No More Excuses
You Need a Flu Vaccine

“Oh, the flu isn’t so bad... right?”

Wrong. The flu (influenza) is a contagious disease which affects the lungs and can lead to serious illness, including pneumonia. While pregnant women, young children, older people, and people with certain chronic medical conditions like asthma, diabetes and heart disease are at increased risk of serious flu-related complications, *even healthy people* can get sick enough to miss work or school for a significant amount of time or even be hospitalized.

“I’m Healthy. I don’t need a flu vaccine.”

Anyone can become sick with the flu and experience serious complications. Older people, young children, pregnant women and people with medical conditions like asthma, diabetes, heart disease, or kidney disease are at especially high risk from the flu, but kids, teens and adults who are active and healthy also can get the flu and become very ill from it. Flu viruses are unpredictable, and every season puts you at risk. Besides, you might be around someone who’s at high risk from the flu... a baby... your grandparents, or even a friend. *You don’t want to be the one spreading flu, do you?*

“Wait a minute. I got a flu vaccine once and still got sick.”

Even if you got a flu vaccine, there are still reasons why you might have felt flu-like symptoms:
- You may have been exposed to a *non-flu virus* before or after you got vaccinated. The flu vaccine can only prevent illnesses caused by flu viruses. It cannot protect against non-flu viruses.
- Or you might have been exposed to flu after you got vaccinated but *before the vaccine took effect*. It takes about two weeks after you receive the vaccine for your body to build protection against the flu.
- Or you may have been exposed to an influenza virus that was very different from the viruses included in that year’s vaccine. The flu vaccine protects against the three influenza viruses that research indicates will cause the most disease during the upcoming season, but there can be other flu viruses circulating.

The flu vaccine cannot give you the flu. The most common side effects from a flu shot are a sore arm and maybe a low fever or achiness. The nasal-spray flu vaccine might cause congestion, runny nose, sore throat, or cough. If you do experience them at all, these side effects are mild and short-lived. And that’s much better than getting sick and missing several days of school or work or possibly getting a very severe illness and needing to go to the hospital.
“It’s too late for me to get protection from a flu vaccination this season.”

Flu seasons are unpredictable. They can begin early in the fall and last late into the spring. As long as flu season isn’t over, it’s not too late to get vaccinated, even during the winter. Getting a flu vaccine is the best way to protect yourself and your family. If you miss getting your flu vaccine in the fall, make it a New Year’s resolution—flu season doesn’t usually peak until January or February and can last until May. The flu vaccine offers protection for you all season long.

“I got a flu vaccine last year, so I don’t need another one.”

Your body’s level of immunity from a vaccine received last season is expected to have declined. You may not have enough immunity to be protected from getting sick this season. You should get vaccinated again to protect yourself against the three viruses that research suggests are likely to circulate again this season.

“I’ll get vaccinated only if my family and friends get sick with flu.”

If you wait until people around you get sick from flu, it will probably be too late to protect yourself. It takes about two weeks for the flu vaccine to provide full protection, so the sooner you get vaccinated, the more likely it is that you will be fully protected once the flu begins to circulate in your community. Flu vaccines are easy to find. They are offered in various locations like your doctor’s office, chain pharmacies, grocery stores, and health clinics.

“I hate shots.”

The very minor pain of a flu shot is nothing compared to the suffering that can be caused by the flu. The flu can make you very sick for several days; send you to the hospital, or worse. For most healthy, non-pregnant people ages 2 through 49 years old, the nasal-spray flu vaccine is a great choice for people who don’t like shots. Either way, a shot or spray can prevent you from catching the flu. So, whatever little discomfort you feel from the minor side effects of the flu vaccine is worthwhile to avoid the flu.

“I don’t trust that the vaccine is safe.”

Flu vaccines have been given for more than 50 years and they have a very good safety track record. Flu vaccines are made the same way each year and their safety is closely monitored by the Centers for Disease Control and Prevention and the Food and Drug Administration. Hundreds of millions of flu vaccines have been given safely.

For more information, visit http://www.flu.gov http://www.cdc.gov/flu or call 800-CDC-INFO
If you work in a health care setting...

Get Your Flu Vaccine!

Protect Yourself
Getting a flu vaccine is your best protection against the flu.

Protect Your Patients
Flu can be life-threatening.

Avoid Missing Work
If you get sick, others may need to cover your duties.

Get your flu vaccine at:

Have questions?
Visit GetImmunizedCA.org or call the Centers for Disease Control and Prevention Hotline: 1-800-CDC-INFO (1-800-232-4636)

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Guess who needs a Flu Vaccine?

