Update on Adult Vaccines

John Epling, MD, MSEd
Topics for the Evening

- Vaccine Safety
- Vaccine Coverage
- Influenza Vaccine
- Pneumococcal Vaccine
- Tetanus/Diphtheria/Pertussis Vaccine
- Zoster Vaccine
- Routine vs. Conditions
- Question and Answer
Disclaimer

• I am a member of the Adult Immunizations Workgroup of the Advisory Committee on Immunization Practices. Materials provided in this presentation reflect my individual views only and do not represent the views or recommendations of the ACIP except where noted on individual slides. The overall presentation should not be attributed to the ACIP.
Vaccine Safety

- Vaccines prevent diseases.
- Vaccines, like any medicine or procedure, have adverse effects.
- Vaccines benefits outweigh their harms.
- Communication about vaccines has gotten more difficult.
Vaccine Safety Mechanisms

- Vaccine Adverse Events Reporting System (VAERS)
  - Anyone can report
- Vaccine Safety Datalink
  - Used to test problems
- National Vaccine Injury Compensation Program
  - "no fault" fund
The Vaccine Adverse Event Reporting System (VAERS) is a national vaccine safety surveillance program co-sponsored by the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA). VAERS is a post-marketing safety surveillance program, collecting information about adverse events (possible side effects) that occur after the administration of vaccines licensed for use in the United States.

VAERS provides a nationwide mechanism by which adverse events following immunization may be reported, analyzed, and made available to the public. VAERS also provides a vehicle for disseminating vaccine safety-related information to parents and guardians, health care providers, vaccine manufacturers, state vaccine programs, and other constituencies. more...

This Web site is best viewed on Internet Explorer version 11.0. IE browsers 10 and below may not be supported. Download the latest IE browser here.
Vaccine Coverage

• ACA
  • Coverage by new plans of ALL vaccines without co-payment.

• Medicare:
  • Through Part B
    • Influenza
    • Hepatitis B
    • Pneumococcal (two)
  • Through Part D
    • “Everything” (Tdap, HPV, Zoster)
Influenza Vaccine

• Recommended yearly for everyone over 6 months of age (unless contraindicated)
• Which one?
  • LAIV NOT recommended
  • Inactivated influenza vaccine vs. recombinant influenza vaccine
  • High-dose influenza vaccine?
Pneumococcal Vaccine

• Not just about pneumonia
• Two types: PPSV23 and PCV13
• Over 65: PCV13 then PPSV23 1 year later
• Medical conditions:
  • Serious immune compromise: PCV13 then PPSV23
  • Most other indications: PPSV23, repeat in 5 years.
Tetanus/Diphtheria/Pertussis Vaccine

- Tetanus/Diphtheria – every 10 years
- Pertussis outbreaks
- Tdap – once (except pregnancy)
- Cocooning
Zoster Vaccine

- Zoster = Herpes Zoster = Varicella-Zoster virus = Shingles
- Reactivated chicken pox (but we don’t need to prove that)
- Ask your insurance about coverage
Routine vs. “Conditions”

• Routine = Age-based recommendations

• “Conditions” = HALO
  • Health – diabetes, immune compromise
  • Age - (“routine”)
  • Lifestyle – tobacco, sexual practices, travel
  • Occupational/Other – health care, college/military
  • TALK TO YOUR PRIMARY CARE CLINICIAN!
The Schedule

- New schedule every February
# Recommended Adult Immunization Schedule—United States - 2016

Note: These recommendations must be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

