The 2023 Adult Immunization Schedule and other CDC Resources

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LCDR, United States Public Health Service
Immunization Services Division

NAISS Summit Call
March 9, 2023
Immunization schedule: Overview
Immunization Schedules: Overview

- Two separate schedules
  - Child and adolescent schedule (age birth through 18 years)
  - Adult schedule (age 19 years or older)
- Updated each year
  - Represents current, approved ACIP policy
  - Designed for implementation of ACIP policy
- Published in February
  - MMWR Notice to Readers – announcement of availability on ACIP website
  - Annals of Internal Medicine – published in entirety (adult schedule only)
## Approving Partners

<table>
<thead>
<tr>
<th>Child/Adolescent Schedule</th>
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<th>Adult Schedule</th>
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<tbody>
<tr>
<td>• American Academy of Pediatrics (AAP)</td>
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2023 Recommended Adult Immunization Schedule
Major Updates:
2023 Adult Immunization Schedule

Changes to Tables
- Cover Page
- Table 1
- Table 2

Changes to Vaccination Notes
- COVID-19
- Hepatitis B
- Influenza
- Measles, Mumps and Rubella
- Meningococcal
- Pneumococcal
- Polio
- Tetanus, diphtheria, and pertussis
- Zoster

Changes to Appendix
- Column Header
- Influenza
- Hepatitis B
- Human Papillomavirus
Recommended Adult Immunization Schedule for ages 19 years or older

2023

How to use the adult immunization schedule

1. Determine recommended vaccinations by age (Table 1).
2. Assess need for additional recommended vaccinations by medical condition or other indication (Table 2).
3. Review vaccine types, frequencies, intervals, and considerations for special situations (Notes).
4. Review contraindications and precautions for vaccine types (Appendix).

Vaccines in the Adult Immunization Schedule*

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Abbreviation(s)</th>
<th>Trade name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19 vaccine</td>
<td>1SARS-CoV-2mRNA</td>
<td>Comirnaty®, BioNTech COVID-19 Vaccine</td>
</tr>
<tr>
<td></td>
<td>2SARS-CoV-2mRNA</td>
<td>Pfizer-BioNTech COVID-19 Vaccine, Barely</td>
</tr>
<tr>
<td></td>
<td>1SARS-CoV-2 vaccine</td>
<td>Novavax COVID-19 Vaccine</td>
</tr>
<tr>
<td>Haemophilus influenzae type b vaccine</td>
<td>HibB</td>
<td>ActHIB®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hibrix®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PedvaxHib®</td>
</tr>
<tr>
<td>Hepatitis A vaccine</td>
<td>HepA</td>
<td>Havrix®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vaqta®</td>
</tr>
<tr>
<td>Hepatitis A and hepatitis B vaccine</td>
<td>HepA-HepB</td>
<td>Feranex®</td>
</tr>
<tr>
<td>Hepatitis B vaccine</td>
<td>HepB</td>
<td>Engerix®B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heplisav®</td>
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<tr>
<td></td>
<td></td>
<td>Prevenar®B</td>
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<tr>
<td></td>
<td></td>
<td>Recombivax HB®</td>
</tr>
<tr>
<td>Human papillomavirus vaccine</td>
<td>HPV V</td>
<td>Gardasil 9®</td>
</tr>
<tr>
<td>Influenza vaccine (inactivated)</td>
<td>IIV4</td>
<td>Many brands</td>
</tr>
<tr>
<td>Influenza vaccine (live, attenuated)</td>
<td>LAIV4</td>
<td>FluMist® Quadrivalent</td>
</tr>
<tr>
<td></td>
<td>RiftVax®</td>
<td>Flublok® Quadrivalent</td>
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<tr>
<td>Influenza vaccine (recombinant)</td>
<td>RV4</td>
<td>M-M-R II®</td>
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<td></td>
<td></td>
<td>Fluarix®</td>
</tr>
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<td>Meningococcal serogroups A, C, W, Y vaccine</td>
<td>MenACYW-D</td>
<td>Menactra®</td>
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<td></td>
<td>MenACYW-CRM</td>
<td>Meru®</td>
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<td>MenACWY-TT</td>
<td>MenQuad®</td>
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<td>Meningococcal serogroup B vaccine</td>
<td>MenB-4C</td>
<td>Bexsero®</td>
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<td></td>
<td>MenB-FLFab</td>
<td>Trumenba®</td>
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<td>Pneumococcal conjugate vaccine</td>
<td>PCV15</td>
<td>Vaxactics™</td>
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<td></td>
<td>PCV20</td>
<td>Prevnar 20™</td>
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<tr>
<td>Pneumococcal polysaccharide vaccine</td>
<td>PPSV23</td>
<td>Pneumovax 23®</td>
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<tr>
<td>Poliovirus vaccine</td>
<td>IPV</td>
<td>IPV®</td>
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<tr>
<td>Tetanus and diphtheria toxoids</td>
<td>Td</td>
<td>Tetanus®</td>
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<tr>
<td></td>
<td></td>
<td>Tdipvax®</td>
</tr>
<tr>
<td>Tetanus and diphtheria toxoids and acellular pertussis vaccine</td>
<td>Tdap</td>
<td>Adacel®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Boostrix®</td>
</tr>
<tr>
<td>Varicella vaccine</td>
<td>VAR</td>
<td>Varivax®</td>
</tr>
<tr>
<td>Zoster vaccine, recombinant</td>
<td>ZV</td>
<td>Shingrix®</td>
</tr>
</tbody>
</table>