Everyone 6 months of age and older needs a flu vaccine every year. Ask us about getting one today!

Todos las personas mayores de 6 meses de edad necesitan vacunarse contra la influenza (la gripe) todos los años. ¡Pregúntenos por la vacuna hoy mismo!
pregnant women are at risk for serious complications from flu

- Severe illness
- Hospitalization
- Pneumonia
- Preterm and emergency cesarean delivery
- Death

Ask your doctor about the flu vaccine today!

Vaccination can protect both pregnant mothers and their babies from flu and flu-related complications.

LEARN MORE AT www.cdc.gov/flu or 1-800-CDC-INFO
FLU PREVENTION TIPS

Get vaccinated
Wash hands often
Cover coughs & sneezes
Stay home when sick

Flu vaccine is recommended for everyone six months of age and older every year.

PROTECT YOURSELF AND THOSE YOU LOVE AGAINST FLU

For more information, visit GetImmunizedCA.org
CONSEJOS PARA PREVENIR LA GRIPE

PROTÉJASE Y PROTEJA A SUS SERES QUIERDOS CONTRA LA GRIPE:

Vacúnese
Lávese las manos a menudo
Cubra sus estornudos y tos
Quédese en casa si está enfermo

Millones de californianos están en riesgo de contraer la gripe regular (influenza estacional) este año.

Siga las precauciones arriba y vacúñese. Reduzca su riesgo de contraer la gripe y enfermar a su familia, amigos y colegas.

¡VACÚNESE CONTRA LA GRIPE HOY MISMO!

Para más información, visite VacunasyMiSalud.org

¿Quién necesita la vacuna contra la gripe?
Todas las personas de 6 meses de edad y mayores deben vacunarse contra la gripe.
La vacuna está disponible como inyección o espray nasal.
6–35 Months Old

Fluzone® Quadrivalent
Sanofi Pasteur, Inc.
0.25 mL single-dose syringe

36 Months & Older

Fluzone® Quadrivalent
Sanofi Pasteur, Inc.
0.5 mL single-dose syringe

4 Years & Older

Fluzone® Quadrivalent
Sanofi Pasteur, Inc.
0.5 mL single-dose syringe

5 Years & Older

Afluria® Trivalent
Seqirus
0.5 mL single-dose syringe

2–49 Years Old & Healthy

Flumist® Quadrivalent
MedImmune Vaccines, Inc.
0.2 mL single-dose nasal sprayer

All influenza vaccines are stored in the refrigerator. Questions: Toll-free: 877-2Get-VFC (877-243-8832)

reminders:

**Dose**: 6–35 months, 3+ years

Fluzone® syringes (dose differs by age)
- 0.25 mL
- 0.5 mL

Flulaval® syringes (same dose for all ages)
- 0.5 mL
- 0.5 mL

Children under 9 years of age with a history of <2 doses of influenza vaccine are recommended to receive 2 doses this flu season. See bit.do/flurecs2017

** Multi-dose vials contain preservative and typically cannot be given to children younger than 3 years of age and pregnant women per California law (Health and Safety Code 124172).

Vaccines with the VFC logo are available through the Vaccines for Children Program in 2017-2018 and can only be used for VFC eligible children (≤18 years of age).

For influenza vaccines licensed only for adults, see page 2.
### ADULT INFLUENZA VACCINE 2017-2018

#### 18-64 YEARS OLD

- **Fluzone® Intradermal Quadrivalent**
  - Sanofi Pasteur, Inc.
  - 0.1 mL single-dose syringe

#### 18 YEARS & OLDER

- **Flublok® Trivalent**
  - Protein Sciences
  - 0.5 mL single-dose vial

- **Flublok® Quadrivalent**
  - Protein Sciences
  - 0.5 mL single-dose syringe

- **Afluria® Quadrivalent**
  - Seqirus
  - 0.5 mL single-dose syringe

- **Afluria® Quadrivalent**
  - Seqirus
  - 5.0 mL multi-dose vial

#### 65 YEARS & OLDER

- **Fluzone® High-Dose Trivalent**
  - Sanofi Pasteur, Inc.
  - 0.5 mL single-dose syringe

- **FLUAD™ Adjuvanted Trivalent**
  - Seqirus
  - 0.5 mL single-dose syringe

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**All influenza vaccines are stored in the refrigerator. Questions: Toll-free: 877-2Get-VFC (877-243-8832)**

- Multi-dose vials contain preservative and cannot be given to children younger than 3 years of age and pregnant women per California law (Health and Safety Code 124172).