## Figure 1. Recommended immunization schedule for adults aged 19 years or older, by vaccine and age group

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>AGE GROUP</th>
<th>19-21 years</th>
<th>22-26 years</th>
<th>27-49 years</th>
<th>50-59 years</th>
<th>60-64 years</th>
<th>≥ 65 years</th>
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<tbody>
<tr>
<td>Influenza</td>
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<td>Tetanus, diphtheria, pertussis (Td/Tdap)^1-3</td>
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<td>Varicella^2</td>
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<td>Human papillomavirus (HPV) Female</td>
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<td>Human papillomavirus (HPV) Male</td>
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<td>Zoster</td>
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<td>Measles, mumps, rubella (MMR)^2</td>
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<td>Pneumococcal 13-valent conjugate (PCV13)^1-3</td>
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<td>Hepatitis B**5</td>
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<td>Meningococcal C (MenC) or polysaccharide (MPSV4)^5</td>
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<td>Meningococcal B (MenB)**6</td>
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<td>Haemophilus influenzae type b (Hib)**7</td>
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*Covered by the Vaccine Injury Compensation Program

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Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at [www.vaers.hhs.gov](http://www.vaers.hhs.gov) or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at [www.hrsa.gov/vaccinecompensation](http://www.hrsa.gov/vaccinecompensation) or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines) or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 8:00 a.m. - 8:00 p.m. Eastern Time, Monday - Friday, excluding holidays.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention’s (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the America College of Physicians (ACP), the American College of Obstetricians and Gynecologists (ACOG) and the American College of Nurse-Midwives (ACNM).
<table>
<thead>
<tr>
<th>VACCINE</th>
<th>INDICATION</th>
<th>Pregnancy</th>
<th>Immuno-compromising conditions (excluding HIV infection)</th>
<th>HIV infection CD4+ count (cellular)</th>
<th>Men who have sex with men (MSM)</th>
<th>Kidney failure, end-stage renal disease, or hemodialysis</th>
<th>Heart disease, chronic lung disease, chronic obstructive pulmonary disease, or asthma</th>
<th>Aplasia and persistent complement component deficiencies</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
<th>Healthcare personnel</th>
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<tbody>
<tr>
<td>Influenza^1,2</td>
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<tr>
<td>Tetanus, diphtheria, pertussis (Td/Tdap)^3</td>
<td>Substitute Tdap for Td once, then Td booster every 10 yrs</td>
<td>1 dose Tdap each pregnancy</td>
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<td>Human papillomavirus (HPV) Female^5</td>
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<td>Zoster^6</td>
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<td>Pneumococcal 13-valent conjugate (PCV13)^8</td>
<td>1 dose</td>
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<td>Pneumococcal polysaccharide (PPSV23)^9</td>
<td>1, 2, or 3 doses depending on indication</td>
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<td>Meningococcal 4-valent conjugate (MenACWY) or polysaccharide (MPSV)^12</td>
<td>1 dose</td>
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<td>Meningococcal B (MenB)^13</td>
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<tr>
<td>Haemophilus influenzae type b (Hib)^14</td>
<td>1 dose</td>
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*Covered by the Vaccine Injury Compensation Program

Recommended for all persons who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection; zoster vaccine is recommended regardless of past episode of zoster

Recommended for persons with a risk factor (medical, occupational, lifestyle, or other indication)

No recommendation

Contraindicated

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly recommended for adults aged ≥19 years, as of February 2016. For all vaccines being recommended on the Adult Immunization Schedule: a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/hcp/acip-recs/index.html). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.
Footnotes—Recommended Immunization Schedule for Adults Aged 19 Years or Older, United States, 2016

1. Additional information

   • Adults should receive 1 dose of tetanus toxoid vaccine when initiating routine adult immunization and when their last tetanus toxoid-containing vaccine was administered before age 70 years. All adults should receive 1.0 mL of a tetanus toxoid-containing vaccine every 10 years thereafter as part of a comprehensive adult immunization regimen.

2. Influenza vaccination

   • A single dose of inactivated influenza vaccine is recommended for all persons aged 19 years and older, regardless of health status or age. Vaccination is especially important for persons at high risk of complications from influenza and for persons who live with or care for persons at higher risk for complications from influenza. Influenza vaccination is recommended for all persons aged 6 months through 18 years who are at higher risk for complications from influenza. Additional information on influenza and influenza vaccine is available at http://www.hhs.gov/coronavirus/influenza/

3. Tetanus, diphtheria, and pertussis (Tdap) vaccination

   • Administer 1 dose of Tdap vaccine to pregnant women during each pregnancy (preferably during the 27th-36th weeks gestation) regardless of their immunization status prior to pregnancy.