*Administer recommended vaccines if vaccination history is incomplete or unknown. Do not restart or add doses to vaccine series if there are extended intervals between doses. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

Report

- Suspected cases of reportable vaccine-preventable diseases or outbreaks to the local or state health department.
- Clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System at www.vaers.hhs.gov or 800-822-7967

Injury claims

All vaccines included in the adult immunization schedule except PPSV23, RV, and COVID-19 vaccines are covered by the Vaccine Injury Compensation Program. COVID-19 vaccines that are authorized or approved by the FDA are covered by the Countermeasures Injury Compensation Program. For more information, see www.hrsa.gov/vaccinecompensation or www.hrsa.gov/cdc.

Questions or comments

Contact www.cdc.gov/cdc-info or 800-CDC-INFO (800-332-4636, in English or Spanish, 8 a.m.–8 p.m. ET, Monday through Friday, excluding holidays).

Helpful information

- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/vaccines/hcp/acip-recs/index.html
- General Best Practice Guidelines for Immunization (including contraindications and precautions): www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/vacc-pis/index.html
- Travel vaccine recommendations: www.cdc.gov/travel
- Recommended Child and Adolescent Immunization Schedule, United States, 2023: www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

www.cdc.gov
Recommended Adult Immunization Schedule
for ages 19 years or older

How to use the adult immunization schedule

1. Determine recommended vaccinations by
   age (Table 1).
2. Access need for additional
   recommended vaccinations by medical condition
   or other indication (Table 2).
3. Review vaccine types, frequencies, intervals, and
   considerations for special situations
   (Notes).
4. Review contraindications and precautions
   for vaccine types
   (Appendix).

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<tbody>
<tr>
<td>COVID-19 vaccine</td>
<td>16COV-19NA</td>
<td>Comirnaty® (Pfizer-BioNTech COVID-19 Vaccine)</td>
</tr>
<tr>
<td></td>
<td>2COV-19NA</td>
<td>Moderna COVID-19 Vaccine</td>
</tr>
<tr>
<td>Haemophilus influenza type b vaccine</td>
<td>Hib</td>
<td>Hibvac®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pedvax HIB®</td>
</tr>
<tr>
<td>Hepatitis A vaccine</td>
<td>HepA</td>
<td>Vaqta®</td>
</tr>
<tr>
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<td>HepA, HepB</td>
<td>Tecovax®</td>
</tr>
<tr>
<td>Hepatitis B vaccine</td>
<td>HepB</td>
<td>Engerix® B</td>
</tr>
<tr>
<td>Human papillomavirus vaccine</td>
<td>HPV</td>
<td>Gardasil® 9</td>
</tr>
<tr>
<td>Influenza vaccine (live, inactivated)</td>
<td>IIV</td>
<td>VaxFlu®</td>
</tr>
<tr>
<td>Influenza vaccine (live, attenuated)</td>
<td>LAIV</td>
<td>FluMist® Quadrivalent</td>
</tr>
<tr>
<td>Meningococcal serogroups A, C, W, Y vaccine</td>
<td>MenACWY</td>
<td>Menveo®</td>
</tr>
<tr>
<td>Meningococcal serogroup B vaccine</td>
<td>MenB</td>
<td>Bexsero®</td>
</tr>
<tr>
<td>Pneumococcal conjugate vaccine</td>
<td>PCV13</td>
<td>Truminal®</td>
</tr>
<tr>
<td>Pneumococcal polysaccharide vaccine</td>
<td>PCV20</td>
<td>Velavac®</td>
</tr>
<tr>
<td>Poliovaccine</td>
<td>IPV</td>
<td>Polio®</td>
</tr>
<tr>
<td>Tetanus and diphtheria toxoids</td>
<td>Td</td>
<td>Tetanix®</td>
</tr>
<tr>
<td>Tetanus and diphtheria toxoids and acellular</td>
<td>Td/Ad</td>
<td>Adacel®</td>
</tr>
<tr>
<td>Pertussis vaccine</td>
<td>Var</td>
<td>Varivax®</td>
</tr>
<tr>
<td>Zoster vaccine, recombinant</td>
<td>VarZ</td>
<td>Shingrix®</td>
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Report

- Suspected cases of reportable vaccine-preventable diseases or outbreaks to:
  - the local or state health department,
  - CDC at 770-CDC (770-232-2322), Monday through Friday, 8 a.m.–8 p.m. ET.