For influenza vaccines licensed for both adults and children, see page 1.
Recommended Immunization Schedule for Adults Aged 19 Years or Older, United States, 2017

In February 2017, the Recommended Immunization Schedule for Adults Aged 19 Years or Older, United States, 2017 became effective, as recommended by the Advisory Committee on Immunization Practices (ACIP) and approved by the Centers for Disease Control and Prevention (CDC). The 2017 adult immunization schedule was also reviewed and approved by the following professional medical organizations:

- American College of Physicians (www.acponline.org)
- American Academy of Family Physicians (www.aafp.org)
- American College of Obstetricians and Gynecologists (www.acog.org)
- American College of Nurse-Midwives (www.midwife.org)

CDC announced the availability of the 2017 adult immunization schedule at www.cdc.gov/vaccines/schedules/hcp/index.html in the Morbidity and Mortality Weekly Report (MMWR). The schedule is published in its entirety in the Annals of Internal Medicine.2

The adult immunization schedule describes the age groups and medical conditions and other indications for which licensed vaccines are recommended. The 2017 adult immunization schedule consists of:

- Figure 1. Recommended immunization schedule for adults by age group
- Figure 2. Recommended immunization schedule for adults by medical condition and other indications
- Footnotes that accompany each vaccine containing important general information and considerations for special populations
- Table. Contraindications and precautions for vaccines routinely recommended for adults

Consider the following information when reviewing the adult immunization schedule:

- The figures in the adult immunization schedule should be read with the footnotes that contain important general information and information about vaccination of special populations.
- When indicated, administer recommended vaccines to adults whose vaccination history is incomplete or unknown.
- Increased interval between doses of a multi-dose vaccine does not diminish vaccine effectiveness; therefore, it is not necessary to restart the vaccine series or add doses to the series because of an extended interval between doses.
- Adults with immunocompromising conditions should generally avoid live vaccines, e.g., measles, mumps, and rubella vaccine. Inactivated vaccines, e.g., pneumococcal or inactivated influenza vaccines, are generally acceptable.
- Combination vaccines may be used when any component of the combination is indicated and when the other components of the combination vaccine are not contraindicated.
- The use of trade names in the adult immunization schedule is for identification purposes only and does not imply endorsement by the ACIP or CDC.

Details on vaccines recommended for adults and complete ACIP statements are available at www.cdc.gov/vaccines/hcp/acip-recs/index.html. Additional CDC resources include:

- A summary of information on vaccination recommendations, vaccination of persons with immunodeficiencies, preventing and managing adverse reactions, vaccination contraindications and precautions, and other information can be found in General Recommendations on Immunization at www.cdc.gov/mmwr/preview/mmwrhtml/rr6002a1.htm.
- Vaccine Information Statements that explain benefits and risks of vaccines are available at www.cdc.gov/vaccines/hcp/vis/index.html.
- Information and resources regarding vaccination of pregnant women are available at www.cdc.gov/vaccines/adults/rec-vac/pregnant.html.
- Information on travel vaccine requirements and recommendations is available at wwwnc.cdc.gov/travel/destinations/list.
- CDC Vaccine Schedules App for clinicians and other immunization service providers to download is available at www.cdc.gov/vaccines/schedules/hcp/schedule-app.html.
- Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger is available at www.cdc.gov/vaccines/schedules/hcp/index.html.

Report suspected cases of reportable vaccine-preventable diseases to the local or state health department.

Report all clinically significant post-vaccination reactions to the Vaccine Adverse Event Reporting System at www.vaers.hhs.gov or by telephone, 800-822-7967. All vaccines included in the 2017 adult immunization schedule except herpes zoster and 23-valent pneumococcal polysaccharide vaccines are covered by the Vaccine Injury Compensation Program. Information on how to file a vaccine injury claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382.

Submit questions and comments regarding the 2017 adult immunization schedule to CDC through www.cdc.gov/cdc-info or by telephone, 800-CDC-INFO (800-232-4636), in English and Spanish, 8:00am–8:00pm ET, Monday–Friday, excluding holidays.

