### Figure 1. Recommended adult immunization schedule, by vaccine and age group

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>AGE GROUP</th>
<th>19-26 years</th>
<th>27-49 years</th>
<th>50-59 years</th>
<th>60-64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetanus, diphtheria, pertussis (Td/Tdap)†</td>
<td>Contraindicated</td>
<td>1 dose Td助推剂，每 10 年一剂</td>
<td>Td booster every 10 yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)², *</td>
<td>3 doses (females)</td>
<td>2 doses</td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella³, *</td>
<td>Contraindicated</td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoster⁴</td>
<td>Contraindicated</td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)⁵, *</td>
<td>1 or 2 doses</td>
<td>1 or 2 doses</td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza⁶, *</td>
<td>1 dose annually</td>
<td>1 dose annually</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal (polysaccharide)⁷, ⁸</td>
<td>1 or 2 doses</td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A⁹, *</td>
<td>2 doses</td>
<td>2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B¹⁰, *</td>
<td>3 doses</td>
<td>3 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal¹¹, *</td>
<td>1 or more doses</td>
<td>1 or more doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Covered by the Vaccine Injury Compensation Program.

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

### Table annotations:
- For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of prior infection).
- Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications).
- No recommendation.

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### Figure 2. Vaccines that might be indicated for adults based on medical and other indications

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>INDICATION</th>
<th>Pregnancy</th>
<th>Immuno-compromising conditions (excluding human immunodeficiency virus [HIV])¹</th>
<th>HIV infection², ³</th>
<th>CD4+ T lymphocyte count</th>
<th>Diabetes, heart disease, chronic lung disease, chronic alcoholism</th>
<th>Asplenia (seriously decreased or absent complement component deficiencies)</th>
<th>Chronic liver disease</th>
<th>Kidney failure, end-stage renal disease, receipt of hemodialysis</th>
<th>Health-care personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetanus, diphtheria, pertussis (Td/Tdap)†</td>
<td>Td</td>
<td>Td Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs</td>
<td>Contraindicated</td>
<td>1 dose TIV annually</td>
<td>1 dose TIV or LAIV annually</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)², *</td>
<td>Contraindicated</td>
<td>3 doses for females through age 26 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella³, *</td>
<td>Contraindicated</td>
<td>2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoster⁴</td>
<td>Contraindicated</td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)⁵, *</td>
<td>Contraindicated</td>
<td>1 or 2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza⁶, *</td>
<td>1 dose annually</td>
<td>1 dose annually</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal (polysaccharide)⁷, ⁸</td>
<td>1 or 2 doses</td>
<td>1 or 2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A⁹, *</td>
<td>2 doses</td>
<td>2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B¹⁰, *</td>
<td>3 doses</td>
<td>3 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal¹¹, *</td>
<td>1 or more doses</td>
<td>1 or more doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Covered by the Vaccine Injury Compensation Program.

**Note:** These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older, as of January 1, 2010. 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/pubs/acip-list.htm).

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### Footnotes:
- For all persons in this category who meet the age requirements and who lack evidence of immunity (e.g., lack documentation of vaccination or have no evidence of prior infection).
- Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications).
- No recommendation.

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**References:**
- 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 American College of Obstetricians and Gynecologists (ACOG), and the American College of Physicians (ACP).
1. Tetanus, diphtheria, and acellular pertussis (Td/Tdap) vaccination

Tdap should take a single dose of Td for adults aged 19 through 64 years who have not received a dose of Tdap earlier in life.

Adults with uncertain or incomplete history of primary vaccination series with tetanus and diphtheria toxoid-containing vaccines should begin or complete a primary vaccination series. A primary series for adults includes 3 doses of tetanus and diphtheria toxoid-containing vaccine: administer the first dose at least 6 months apart and the third dose 6–12 months after the second. Tdap can substitute for any one of the doses of Td in the three-dose primary series, as long as the vaccination had not been previously administered to adults who have completed a primary series and if the last vaccination was received ≥10 years previously. 

If a woman is pregnant and received the last Td vaccination ≥10 years previously, administer Td during the second or third trimester. If the woman received the last Td vaccination <10 years previously, administer Tdap during the second trimester. 