Injury claims

All vaccines included in the adult immunization schedule except PPSV23, RZV, and COVID-19 vaccines are covered by the
Vaccine Injury Compensation Program. COVID-19 vaccines that are authorized or approved by the FDA are covered by the
Countermeasures Injury Compensation Program. For more information, see

Questions or comments

Contact www.cdc.gov/vaccines or 800-CDC-INFO (800-232-4636), in English or Spanish, 8 a.m.–8 p.m. ET, Monday through Friday, excluding holidays.

Download the CDC Vaccine Schedules app for providers at
www.cdc.gov/vaccines/schedules/hcp/schedule-app.html.

Helpful information

- Complete Advisory Committee on Immunization Practices (ACIP) recommendations:
  www.cdc.gov/vaccines/hcp/recs/index.html
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  www.cdc.gov/vaccines/hcp/pubs/general-guidelines.html
- Vaccination information: www.cdc.gov/vaccines/hcp/pubs/vts/index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases
  including case identification and outbreak responses
- Travel vaccine recommendations: www.cdc.gov/travel
- Recommended Child and Adolescent Immunization Schedule, United States, 2023
  www.cdc.gov/vaccines/schedules/hcp/child-ado.html
- ACIP Shared Clinical Decision-Making Recommendations
  www.cdc.gov/vaccines/acip/acip-vaccine-recom.html

U.S. Department of Health and Human Services
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Recommended Adult Immunization Schedule
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How to use the adult immunization schedule

1. Determine recommended vaccinations by age (Table 1).  
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<td>bCOV-19 mRNA</td>
<td>Comirnaty™, mRNA COVID-19 Vaccine SpikePro™, Moderna COVID-19 Vaccine Spikejet™</td>
</tr>
<tr>
<td>Influenza vaccine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus vaccine</td>
<td>HPV</td>
<td>Gardasil®</td>
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<tr>
<td>Influenza vaccine (activated)</td>
<td></td>
<td>Fluarix®</td>
</tr>
<tr>
<td>Meningococcal meningitis vaccine</td>
<td>MenACWY-CRM</td>
<td>Menveo®</td>
</tr>
<tr>
<td>Meningococcal meningitis vaccine</td>
<td>MenACYW-135</td>
<td>Menomune®</td>
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<td>Pneumococcal conjugate vaccine</td>
<td>PCV13</td>
<td>Prevenar® 13™</td>
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<td>PPSV23</td>
<td>Pneumovax® 23</td>
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<td>Tetanex®</td>
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<td>Varicella vaccine</td>
<td>VZV</td>
<td>Varivax®</td>
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<td>Zoster vaccine, recombinant</td>
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CDC

Download the CDC Vaccine Schedules app for providers at www.cdc.gov/vaccines/schedules/hcp/schedule-ld.html.

Helpful information

- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/vaccines/hcp/advice/index.html
- General Best Practice Guidelines for Immunization (including contraindications and precautions): www.cdc.gov/vaccines/hcp/advice/guidance/guidance.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/advice/statements.html
- Travel vaccine recommendations: www.cdc.gov/travel
- Recommended Child and Adolescent Immunization Schedule, United States, 2023: www.cdc.gov/vaccines/schedules/hcp/child-ad-2023.html

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Scan QR code for access to online schedule
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<td>Comirnaty® (BioNTech COVID-19 Vaccine)</td>
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<tr>
<td></td>
<td>24COV-WRNA</td>
<td>mRNA Vaccine COVID-19 (Moderna)</td>
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<td>HEP-B vaccine</td>
<td>HepB</td>
<td>AstraZeneca®</td>
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<tr>
<td>HEP-A vaccine</td>
<td>HepA</td>
<td>Vaxart®</td>
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<td>HEP-B vaccine</td>
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<td>Vaxart®</td>
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<td>Human papillomavirus vaccine</td>
<td>HPV</td>
<td>Gardasil®</td>
</tr>
<tr>
<td>INFLUENZA vaccine (Inactivated)</td>
<td>IIV4</td>
<td>Fluzone® Fluzone Protect Plus®</td>
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<tr>
<td>INFLUENZA vaccine (Live, attenuated)</td>
<td>LAIV</td>
<td>Fluzone® Fluzone Protect Plus®</td>
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<tr>
<td>INFLUENZA vaccine (Recombinant)</td>
<td>RIV4</td>
<td>Fluzone® Fluzone Protect Plus®</td>
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<tr>
<td>Meningococcal conjugate vaccine</td>
<td>MCV4V</td>
<td>MenAfriVac®</td>
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<td>PCV13</td>
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<tr>
<td>Poliovirus vaccine</td>
<td>IPV</td>
<td>Oral Poliovirus Vaccine (OPV)</td>
</tr>
<tr>
<td>Tetanus and diphtheria toxoids vaccine</td>
<td>Tetra</td>
<td>Tetany®</td>
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Questions or comments?
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Helpful information:
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- General Practice Guidelines for Immunization, including contraindications and precautions: www.cdc.gov/vaccines/hcp/policies/guidelines/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/pubs/4/policies-index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases, including case identification and outbreak responses: www.cdc.gov/vaccines/hcp/pubs/vsp-mundualmanual.html
- Travel vaccine recommendations: www.cdc.gov/travel
- Recommended Adult Immunization Schedule, United States, 2023: www.cdc.gov/vaccines/hcp/adult/vaccineschedule.html