The following acronyms are used for vaccines recommended for adults:

- HepA: hepatitis A vaccine
- HepA-HepB: hepatitis A and hepatitis B vaccines
- HepB: hepatitis B vaccine
- Hib: Haemophilus influenzae type b conjugate vaccine
- HPV vaccine: human papillomavirus vaccine
- HZV: herpes zoster vaccine
- IIV: inactivated influenza vaccine
- LAIV: live attenuated influenza vaccine
- MenACWY: serogroups A, C, W, and Y meningococcal conjugate vaccine
- MenB: serogroup B meningococcal vaccine
- MMR: measles, mumps, and rubella vaccine
- MPSV4: serogroups A, C, W, and Y meningococcal polysaccharide vaccine
- PCV13: 13-valent pneumococcal conjugate vaccine
- PPSV23: 23-valent pneumococcal polysaccharide vaccine
- RIV: recombinant influenza vaccine
- Td: tetanus and diphtheria toxoids
- Tdap: tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine
- VAR: varicella vaccine

1 MMWR Morb Mortal Wkly Rep. 2017;66(5). Available at www.cdc.gov/mmwr/volumes/66/wr/mm6605e2.htm?s_cid=mm6605e2_w.
Figures 1 and 2 should be read with the footnotes that contain important general information and considerations for special populations.

**Figure 1. Recommended immunization schedule for adults aged 19 years or older by age group, United States, 2017**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–21 years</th>
<th>22–26 years</th>
<th>27–59 years</th>
<th>60–64 years</th>
<th>≥ 65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Influenza</strong>¹</td>
<td></td>
<td></td>
<td></td>
<td>1 dose annually</td>
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<tr>
<td><strong>Td/Tdap</strong>²</td>
<td></td>
<td></td>
<td>Substitute Tdap for Td once, then Td booster every 10 yrs</td>
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<tr>
<td><strong>MMR³</strong></td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication</td>
<td></td>
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<tr>
<td><strong>VAR⁴</strong></td>
<td></td>
<td></td>
<td>2 doses</td>
<td></td>
<td></td>
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<tr>
<td><strong>HZV⁵</strong></td>
<td></td>
<td></td>
<td></td>
<td>1 dose</td>
<td></td>
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<tr>
<td><strong>HPV–Female</strong>⁶</td>
<td></td>
<td></td>
<td>3 doses</td>
<td></td>
<td></td>
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<tr>
<td><strong>HPV–Male</strong>⁶</td>
<td></td>
<td></td>
<td>3 doses</td>
<td></td>
<td></td>
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<tr>
<td><strong>PCV13⁷</strong></td>
<td></td>
<td></td>
<td></td>
<td>1 dose</td>
<td></td>
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<tr>
<td><strong>PPSV23⁷</strong></td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication</td>
<td>1 dose</td>
<td></td>
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<tr>
<td><strong>HepA⁸</strong></td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td><strong>HepB⁹</strong></td>
<td></td>
<td></td>
<td>3 doses</td>
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<tr>
<td><strong>MenACWY or MPSV4¹⁰</strong></td>
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<td></td>
<td>1 or more doses depending on indication</td>
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<tr>
<td><strong>MenB¹⁰</strong></td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
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<tr>
<td><strong>Hib¹¹</strong></td>
<td></td>
<td></td>
<td>1 or 3 doses depending on indication</td>
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<td></td>
</tr>
</tbody>
</table>

- Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection
- Recommended for adults with additional medical conditions or other indications
- No recommendation
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Pregnancy</th>
<th>Immuno-compromised (excluding HIV infection)</th>
<th>HIV infection CD4+ count (cells/μL)</th>
<th>Asplenia, persistent complement deficiencies</th>
<th>Kidney failure, end-stage renal disease, on hemodialysis</th>
<th>Heart or lung disease, chronic alcoholism</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
<th>Healthcare personnel</th>
<th>Men who have sex with men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
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<tr>
<td>Td/Tdap</td>
<td></td>
<td>1 dose Tdap each pregnancy</td>
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<tr>
<td>MMR</td>
<td>contraindicated</td>
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<tr>
<td>VAR</td>
<td>contraindicated</td>
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<td>HZV</td>
<td>contraindicated</td>
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<td>HPV–Female</td>
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<tr>
<td>HPV–Male</td>
<td>3 doses through age 26 yrs</td>
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<td>PCV13</td>
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<tr>
<td>PPSV23</td>
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<tr>
<td>HepA</td>
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<td>HepB</td>
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<td>MenACWY or MPSV4</td>
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<tr>
<td>Hib</td>
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<td>3 doses post-HSCT recipients only</td>
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</tbody>
</table>

- Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection
- Recommended for adults with additional medical conditions or other indications
- Contraindicated
- No recommendation

Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection.
Substitute Tdap for Td once, then Td booster every 10 yrs

Recommended for adults with additional medical conditions or other indications.