A dose of Tdap is recommended for women aged ≥18 years who are pregnant, contacts of infants aged ≥12 months, and all health-care personnel with direct patient contact who have not previously received Td. An interval as short as 2 weeks from the last Td is suggested; shorter intervals can be used. Td may be administered during any trimester of pregnancy. Td can be administered instead of Td to a pregnant woman. 

Consult the updated recommendations for Td and Tdap in prophylix in wound management.

2. Human papillomavirus (HPV) vaccination

HPV vaccination is recommended at age 11 or 12 years with catch-up vaccination at ages 13 through 26 years. 

Ideally, vaccine should be administered before potential exposure to HPV through sexual activity; however, females who are sexually active should still be vaccinated consistent with age-based recommendations. 

Sexually active females who have not been previously vaccinated by age 26 years; 3) women aged ≥13 through 26 years who lack laboratory evidence of measles, mumps, and/or rubella immunity or laboratory confirmation of disease; 4) completion or termination of pregnancy and before discharge from the health-care facility. 

Rubella vaccination is recommended only for women because men do not have evidence of immunity to rubella. 

3. Varicella vaccination

Adults without evidence of immunity to varicella should receive 2 doses of single-antigen varicella vaccine if not previously vaccinated or the second dose if they have received only 1 dose, unless they have a medical contraindication. 

A second dose of varicella vaccine, administered 4 weeks after the first dose, is recommended for adults who 1) have been recently exposed to measles or are in an outbreak setting; 2) have been vaccinated previously with varicella vaccine at least 4 weeks apart; 2) U.S.-born before 1980 (although for health-care personnel and public-safety workers, varicella vaccine is a recommended routine component of education and training). 

Evidence of immunity to varicella in adults includes any of the following: 1) documentation of 2 doses of varicella vaccine at ≥4 weeks apart; 2) U.S. born before 1980 (although for health-care personnel and pregnant women, birth before 1980 should not be considered evidence of immunity). 

A second dose of varicella vaccine should be administered 4 weeks after the first dose. 

Adults born during or after 1957 should receive 1 or more doses of MMR vaccine unless they have a medical contraindication. 

For complete information about evidence of immunity is available at: www.cdc.gov/vaccines/pubs/ACIP-list.htm.

Footnotes

9. Hepatitis A vaccination

Adults who have received ≥1 dose of hepatitis A vaccine before the age of 18 years should receive a single dose of hepatitis A vaccine at age 18 years or more. 

Hepatitis A vaccination is recommended for adults at age 18 years or older who have not been vaccinated or who received ≥1 dose of hepatitis A vaccine before the age of 18 years. 

Meningococcal vaccination

Meningococcal vaccination is recommended for adults aged ≥16 years who have not received meningococcal vaccine previously. 

Healthy, nonpregnant adults aged ≥18 years who are not contacts of persons with meningococcal disease or splenectomy [if elective splenectomy is planned, vaccinate at least 2 weeks before surgery]; meningococcal vaccine should be administered before or after the procedure. 

Massachusetts, rubella (MMR) vaccination

Vaccinate persons with any of the following indications and any person seeking protection from rubella hepatitis B (HBV) infection. 

Adults born during or after 1957 should receive 1 or more doses of MMR vaccine unless they have a medical contraindication. 

3. Measles, mumps, rubella (MMR) vaccination

4. Herpes zoster vaccination

5. Vaccination of healthcare workers

B. Special circumstances

C. Recommendations for adults living in or visiting countries with endemic poliomyelitis

6. Seasonal influenza vaccination

D. Prophylaxis and treatment

E. Children

F. Pregnant women

G. Travelers

H. Long-term residents of nursing homes and other long-term-care and assisted-living facilities

Hepatitis B vaccination is recommended for adults in the following 5 settings: 

1. Meningococcalconjugate vaccine

2. Pneumococcal polysaccharide (PPSV) vaccination

3. Rubella vaccination

4. Varicella vaccination

5. Zoster vaccination

Footnotes

Recommended Adult Immunization Schedule—UNITED STATES - 2010

For statements by the Advisory Committee on Immunization Practices (ACIP), visit www.cdc.gov/vaccines/pubs/ACIP-list.htm.

Medical:

Occupational:

Other:

Preventive health care services: 

6. Reports of vaccine adverse events

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