*Advisory recommended vaccines if vaccination history is incomplete or unknown. Do not start or add dose to vaccine series if there are extended intervals between doses. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.
Recommended Adult Immunization Schedule
for ages 19 years or older

UNITED STATES
2023

How to use the adult immunization schedule

1. Determine recommended vaccinations by age (Table 1).
2. Access need for additional recommended vaccinations by medical condition or other indication (Table 2).
3. Review vaccine types, frequencies, intervals, and considerations for special situations (Notes).
4. Review contraindications and precautions for vaccine types (Appendix).

Vaccines in the Adult Immunization Schedule*

**COVID-19 vaccine**
1. Covishield®/COVID-19 Vaccine SARS-CoV-2/Moderna COVID-19 Vaccine
2. Moderna COVID-19 Vaccine, Bivalent
3. Johnson & Johnson COVID-19 Vaccine

**Hepatitis A vaccine**
HepA

**Hepatitis A and hepatitis B vaccine**
HepA/Hepl A

**Hepatitis B vaccine**
Hepl B

**Human papillomavirus vaccine**
HPV

**Influenza vaccine (inactivated)**
IVI

**Influenza vaccine (live, attenuated)**
LAIV

**Influenza vaccine (recombinant)**
RVIV

**Measles, mumps, and rubella vaccine**
MMR

**Meningococcal serogroups A, C, W, Y vaccine**
MenACWY-D

**Meningococcal serogroup B vaccine**
MenB-4C

**Pneumococcal conjugate vaccine**
PCV13

**Pneumococcal polysaccharide vaccine**
PPSV23

**Poliovirus vaccine**
IPV

**Tetanus and diphtheria toxoids**
Td

**Tetanus and diphtheria toxoids and acellular pertussis vaccine**
Tdap

**Varicella vaccine**
VAR

**Zoster vaccine, recombinant**
RZV

*See additional vaccines in the winter season.

Questions or comments
Contact www.cdc.gov/cdcinfo or 800-CDC-INFO (800-232-4636) in English or Spanish, 8 a.m. to 8 p.m. ET, Monday through Friday, excluding holidays.

Scanned with a smartphone

**Helpful information**
- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/vaccines/recs/index.html
- General Best Practice Guidelines for Immunization (including contraindications and precautions): www.cdc.gov/vaccines/recs/general/index.html
- Vaccine information statements: www.cdc.gov/vaccines/html/vs/index.html
- Travel vaccine recommendations: www.cdc.gov/travel

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Scan QR code for access to online schedule

**Report**
- Suspected cases of reportable vaccine-preventable diseases or outbreaks to the local or state health department.
- Clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System at www.vaers.hhs.gov or 800-822-7970.

Injury claims
- All vaccines included in the adult immunization schedule except PPSV23, RZV, and COVID-19 vaccines are covered by the Vaccine Injury Compensation Program. COVID-19 vaccines that are authorized or approved by the FDA are covered by the Countermeasures Injury Compensation Program. For more information, see www.hrsa.gov/vaccinecompensation or www.hrsa.gov/dcp.
Recommended Adult Immunization Schedule
for ages 19 years or older

UNITED STATES
2023

How to use the adult immunization schedule

1. Determine recommended vaccinations by age (Table 1).
2. Access need for additional recommended vaccinations by medical condition or other indication (Table 2).
3. Review vaccine types, frequencies, intervals, and considerations for special situations (Notes).
4. Review contraindications and precautions for vaccine types (Appendix).

