New table among changes to 2017 immunization schedules

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The 2017 recommended childhood and adolescent immunization schedules include revised footnotes for eight vaccines and a new table addressing which vaccines may be indicated for people ages 0 through 18 years who have a specific medical indication.

The schedules are revised and approved annually by the Academy, the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC), the American Academy of Family Physicians and the American College of Obstetricians and Gynecologists to reflect current recommendations for the use of vaccines licensed by the Food and Drug Administration.

Changes to figures

The 2017 format of Figure 1 is similar to the 2016 schedule consisting of a single table for people from birth through 18 years of age.

- The yellow bars indicate the recommended age range for all children and contain a notation indicating the recommended number of doses by age.
- The green bars indicate the recommended catch-up age.
- The purple bars designate the range for immunization for certain groups at high risk.
- The blue bars indicate the range of recommended doses for people in non-high-risk groups who may receive a vaccine, subject to individual decision-making.
- The white boxes show the ages when a vaccine is not recommended routinely.
- The columns that begin with a gray-shaded box indicate vaccine recommendations for school entry and at adolescent visits.

The following changes have been made to Figure 1 in the 2017 schedule:

- A column has been added for adolescents at 16 years of age. This age group has been separated from 17- to 18-year-olds to emphasize the need for a meningococcal conjugate vaccine (MenACWY) booster dose at age 16.
- Reference to live attenuated influenza vaccine (LAIV) has been removed from the influenza vaccine row.
- A blue bar has been added to the HPV vaccine row at 9-10 years to indicate that even in the absence of a high-risk condition, children may receive the HPV vaccine series at this age.

Figure 2 is the catch-up immunization schedule offering recommendations for children and adolescents who start late or are more than one month behind. As in previous years, the catch-up schedule is divided into sections for children 4 months through 6 years and children and adolescents 7 through 18 years. No changes have been made to the 2017 catch-up immunization figure.

Tables (job-aids) are available to clarify recommended use of Haemophilus influenzae type b, pneumococcal and pertussis-containing vaccines as a function of age, the number of doses previously administered and the time interval since the last dose.

The new Figure 3 indicates vaccines that may be administered during pregnancy or to children and adolescents...
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with an immunocompromising condition; kidney, heart or liver disease; a cochlear implant; a cerebrospinal fluid leak; asplenia; a complement deficiency or diabetes. Figure 3 in the childhood/adolescent schedule is similar to Figure 2 in the adult immunization schedule.

Changes to footnotes

Footnotes contain recommendations for routine vaccination, for catch-up vaccination as well as for vaccination of children and adolescents with high-risk conditions or in special circumstances. Recommendations in the figures should be read with the corresponding footnotes.

Changes have been made to the following footnotes:

- **Hepatitis B.** Updated recommendations reflect that a monovalent birth dose should be administered to all newborns within 24 hours of birth. Revised wording indicates that infants born to hepatitis B surface antigen (HBsAg) positive mothers should be tested for HBsAg and antibody to HBsAg at 9 through 12 months (rather than 9 through 18 months).

- **Haemophilus influenzae type b.** Comvax vaccine has been removed because the vaccine is no longer available commercially and all available doses have expired. Hiberix has been added to the list of vaccines that may be used for a primary vaccination series.

- **Pneumococcal conjugate.** References to PCV7 vaccine have been removed because all children who may have received PCV7 as part of a primary series have now aged out of the recommendation for pneumococcal vaccine.

- **Influenza.** Wording has been added to indicate that LAIV is not recommended for the 2016-17 influenza season.

- **Meningococcal ACWY.** Recommendations now include vaccination of children with HIV infection.

- **Meningococcal B.** Wording has been added to note that people 16 through 23 years may be vaccinated based on clinical discretion. Updated recommendations regarding a two-dose Trumenba schedule have been added.

- **Tdap.** Revised wording indicates a preference for administration of one dose to pregnant women as early as possible during the 27 to 36 week gestational-age period. Wording is changed to indicate that for children 7 through 10 years who receive Tdap as part of a catch-up series, either Tdap or Td may be administered for the adolescent dose at 11 through 12 years.

- **Human papillomavirus.** Wording reflects that the number of recommended doses is based on age at administration of the first dose. Two doses are recommended for people starting the series before their 15th birthday, while three doses are recommended for those who start the series on or after their 15th birthday and for people with certain immunocompromising conditions. 2vHPV (Cervarix) has been removed from the schedule because it is no longer available and all available doses expired on Jan. 1.

In addition to publication of the schedules in the March issue of *Pediatrics*, the 2017 version of Figures 1-3, catch-up schedule, footnotes and job-aids are available on the AAP website and the CDC website. The schedules also are available on HealthyChildren.org.

Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form can be obtained at
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www.vaers.hhs.gov or by calling 800-822-7967. Additional information can be found in the AAP Red Book and at Red Book Online.

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Resources

- Statements from ACIP that contain details of recommendations for individual vaccines, including recommendations for children with high-risk conditions
- Information on new vaccine releases, vaccine supplies and interim recommendations resulting from vaccine shortages and statements on specific vaccines
- A parent-friendly vaccine schedule for children and adolescents
- An adult immunization schedule is published in February of each year.