4. Varicella vaccination

   • All adults without a history of varicella or chickenpox should receive 1 dose of varicella vaccine at any age or 1 dose of varicella-zoster immune globulin if exposed to chickenpox within 72 hours of exposure.

5. Human papillomavirus (HPV) vaccination

   • Three HPV vaccines are available for adults (Human papillomavirus 16/18/6/11 vaccine, Gardasil 9 vaccine, and Cervarix vaccine). All 3 vaccines are recommended for women aged 19 through 26 years. Gardasil 9 vaccine is recommended for women aged 19 through 45 years.

6. Enteric vaccination

   • A single dose of typhoid vaccine is recommended for adults aged 20 years or older regardless of whether they have a history of travel outside the United States or have prior typhoid vaccination. Additional information on typhoid fever and the typhoid vaccine is available at http://www.cdc.gov/typhoid.html

7. Mumps, measles, rubella (MMR) vaccination

   • Adults should receive 1 dose of MMR vaccine at any age if they have not previously been vaccinated. Additional information on mumps, measles, and rubella is available at http://www.cdc.gov/measles/

8. Physician's note

   • A physician's note is required for all persons aged 19 years and older, regardless of health status or age. Vaccination is especially important for persons at high risk of complications from influenza and for persons who live with or care for persons at higher risk for complications from influenza. Influenza vaccination is recommended for all persons aged 6 months through 18 years who are at higher risk for complications from influenza. Additional information on influenza and influenza vaccine is available at http://www.hhs.gov/coronavirus/influenza/

Additional information on influenza and influenza vaccine is available at http://www.cdc.gov/coronavirus/influenza/
Footnotes—Recommended Immunization Schedule for Adults Aged 19 Years or Older, United States, 2016

1. Unless otherwise indicated, all vaccines are given intramuscularly and should be administered at least 1 month apart. Two doses of tetanus toxoid-containing products are recommended for adults 19 years of age and older who have not received Td at age 11 to 12 years, 4 to 6 years after the first dose of Td at age 11 and 12 years, and at least 5 years after the first dose of Td at age 15 years or older. Adults who have not received Td at age 11 to 12 years or 4 to 6 years after the first dose of Td at age 11 and 12 years should receive Td at age 19 years or older and at least 5 years after the first dose of Td at age 15 years or older.

2. Adults aged 19 years and older who are employed in health care settings should receive an annual influenza vaccine. Adults aged 50 years or older who have an increased risk of complications from influenza infection, such as those with chronic medical conditions or other complications, should receive an annual influenza vaccine.

3. Some elderly adults (those aged 65 years and older) and adults with certain chronic medical conditions, or other complications, should receive an annual influenza vaccine.

4. Adults aged 19 years and older who are employed in health care settings should receive annual influenza vaccine. Adults aged 50 years or older who have an increased risk of complications from influenza infection, such as those with chronic medical conditions or other complications, should receive annual influenza vaccine.

5. Treatment of heart failure with ACE inhibitors and/or beta-blockers is recommended for patients who have had a myocardial infarction or who are at high risk for myocardial infarction.

6. All adults aged 19 years and older who have not received Td at age 11 to 12 years or 4 to 6 years after the first dose of Td at age 11 and 12 years should receive Td at age 19 years or older and at least 5 years after the first dose of Td at age 15 years or older.

7. Adults aged 19 years and older who are employed in health care settings should receive an annual influenza vaccine. Adults aged 50 years or older who have an increased risk of complications from influenza infection, such as those with chronic medical conditions or other complications, should receive an annual influenza vaccine.

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Questions and Answers