Vaccines in the Adult Immunization Schedule*

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Abbreviation(s)</th>
<th>Trade name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19 vaccine</td>
<td>1vCoV-mRNA</td>
<td>Comirnaty®, Pfizer-BioNTech</td>
</tr>
<tr>
<td></td>
<td></td>
<td>COVID-19 Vaccine</td>
</tr>
<tr>
<td></td>
<td>2vCoV-mRNA</td>
<td>Moderna COVID-19 Vaccine (Biontech)</td>
</tr>
<tr>
<td></td>
<td>1vCoV-S</td>
<td>mRNA COVID-19 Vaccine, Bivalent</td>
</tr>
<tr>
<td>Neomartiglu influenza type b vaccine</td>
<td>Hib</td>
<td>ActHIB®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hiberox®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PedvaxHIB®</td>
</tr>
<tr>
<td>Vaccine</td>
<td>HepA</td>
<td>Hepatitis A vaccine</td>
</tr>
<tr>
<td></td>
<td>HepA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HepA/HepB</td>
<td>Twinrix®</td>
</tr>
<tr>
<td></td>
<td>HepB</td>
<td></td>
</tr>
<tr>
<td>Vaccine</td>
<td>HepB</td>
<td>Engerix®B®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HepBiliv®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PediaVax®B®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recombivax HB®</td>
</tr>
<tr>
<td>Vaccine</td>
<td>HPV</td>
<td>Gardasil 9®</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaccine</td>
<td>Influenza</td>
<td>Fluvir®</td>
</tr>
<tr>
<td></td>
<td>Influenza</td>
<td>Fluvir®</td>
</tr>
<tr>
<td></td>
<td>Influenza</td>
<td>FluMist® Quadrivalent</td>
</tr>
<tr>
<td>Vaccine</td>
<td>Measles, mumps,</td>
<td>MMR</td>
</tr>
<tr>
<td></td>
<td>and rubella</td>
<td></td>
</tr>
<tr>
<td>Vaccine</td>
<td>Meningococcal</td>
<td>MenACWY-2®</td>
</tr>
<tr>
<td></td>
<td>A, C, W, Y vaccine</td>
<td>MenACWY-CRM®</td>
</tr>
<tr>
<td></td>
<td>Meningococcal</td>
<td>MenACWY-4C®</td>
</tr>
<tr>
<td></td>
<td>B vaccine</td>
<td>MenACWY-TT®</td>
</tr>
<tr>
<td></td>
<td>Pneumococcal</td>
<td>PCV15</td>
</tr>
<tr>
<td>Vaccine</td>
<td>conjugate</td>
<td>Pneumovax®</td>
</tr>
<tr>
<td></td>
<td>Vaccine</td>
<td>Prevnar® 20®</td>
</tr>
<tr>
<td>Vaccine</td>
<td>Pneumococcal</td>
<td>Pneumovax 23®</td>
</tr>
<tr>
<td></td>
<td>polysaccharide</td>
<td>PCV®</td>
</tr>
<tr>
<td>Vaccine</td>
<td>Poliovirus</td>
<td>IPV</td>
</tr>
<tr>
<td>Vaccine</td>
<td>Tetanus and</td>
<td>Td</td>
</tr>
<tr>
<td></td>
<td>diphtheria</td>
<td>Td</td>
</tr>
<tr>
<td></td>
<td>toxoids</td>
<td>Td</td>
</tr>
<tr>
<td>Vaccine</td>
<td>Tetanus and</td>
<td>Td</td>
</tr>
<tr>
<td></td>
<td>diphtheria</td>
<td>Td</td>
</tr>
<tr>
<td></td>
<td>toxoids and</td>
<td>Td</td>
</tr>
<tr>
<td></td>
<td>acellular</td>
<td>Td</td>
</tr>
<tr>
<td></td>
<td>pertussis vaccine</td>
<td>Td</td>
</tr>
<tr>
<td>Vaccine</td>
<td>Varicella</td>
<td>VAR</td>
</tr>
<tr>
<td></td>
<td>Vaccine</td>
<td>VAR</td>
</tr>
<tr>
<td>Vaccine</td>
<td>Zoster vaccine</td>
<td>RZV</td>
</tr>
<tr>
<td></td>
<td>recombinant</td>
<td>Shingrix</td>
</tr>
</tbody>
</table>

* All vaccines included in the adult immunization schedule except PPSV23, RZV, and COVID-19 vaccines are covered by the Vaccine Injury Compensation Program. COVID-19 vaccines that are authorized or approved by the FDA are covered by the Countermeasures Injury Compensation Program. For more information, see www.hrsa.gov/vaccinecompensation or www.hrsa.gov/dhcp.

Report
- Suspected cases of reportable vaccine-preventable diseases or outbreaks to: the local or state health department.
- Clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System at www.vaes.hhs.gov or 800-822-7967.

Injury claims
- All vaccines included in the adult immunization schedule except PPSV23, RZV, and COVID-19 vaccines are covered by the Vaccine Injury Compensation Program. COVID-19 vaccines that are authorized or approved by the FDA are covered by the Countermeasures Injury Compensation Program. For more information, see www.hrsa.gov/vaccinecompensation or www.hrsa.gov/dhcp.

Questions or comments
- Contact www.cdc.gov/cvdinfo or 800-CDC-INFO (800-232-4636) in English or Spanish, 8 a.m.-8 p.m. ET, Monday through Friday, excluding holidays.
- Download the CDC Vaccine Schedules app for providers at www.cdc.gov/vaccines/schedules/app.html.

Helpful information
- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/vaccines/recs/index.html
- General Best Practice Guidelines for Immunization (including contraindications and precautions): www.cdc.gov/vaccines/recs/general/regs/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/vis/visindex.html
- Travel vaccine recommendations: www.cdc.gov/travel

U.S. Department of Health and Human Services Centers for Disease Control and Prevention

www.cdc.gov
# Recommended Adult Immunization Schedule for ages 19 years or older

## How to use the adult immunization schedule

1. Determine recommended vaccinations by age (Table 1).
2. Access need for additional recommended vaccinations by medical condition or other indication (Table 2).
3. Review vaccine types, frequencies, intervals, and considerations for special situations (Notes).
4. Review contraindications and precautions for vaccine types (Appendix).