Contraindicated

No recommendation
Footnotes. Recommended immunization schedule for adults aged 19 years or older, United States, 2017

1. Influenza vaccination

General information
- All persons aged 6 months or older who do not have a contraindication should receive annual influenza vaccination with an age-appropriate formulation of inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV).

In addition to standard-dose IIV, available options for adults in specific age groups include: high-dose or adjudicated IV for adults aged 65 years or older, intradermal IV for adults aged 18 through 64 years, and RIV for adults aged 18 years or older.

Notes: Acceptable evidence of immunity to measles, mumps, or rubella (defined below) and receipt of all recommended doses of a deferent immunization series (described below) are needed for adults with human immunodeficiency virus (HIV) infection and CD4+ T-lymphocyte count ≥200 cells/μl who are at high risk for HIV-associated opportunistic infections. Pregnancy testing is not needed before administering HPV vaccine.

Special populations
- Pregnant women who do not have evidence of immunity to rubella should receive 1 dose of MMR upon completion or termination of pregnancy and before discharge from the healthcare facility; nonpregnant women of childbearing age without evidence of rubella immunity should receive 1 dose of MMR.

- Adults with primary or acquired immunodeficiency including malignant conditions affecting the bone marrow or lymphatic system, systemic immunosuppressive therapy, or cellular immunodeficiency should not receive MMR.

- Adults with human immunodeficiency virus (HIV) infection and CD4+ T-lymphocyte count ≥200 cells/μl should not receive MMR until at least 28 days after the last dose of HIV prophylaxis; adults with HIV infection and CD4+ T-lymphocyte count <200 cells/μl should not receive Tdap.

- Adults who work in healthcare facilities should receive 2 doses of MMR at least 28 days apart; healthcare personnel born before 1957 who are unvaccinated or lack laboratory evidence of immunity to mumps, rubella immunity, or laboratory confirmation of disease should be considered for vaccination with 2 doses of MMR at 28 days apart for measles or mumps, or 1 dose of MMR for rubella.

- Adults who are students in postsecondary educational institutions or plan to travel internationally should receive 2 doses of MMR at least 28 days apart.

- Adults who received inactivated (killed) measles vaccine or measles vaccine of unknown type during years 1963–1967 should be revaccinated with 1 or 2 doses of MMR.

- Adults who were vaccinated before 1979 with either inactivated mumps vaccine or mumps vaccine of unknown type who are at high risk for mumps infection, e.g., work in a healthcare facility, should be considered for revaccination with 2 doses of MMR at least 28 days apart.

Notes: Information on the use of Td or Tdap as tetanus prophylaxis in pregnant women and breastfeeding mothers is available at www.cdc.gov/tetanus for adults aged 22 through 64 years may be vaccinated with a 3-dose series of HPV vaccine at 0, 1–2, and 6 months.

2. Tetanus, diphtheria, and acellular pertussis vaccination

General information
- Adults who have not received tetanus and diphtheria toxoids and acellular pertussis vaccine (Tdap) or for whom pertussis vaccination status is unknown should receive 1 dose of Tdap followed by a tetanus and diphtheria toxoids (Td) booster every 10 years. Tdap should be administered regardless of when a tetanus or diphtheria toxoid-containing vaccine was last received.

- Adults with an unknown or incomplete history of a 3-dose primary series with tetanus and diphtheria toxoid-containing vaccines should complete the primary series that includes 1 dose of Tdap. Unvaccinated adults should receive the first 2 doses at least 4 weeks apart and the third dose 6–12 months after the second dose.

- Notes: Information on the use of Td or Tdap as tetanus prophylaxis in wound management is available at www.cdc.gov/mmwr/preview/mmwrhtml/r5517a1.htm.

Special populations
- Pregnant women should receive 1 dose of Tdap during each pregnancy, preferably during the early part of gestational weeks 27–36, regardless of prior history of receiving Tdap.

3. Measles, mumps, and rubella vaccination

General information
- Adults born in 1957 or later without acceptable evidence of immunity to measles, mumps, or rubella (defined below) should receive 1 dose of measles, mumps, and rubella vaccine (MMR) unless they have a medical contraindication to the vaccine, e.g., pregnancy or severe immunodeficiency.

- Notes: Acceptable evidence of immunity to measles, mumps, or rubella in adults is: born before 1957, documentation of receipt of MMR, or laboratory evidence of immunity or disease. Documentation of healthcare provider-diagnosed disease without laboratory confirmation is not acceptable evidence of immunity.

Special populations
- Pregnant women who do not have evidence of immunity to rubella should receive 1 dose of MMR upon completion or termination of pregnancy and before discharge from the healthcare facility; nonpregnant women of childbearing age without evidence of rubella immunity should receive 1 dose of MMR.

