent during the upcoming season. It is available in two different compositions: the trivalent and quadrivalent (IIV) form, with the latter being the preferred injection. Infants and toddlers from 6-35 months receive a 0.25 mL injection whereas children 3 years and older receive 0.5mL. Children aged 6 months through 8 years require two doses, 4 weeks apart, in the first season they are receiving vaccination followed by one dose in each subsequent year. These two doses do not need to be acquired during the same influenza season (2). Those aged 9 years and older require only one annual dose, even if they were not previously immunized for influenza. Prompt immunization of children with chronic medical conditions such as lung disease due to prematurity, asthma, diabetes, heart disease, and those that are immunocompromised is crucial due to their higher risk of influenza complications including superimposed bacterial pneumonia.

Childcare providers, pregnant women, and health care personnel are also encouraged, if not mandated, to be vaccinated promptly in order to minimize disease communicability (2).

How effective is it?

This vaccine significantly decreases influenza infections, complications, and deaths in numerous countries throughout the world. In the United States, immunization decreases pediatric infection rates up to 71% (1) and outpatient visits due to the flu by 75% (2). This data varies annually depending on the specific components of the vaccine and the most prominent circulating strain that season. Although vaccination rates have improved, mortality remains high in unvaccinated patients with 80-85% of pediatric deaths from influenza occurring in unvaccinated children (2).

Up until the 2016 season, a live attenuated intranasal vaccine was also a preventative option, but it is not as effective as the intramuscular vaccine and is currently not offered (2).

How do we increase physician and patient compliance?

Provider validation of the influenza vaccine is a crucial part of vaccine acceptance (2). Patients should be explained how the inactivated virus found in the vaccine cannot cause influenza infection, but instead may be associated with a noticeable immune response. About 10-35% of children under the age of 2 experience a fever within 24 hours of administration (2). Compliance is also improved by vaccinating the community earlier in the influenza season while continuing immunization efforts throughout the winter months (2). American outpatient offices have reinforced the need for early immunization by sending alerts to families through phone text messages, phone calls, and emails to let their patients know when the vaccine is available. Offices will often have "flu vaccine clinics" where their only purpose is to vaccinate children (2). In addition, inpatient hospital teams are encouraged to vaccinate patients before discharge. In the United States, pharmacies, schools, and even some retail stores are able to provide the influenza vaccine in order to optimize vaccination rates.

References:

1. Chung et al. Seasonal Effectiveness of Live Attenuated and Inactivated Influenza Vaccine. *Pediatrics*. 2016; 137: 1-10. DOI: 10.1542/peds.2015-3279.
2. Committee on Infectious Disease. Recommendations for Prevention and Control of Influenza in Children, 2016-2017. *Pediatrics*. 2016; 138: 1-18. DOI: 10.1542/peds.2016-2527.

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