## Vaccines in the Adult Immunization Schedule*

<table>
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<tr>
<th>Vaccine</th>
<th>Abbreviation(s)</th>
<th>Trade name(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19 vaccine</td>
<td>1vCOV-mRNA</td>
<td>Comirnaty®/Pfizer-BioNTech COVID-19 Vaccine</td>
</tr>
<tr>
<td></td>
<td>2vCOV-mRNA</td>
<td>SPERBY®/Moderna COVID-19 Vaccine</td>
</tr>
<tr>
<td>Human papillomavirus vaccine</td>
<td>HPV</td>
<td>Gardasil® 9, Cervarix®</td>
</tr>
<tr>
<td>Influenza vaccine (inactivated)</td>
<td>IIV4</td>
<td>FluMist® Resistiv, FluAlist®</td>
</tr>
<tr>
<td></td>
<td>LAIV4</td>
<td>FluAlist® Quadrivalent</td>
</tr>
<tr>
<td>Meningococcal serogroups A, C, W, Y vaccine</td>
<td>MenACWY-D</td>
<td>Menactra®</td>
</tr>
<tr>
<td>Meningococcal serogroup B vaccine</td>
<td>MenACWY-TT</td>
<td>Meneveau®</td>
</tr>
<tr>
<td></td>
<td>MenB-4C</td>
<td>MenQuad®</td>
</tr>
<tr>
<td>Pneumococcal conjugate vaccine</td>
<td>MenB-HPb</td>
<td>Bexsero®</td>
</tr>
<tr>
<td>Pneumococcal polysaccharide vaccine</td>
<td>PCV15, PCV20</td>
<td>Pneumovax®</td>
</tr>
<tr>
<td>Poliovirus vaccine</td>
<td>IPV</td>
<td>ipv®</td>
</tr>
<tr>
<td>Tetanus and diphtheria toxoids</td>
<td>Td</td>
<td>Tdap®</td>
</tr>
<tr>
<td>Tetanus and diphtheria toxins and acellular</td>
<td>Tdap</td>
<td>Acetadrix®</td>
</tr>
<tr>
<td>Varicella vaccine</td>
<td>VAR</td>
<td>Varivax®</td>
</tr>
<tr>
<td>Zoster vaccine, recombinant</td>
<td>RZV</td>
<td>Shingrix®</td>
</tr>
</tbody>
</table>

*This schedule provides a summary of the recommended immunization schedule for adults. It includes vaccines for routine and catch-up immunization, as well as for specific indications such as travel, chronic health conditions, and postexposure prophylaxis. For the most current and comprehensive guidance, please visit the CDC's Immunization Information website or the ACIP's website. The recommendations are subject to change and it is important to stay informed of the latest guidelines.

## Appendix

### United States 2023

**Report**
- Suspected cases of reportable vaccine-preventable diseases or outbreaks to local or state health department.
- Clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System at www.vaers.hhs.gov or 866-232-0226.

**Injury claims**
- All vaccines included in the adult immunization schedule except PPSV23, RZV, and COVID-19 vaccines are covered by the Vaccine Injury Compensation Program. COVID-19 vaccines that are authorized or approved by the FDA are covered by the Countermeasures Injury Compensation Program. For more information, visit www.hrsa.gov/vaccinecompensation or www.hrsa.gov/cdc.

**Questions or comments**
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- 8 a.m. to 8 p.m. ET, Monday through Friday, excluding holidays.
- Download the CDC Vaccine Schedules app for providers at www.cdc.gov/vaccines/schedules/app.html.

**Helpful information**
- Complete Advisory Committee on Immunization Practices (ACIP) recommendations:
  - www.cdc.gov/vaccines/hcp/acip-recs/index.html
- General Best Practice Guidelines for Immunization (including contraindications and precautions):
  - www.cdc.gov/vaccines/hcp/pn-guidelines/index.html
- Vaccine information statements:
  - www.cdc.gov/vaccines/hcp/pn/statement/index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases:
  - www.cdc.gov/vaccines/hcp/pn/manual
- Travel vaccine recommendations:
  - www.cdc.gov/travel
- Recommended Child and Adolescent Immunization Schedule, United States, 2023:
  - www.cdc.gov/vaccines/schedules/hcp/language/index.html
- ACIP Shared Clinical Decision-Making Recommendations:
  - www.cdc.gov/vaccines/hcp/acip-recommendations.html

**U.S. Department of Health and Human Services Centers for Disease Control and Prevention**
- www.cdc.gov
- 1-800-CDC-INFO (800-232-4636)
- Fax 770-488-7194