- Adults with primary or acquired immunodeficiency including malignant conditions affecting the bone marrow or lymphatic system, systemic immunosuppressive therapy, or cellular immunodeficiency should not receive MMR.

- Adults with human immunodeficiency virus (HIV) infection and CD4+ T-lymphocyte count ≥200 cells/μl should not receive MMR unless they have a medical contraindication, e.g., pregnancy or severe immunodeficiency.

- Adults with malignant conditions, including those that affect the bone marrow or lymphatic system or who receive systemic immunosuppressive therapy, should not receive HZV.

- Adults with human immunodeficiency virus (HIV) infection and CD4+ T-lymphocyte count <200 cells/μl should not receive HZV.

5. Herpes zoster vaccination

General information
- Adults aged 60 years or older should receive 1 dose of herpes zoster vaccine (HZV), regardless of whether they had a prior episode of herpes zoster.

Special populations
- Adults aged 60 years or older with chronic medical conditions may receive HZV unless they have a medical contraindication, e.g., pregnancy or severe immunodeficiency.

- Adults with malignant conditions, including those that affect the bone marrow or lymphatic system or who receive systemic immunosuppressive therapy, should not receive HZV.

6. Human papillomavirus vaccination

General information
- Adult females through age 26 years and adult males through age 21 years who have not received any human papillomavirus (HPV) vaccine should receive a 3-dose series of HPV vaccine at 0, 1–2, and 6 months. Men aged 22 through 26 years may be vaccinated with a 3-dose series of HPV vaccine at 0, 1–2, and 6 months.

- Adult females through age 26 years and adult males through age 21 years (and males aged 22 through 26 years who may receive HPV vaccination) who initiated the HPV vaccination series before age 15 years and received 2 doses at least 5 months apart are considered adequately vaccinated and do not need an additional dose of HPV vaccine.

- Adult females through age 26 years and adult males through age 21 years (and males aged 22 through 26 years who may receive HPV vaccination) who initiated the HPV vaccination series before age 15 years and received only 1 dose, or 2 doses less than 5 months apart, are not considered adequately vaccinated and should receive 1 additional dose of HPV vaccine.

- Notes: HPV vaccination is routinely recommended for children at age 11 or 12 years for adults with human immunodeficiency virus (HIV) infection, should receive a 3-dose series of HPV vaccine at 0, 1–2, and 6 months.

- Adults with human immunodeficiency virus (HIV) infection and CD4+ T-lymphocyte count ≥200 cells/μl should not receive VAR.

- Adults with human immunodeficiency virus (HIV) infection and CD4+ T-lymphocyte count ≥200 cells/μl may receive 2 doses of VAR 3 months apart. Adults aged 22 through 26 years may be vaccinated with a 3-dose series of HPV vaccine at 0, 1–2, and 6 months.

- Notes: Immunocompromising conditions for which a 3-dose series of HPV vaccine is indicated are primary or secondary immunocompromising conditions that might reduce cell-mediated or humoral immunity, e.g., B-lymphocyte antibody deficiencies, complete or partial T-lymphocyte defects, HIV infection, malignant neoplasm, transplantation, autoimmune disease, and immunosuppressive therapy.
8. Hepatitis A vaccination

General information

- Adults who seek protection from hepatitis A virus infection may receive a 2-dose series of single-antigen hepatitis A vaccine (HepA) at either 0 and 1–2 months or 0 and 6–18 months (Vaqta). Adults may also receive a combined hepatitis A and hepatitis B vaccine (HepA-HepB) (Twinrix) as a 3-dose series at 0, 1, and 6 months. Acknowledgment of a specific risk factor by those who seek protection is not needed.

Special populations

- Adults with any of the following indications should receive a HepA series: have chronic liver disease, receive clotting factor concentrates, men who have sex with men, use injection or non-injection drugs, or work with hepatitis A virus-infected primates or in a hepatitis A research laboratory setting.
- Adults who travel in countries with high or intermediate levels of endemic hepatitis A infection or anticipate close personal contact with an international adoptee, e.g., reside in the same household or regularly babysit, from a country with high or intermediate level of endemic hepatitis A infection within the first 60 days of arrival in the United States should receive a HepA series.

9. Hepatitis B vaccination

General information

- Adults who seek protection from hepatitis B virus infection may receive a 3-dose series of single-antigen hepatitis B vaccine (HepB) (Engerix-B, Recombivax HB) at 0, 1, and 6 months. Adults may also receive a combined hepatitis A and hepatitis B vaccine (HepA-HepB) (Twinrix) at 0, 1, and 6 months. Acknowledgment of a specific risk factor by those who seek protection is not needed.

