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ACIP immunization update

Males ages 11 to 12 years should routinely receive quadrivalent vaccine against human papillomavirus; patients through age 59 years who have diabetes should receive HBV vaccine routinely.

In February, the Centers for Disease Control and Prevention (CDC) published the 2012 immunization schedules for infants and children, adolescents, and adults.^{1,2} The schedules, which are available at <http://www.cdc.gov/vaccines/recs/schedules/default.htm>, are updated annually and incorporate additions and changes recommended by the Advisory Committee on Immunization Practices (ACIP) over the past year. While there were no major advances in new vaccines in 2011, there were a number of new indications for existing ones.

Human papillomavirus vaccine for males

Quadrivalent vaccine against human papillomavirus is now recommended for routine use for males ages 11 to 12 years to prevent genital warts and anal intraepithelial neoplasia.^{3,4} Catch-up vaccination is also recommended for males ages 13 to 21 who have not received it. In addition, routine use is recommended for males ages 22 to 26 years who have sex with men or are HIV positive or immunocompromised.

Tetanus toxoid, reduced strength diphtheria toxoid, and acellular pertussis (Tdap)

Indications for the routine use of Tdap were expanded to include children ages 7 to 10 years, pregnant women, and adults age 65 and older who have contact with infants.^{5,6} Children ages 7 to 10 years who have not

had the full series of DTaP should receive Td/Tdap according to the catch-up schedule,¹ with one of the doses being Tdap. Adults older than 65 who have never received Tdap and who have close contact with infants should receive one dose. No minimum interval is required between receipt of the Td and Tdap vaccines. Other older adults who ask for Tdap vaccination should receive it. Use of Tdap in those ages 7 to 10 years or 65 and older is off label.⁵

Pregnant women who have not received Tdap should receive 1 dose after week 20 of pregnancy, although receiving it earlier is not contraindicated if tetanus toxoid is needed for tetanus prevention following a wound.⁶

Hepatitis B virus (HBV) vaccine

Added to the list of high-risk adults who should receive HBV vaccine routinely are those ages 19 through 59 years with diabetes.⁷ Vaccinate as soon as possible after the diabetes diagnosis is confirmed. The decision as to whether to vaccinate patients ≥ 60 years with diabetes should be based on the likelihood that they will become infected. Considerations include the risks associated with an increased need for help with blood-glucose monitoring in long-term care facilities, the likelihood that the patient will experience chronic sequelae if infected, and the likelihood that the patient will mount a proper immune response to the vaccine.⁷ (The more frail patients are, the less likely they are to achieve adequate immunity.⁷)



**Another reason to
recommend the
HPV vaccine**

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TABLE 1

Recommended Menactra schedule for young children at high risk for invasive meningococcal disease⁸

Risk group	Primary vaccination series	Booster dose, if child remains at increased risk
Children ages 9-23 months at high risk for invasive meningococcal disease,* except those with functional or anatomic asplenia	2 doses, 3 months apart Catch-up dose at earliest opportunity if dose 2 is not given on schedule	Initial booster 3 years after completing primary series At 5-year intervals after initial booster
Children with functional or anatomic asplenia at high risk for invasive meningococcal disease	2 doses, 2 months apart, starting at age 2 years and ≥ 4 weeks after completing the PCV13 vaccine series	

PCV, pneumococcal conjugate vaccine.

*Children who have persistent complement component deficiencies (eg, C5–C9, properdin, factor H, or factor D); those traveling to (or residents of) countries where meningococcal disease is hyperendemic or epidemic; or those who are in a defined risk group during a community or institutional meningococcal outbreak.

TABLE 2

Recommended schedule for meningococcal conjugate vaccine in those ≥ 2 years, according to risk⁹

Risk group	Primary vaccination series	Booster dose
Individuals ages 11-18 years	1 dose, preferably at 11 or 12 years	At age 16 years, if primary dose given at age 11 or 12 years Age 16-18 years, if primary dose given at age 13-15 years No booster needed if primary dose given on or after age 16 years
Individuals ages 11-18 years infected with HIV	2 doses, 2 months apart	
Individuals ages 2-55 years with persistent complement component deficiency (eg, C5–C9, properdin, or factor D) or functional or anatomical asplenia	2 doses, 2 months apart	Every 5 years At the earliest opportunity if only 1 primary dose; every 5 years thereafter
Individuals ages 2-55 years with prolonged increased risk for exposure, such as microbiologists routinely working with <i>Neisseria meningitidis</i> , and travelers to, or residents of, countries where meningococcal disease is hyperendemic or epidemic	1 dose	After 3 years, if primary dose given at age 2-6 years After 5 years, if primary dose given at ≥ 7 years and the individual remains at risk Every 5 years thereafter, as long as the risk persists

HIV, human immunodeficiency virus.

Meningococcal conjugate vaccine, quadrivalent (MCV4)

An MCV4 vaccine (Menactra) has now been licensed for use in children as young as 9 months.⁸ At this time, however, neither Menactra nor its competitor, Menveo (licensed for use in those 2 years and older), is recommended for routine administration until the age of 11 to 12 years. Infants and

children ages 9 through 23 months with complement deficiencies, or who will be traveling to countries with endemic high levels of meningococcus, should be vaccinated with 2 doses of Menactra 3 months apart, and with a booster dose after 3 years if risk persists. The recommendations regarding the use of MCV4 in those ≤ 2 years with high-risk conditions are listed in TABLE 1.

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Coverage for adult immunizations is suboptimal

In February 2012, the CDC announced results of the 2010 National Health Interview Survey. Increases in immunization coverage occurred only with Tdap vaccination for individuals 19 to 64 years of age (from 6.6% to 8.2%), herpes zoster vaccination among those ≥ 60 years (from 10% to 14.4%), and ≥ 1 dose of HPV vaccination for women 19 to 26 years (from 17.1% to 20.7%). Rates of immunization were unchanged for other vaccines. The CDC said a substantial improvement in coverage is needed to reduce vaccine-preventable diseases among adults.

Source: CDC. Adult vaccination coverage—United States, 2010. *MMWR Morb Mortal Wkly Rep.* 2012;61:66-72.

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The CDC reports that a substantial improvement in immunization coverage is needed to reduce vaccine-preventable diseases among adults.

Another change regarding the use of MCV4 is a recommended booster dose for those age 16 and older who were first vaccinated at age 11 or 12 years.⁹ For those vaccinated at ages 13 to 15, a booster should be received at ages 16 to 18. No booster is needed if the first MCV4 dose is received at or after age 16. Recommendations for MCV4 use and booster doses for those 2 years and older are listed in TABLE 2.

Herpes zoster vaccine

The herpes zoster vaccine was initially licensed for those 60 years and older. Last year the FDA approved lowering the age to 50 years and older. At this time, however, the ACIP continues to recommend that the vaccine be used routinely starting at age

60 years. The age was not lowered because of a concern about vaccine supply and the uncertainty about the possible need for a booster dose if administered at age 50.¹⁰

Influenza vaccine

As described in a previous Practice Alert,¹¹ a history of egg allergy is no longer a strict contraindication for receipt of the influenza vaccine. The other major adjustment is a simplified recommendation on how to determine the required number of doses for a child younger than 9 years. If the child received 1 or both doses of the 2010-2011 vaccine, give just a single dose of the 2011-2012 vaccine. If the history is uncertain, give 2 doses of the new vaccine at least 4 weeks apart.¹² **JFP**

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