Scan QR code for access to online schedule.
Table 1

*Recommended Adult Immunization Schedule by Age*
## Table 1: Recommended Adult Immunization Schedule by Age Group, United States, 2023

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19</td>
<td></td>
<td></td>
<td>2- or 3- dose primary series and booster (See Notes)</td>
<td></td>
</tr>
<tr>
<td>Influenza inactivated (IVI) or</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza recombinant (RIV-4) or</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza live, attenuated (LAIV-4) or</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Tdap or Td)</td>
<td>1 dose annually</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td></td>
<td></td>
<td>1 dose Tdap, then Td or Tdap booster every 10 years</td>
<td>For healthcare personnel, see notes</td>
</tr>
<tr>
<td>Varicella (VAR)</td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication (if born in 1957 or later)</td>
<td></td>
</tr>
<tr>
<td>Varicella (VAR)</td>
<td>2 doses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoster recombinant (RZV)</td>
<td></td>
<td>2 doses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td>2 or 3 doses depending on age at initial vaccination or condition</td>
<td>27 through 45 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal (PCV15, PCV20, PPSV23)</td>
<td>1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)</td>
<td></td>
<td>See Notes</td>
<td></td>
</tr>
<tr>
<td>Hepatitis A (HepA)</td>
<td>2, 3, or 4 doses depending on vaccine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td>2, 3, or 4 doses depending on vaccine or condition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal A, C, W, Y (MenACWY)</td>
<td>1 or 2 doses depending on indication, see notes for booster recommendations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td>2 or 3 doses depending on vaccine and indication, see notes for booster recommendations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Neisseria meningitides</em> type b (Hib)</td>
<td>1 or 3 doses depending on indication</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection**
- **Recommended vaccination for adults with an additional risk factor or another indication**
- **Recommended vaccination based on shared clinical decision making**
- **No recommendation/Not applicable**
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19</td>
<td>1 dose annually</td>
<td>2 or 3-dose primary series and booster (See Notes)</td>
<td>1 dose annually</td>
<td>1 dose annually</td>
</tr>
<tr>
<td>Influenza inactivated (ILV) or Influenza recombinant (RIV4)</td>
<td>1 dose annually</td>
<td>1 dose annually</td>
<td>1 dose annually</td>
<td>1 dose annually</td>
</tr>
<tr>
<td>Influenza live, attenuated (LAIM/IV)</td>
<td>1 dose annually</td>
<td>1 dose annually</td>
<td>1 dose annually</td>
<td>1 dose annually</td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Tdap or Td)</td>
<td>1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes)</td>
<td>1 dose Tdap, then Td or Tdap booster every 10 years</td>
<td>1 dose Tdap, then Td or Tdap booster every 10 years</td>
<td>For healthcare personnel, see notes</td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td>1 or 2 doses depending on indication (if born in 1957 or later)</td>
<td>1 or 2 doses depending on indication (if born in 1957 or later)</td>
<td>1 or 2 doses depending on indication (if born in 1957 or later)</td>
<td>1 or 2 doses depending on indication (if born in 1957 or later)</td>
</tr>
<tr>
<td>Varicella (VAR)</td>
<td>2 doses (if born in 1980 or later)</td>
<td>2 doses</td>
<td>2 doses</td>
<td>2 doses</td>
</tr>
<tr>
<td>Zoster recombinant (RZV)</td>
<td>2 doses for immunocompromising conditions (see notes)</td>
<td>2 doses</td>
<td>2 doses</td>
<td>2 doses</td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td>2 or 3 doses depending on age at initial vaccination or condition</td>
<td>2 doses</td>
<td>2 doses</td>
<td>2 doses</td>
</tr>
<tr>
<td>Pneumococcal (PCV13, PCV20, PPSV23)</td>
<td>1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)</td>
<td>1 dose PCV15 followed by PPSV23 OR 1 dose PCV20</td>
<td>1 dose PCV15 followed by PPSV23 OR 1 dose PCV20</td>
<td>1 dose PCV15 followed by PPSV23 OR 1 dose PCV20</td>
</tr>
<tr>
<td>Hepatitis A (HepA)</td>
<td>2, 3, or 4 doses depending on vaccine</td>
<td>2, 3, or 4 doses depending on vaccine</td>
<td>2, 3, or 4 doses depending on vaccine</td>
<td>2, 3, or 4 doses depending on vaccine</td>
</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td>2, 3, or 4 doses depending on vaccine or condition</td>
<td>2, 3, or 4 doses depending on vaccine or condition</td>
<td>2, 3, or 4 doses depending on vaccine or condition</td>
<td>2, 3, or 4 doses depending on vaccine or condition</td>
</tr>
<tr>
<td>Meningococcal A, C, W, Y (MenACWY)</td>
<td>1 or 2 doses depending on indication, see notes for booster recommendations</td>
<td>1 or 2 doses depending on indication, see notes for booster recommendations</td>
<td>1 or 2 doses depending on indication, see notes for booster recommendations</td>
<td>1 or 2 doses depending on indication, see notes for booster recommendations</td>
</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td>2 or 3 doses depending on vaccine and indication, see notes for booster recommendations</td>
<td>2 or 3 doses depending on vaccine and indication, see notes for booster recommendations</td>
<td>2 or 3 doses depending on vaccine and indication, see notes for booster recommendations</td>
<td>2 or 3 doses depending on vaccine and indication, see notes for booster recommendations</td>
</tr>
<tr>
<td>Haemophilus influenzae type b (Hib)</td>
<td>1 or 3 doses depending on indication</td>
<td>1 or 3 doses depending on indication</td>
<td>1 or 3 doses depending on indication</td>
<td>1 or 3 doses depending on indication</td>
</tr>
</tbody>
</table>