Special populations

- Adults at risk for hepatitis B virus infection by sexual exposure should receive a HepB series, including sex partners of hepatitis B surface antigen (HBsAg)-positive persons, sexually active persons who are in a mutually monogamous relationship, persons seeking evaluation or treatment for a sexually transmitted infection, and men who have sex with men (MSM).
- Adults at risk for hepatitis B virus infection by percutaneous or mucosal exposure to blood should receive a HepB series, including adults who are recent users of injectors or drug paraphernalia, household contacts of HBsAg-positive persons, residents and staff of facilities for developmentally delayed children, healthcare workers, and public safety workers at risk for exposure to blood or blood-contaminated body fluids, younger than age 60 years with diabetes mellitus, and age 60 years or older with diabetes mellitus at the discretion of the treating clinician.
- Adults with chronic liver disease, including, but not limited to, hepatitis B virus infection, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, and an alanine aminotransferase (ALT) or aspartate aminotransferase (AST) level greater than twice the upper limit of normal should receive a HepB series.
- Adults with end-stage renal disease including those on pre-dialysis care, hemodialysis, peritoneal dialysis, and home dialysis should receive a HepB series. Adults on hemodialysis should receive a 3-dose series of 40 μg Recombivax HB at 0, 1, and 6 months or a 4-dose series of 40 μg Engerix-B at 0, 1, 2, and 6 months.
- Adults with human immunodeficiency virus (HIV) infection should receive a HepB series, including children born to HIV-infected women, pregnant women who are at risk for hepatitis B virus infection during pregnancy, e.g., having more than one sex partner during the previous six months, been evaluated or treated for a sexually transmitted infection, recent or current injection drug use, or an HBsAg-positive sex partner, should receive a HepB series.
- Pregnant women who are at risk for hepatitis B virus infection during pregnancy, e.g., having more than one sex partner during the previous six months, been evaluated or treated for a sexually transmitted infection, recent or current injection drug use, or an HBsAg-positive sex partner, should receive a HepB series.
- International travelers to regions with high or intermediate levels of endemic hepatitis B virus infection should receive a HepB series.
- Adults in the following settings are at risk for hepatitis B virus infection and should receive a HepB series: sexually transmitted disease treatment facilities, facilities providing drug-abuse treatment and prevention services, healthcare settings targeting services to persons who inject drugs, correctional facilities, healthcare settings targeting services to MSM, hemodialysis facilities and end-stage renal disease programs, and institutions and nonresidential day care facilities for developmentally disabled persons.
Table. Contraindications and precautions for vaccines recommended for adults aged 19 years or older*

The Advisory Committee on Immunization Practices (ACIP) recommendations and package inserts for vaccines provide information on contraindications and precautions related to vaccines. Contraindications are conditions that increase the risk of a serious adverse reaction in vaccine recipients and the vaccine should not be administered when a contraindication is present. Precautions should be reviewed for potential risks and benefits for vaccine recipients. For a person with a severe allergy to latex, e.g., anaphylaxis, vaccines supplied in vials or syringes that contain natural rubber latex should not be administered unless the benefit of vaccination clearly outweighs the risk for a potential allergic reaction. For latex allergies other than anaphylaxis, vaccines supplied in vials or syringes that contain dry, natural rubber or natural rubber latex may be administered.

Contraindications and precautions for vaccines routinely recommended for adults

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Contraindications</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>All vaccines routinely recommended for adults</td>
<td>• Severe reaction, e.g., anaphylaxis, after a previous dose or to a vaccine component</td>
<td>• Moderate or severe acute illness with or without fever</td>
</tr>
</tbody>
</table>

Additional contraindications and precautions for vaccines routinely recommended for adults

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Additional Contraindications</th>
<th>Additional Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIṾ</td>
<td>• History of Guillain-Barré Syndrome within 6 weeks after previous influenza vaccination</td>
<td>• Egg allergy other than hives, e.g., angioedema, respiratory distress, lightheadedness, or recurrent emesis; or required epinephrine or another emergency medical intervention (IIV may be administered in an inpatient or outpatient medical setting and under the supervision of a healthcare provider who is able to recognize and manage severe allergic conditions)</td>
</tr>
<tr>
<td>RIṾ</td>
<td>• Severe reaction, e.g., anaphylaxis, after a previous dose or to a vaccine component</td>
<td>• History of Guillain-Barré Syndrome within 6 weeks after previous influenza vaccination</td>
</tr>
<tr>
<td>LAIṾ</td>
<td>• LAIV should not be used during 2016–2017 influenza season</td>
<td>• LAIV should not be used during 2016–2017 influenza season</td>
</tr>
<tr>
<td>Tdap/Td</td>
<td>• For pertussis-containing vaccines: encephalopathy, e.g., coma, decreased level of consciousness, or prolonged seizures, not attributable to another identifiable cause within 7 days of administration of a previous dose of a vaccine containing tetanus or diphtheria toxoid or acellular pertussis</td>
<td>• Guillain-Barré Syndrome within 6 weeks after a previous dose of tetanus toxoid-containing vaccine</td>
</tr>
<tr>
<td>MMR²</td>
<td>• Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy², human immunodeficiency virus (HIV) infection with severe immunocompromise</td>
<td>• Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)⁴</td>
</tr>
<tr>
<td>VAR²</td>
<td>• Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy², HIV infection with severe immunocompromise</td>
<td>• History of thrombocytopenia or thrombocytopenic purpura</td>
</tr>
<tr>
<td>HZV²</td>
<td>• Severe immunodeficiency, e.g., hematologic and solid tumors, chemotherapy, congenital immunodeficiency or long-term immunosuppressive therapy², HIV infection with severe immunocompromise</td>
<td>• Need for tuberculin skin testing⁵</td>
</tr>
<tr>
<td>PCV13⁵</td>
<td>• Severe allergic reaction to any vaccine containing diphtheria toxoid</td>
<td>• Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)⁴</td>
</tr>
</tbody>
</table>


2. MMR may be administered together with VAR or HZV on the same day. If not administered on the same day, separate live vaccines by at least 28 days.

3. Immunosuppressive steroid dose is considered to be daily receipt of 20 mg or more prednisone or equivalent for two or more weeks. Vaccination should be deferred for at least 1 month after discontinuation of immunosuppressive steroid therapy. Providers should consult ACIP recommendations for complete information on the use of specific live vaccines among persons on immune-suppressing medications or with immune suppression because of other reasons.

4. Vaccine should be deferred for the appropriate interval if replacement immune globulin products are being administered. See: CDC. General recommendations on immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2011;60(No. RR-2). Available at www.cdc.gov/mmwr/volumes/60/rr/rr6002a1.htm.

5. Measles vaccination may temporarily suppress tuberculin reactivity. Measles-containing vaccine may be administered on the same day as tuberculin skin testing, or should be postponed for at least 4 weeks after vaccination.


Acronyms of vaccines recommended for adults

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Acronym</th>
</tr>
</thead>
<tbody>
<tr>
<td>HepA</td>
<td>hepatitis A vaccine</td>
</tr>
<tr>
<td>HepA-HepB</td>
<td>hepatitis A and hepatitis B vaccines</td>
</tr>
<tr>
<td>HepB</td>
<td>hepatitis B vaccine</td>
</tr>
<tr>
<td>Hib</td>
<td>Haemophilus influenzae type b conjugate vaccine</td>
</tr>
<tr>
<td>HPV vaccine</td>
<td>human papillomavirus vaccine</td>
</tr>
<tr>
<td>HZV</td>
<td>herpes zoster vaccine</td>
</tr>
<tr>
<td>IIV</td>
<td>inactivated influenza vaccine</td>
</tr>
<tr>
<td>LAIV</td>
<td>live attenuated influenza vaccine</td>
</tr>
<tr>
<td>MenACWY</td>
<td>serogroups A, C, W, and Y meningococcal conjugate vaccine</td>
</tr>
<tr>
<td>MenB</td>
<td>serogroup B meningococcal vaccine</td>
</tr>
<tr>
<td>MMR</td>
<td>measles, mumps, and rubella vaccine</td>
</tr>
<tr>
<td>MPSV4</td>
<td>serogroups A, C, W, and Y meningococcal polysaccharide vaccine</td>
</tr>
<tr>
<td>PCV13</td>
<td>13-valent pneumococcal conjugate vaccine</td>
</tr>
<tr>
<td>PPSV23</td>
<td>23-valent pneumococcal polysaccharide vaccine</td>
</tr>
<tr>
<td>Td</td>
<td>tetanus and diphtheria toxoids</td>
</tr>
<tr>
<td>Tdap</td>
<td>tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine</td>
</tr>
<tr>
<td>VAR</td>
<td>varicella vaccine</td>
</tr>
</tbody>
</table>