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection. Recommended vaccination for adults with an additional risk factor or another indication. Recommended vaccination based on shared clinical decision-making. No recommendation/Not applicable.
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
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<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza inactivated (ILV4) or Influenza recombinant (RIV4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza live, attenuated (LAIV4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Tdap or Td)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Varicella (VAR)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Zoster recombinant (ZRE)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td></td>
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</tr>
<tr>
<td>Pneumococcal (PCV15, PCV20, PPSV23)</td>
<td></td>
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</tr>
<tr>
<td>Hepatitis A (HepA)</td>
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<tr>
<td>Hepatitis B (HepB)</td>
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<tr>
<td>Meningococcal A, C, W, Y (MenACWY)</td>
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<tr>
<td>Meningococcal B (MenB)</td>
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<td></td>
</tr>
<tr>
<td>Haemophilus influenzae type b (HiB)</td>
<td></td>
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</tr>
</tbody>
</table>

**Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection**

**Recommended vaccination for adults with an additional risk factor or another indication**

**Recommended vaccination based on shared clinical decision making**

**No recommendation/Not applicable**

[Highlighted note: 2- or 3-dose primary series and booster (See Notes)]
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza inactivated (IVI) or Influenza recombinant (RIV4)</td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza live, attenuated (LAIV4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Td or Tdap)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Varicella (VAR)</td>
<td></td>
<td></td>
<td></td>
<td>2 doses</td>
</tr>
<tr>
<td>Zoster recombinant (RZV)</td>
<td></td>
<td></td>
<td></td>
<td>2 doses</td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td></td>
<td></td>
<td>2 or 3 doses depending on age at initial vaccination or condition</td>
<td>27 through 45 years</td>
</tr>
<tr>
<td>Pneumococcal (PCV15, PCV20, PPV23)</td>
<td></td>
<td></td>
<td>1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)</td>
<td>See Notes</td>
</tr>
<tr>
<td>Hepatitis A (HepA)</td>
<td></td>
<td></td>
<td>2, 3, or 4 doses depending on vaccine</td>
<td></td>
</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td></td>
<td></td>
<td>2, 3, or 4 doses depending on vaccine or condition</td>
<td></td>
</tr>
<tr>
<td>Meningococcal A, C, W, Y (MenACWY)</td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication, see notes for booster recommendations</td>
<td></td>
</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine and indication, see notes for booster recommendations</td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenzae type b (Hib)</td>
<td></td>
<td></td>
<td></td>
<td>1 or 3 doses depending on indication</td>
</tr>
</tbody>
</table>

- **Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection.**
- **Recommended vaccination for adults with an additional risk factor or another indication.**
- **Recommended vaccination based on shared clinical decision-making.**
- **No recommendation/Not applicable.**
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza inactivated (IIV) or</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza recombinant (RV4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza live, attenuated (LAIV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Tdap or Td)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td>1 or 2 doses depending on indication</td>
<td>1 or 2 doses depending on indication</td>
<td>1 or 2 doses depending on indication</td>
<td>1 or 2 doses depending on indication</td>
</tr>
<tr>
<td>Varicella (VAR)</td>
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<tr>
<td>Varicella (VAR)</td>
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<td></td>
</tr>
<tr>
<td>Zoster recombinant (ZSV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
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<td></td>
</tr>
<tr>
<td>Pneumococcal (PCV15; PCV20; PPSV23)</td>
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<td></td>
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</tr>
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<td></td>
</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal A, C, W, Y (MenACWY)</td>
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<td></td>
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<tr>
<td>Meningococcal B (MenB)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenza type b (Hib)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

For healthcare personnel, see notes

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection
Recommended vaccination for adults with an additional risk factor or another indication
Recommended vaccination based on shared clinical decision making
No recommendation/Not applicable
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19</td>
<td></td>
<td>2–3 doses primary series and booster (See Notes)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza inactivated (IVV) or</td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza recombinant (RIV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza live, attenuated</td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(LAIV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis</td>
<td></td>
<td>1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes)</td>
<td>1 dose Tdap, then Td or Tdap booster every 10 years</td>
<td>For healthcare personnel, see notes</td>
</tr>
<tr>
<td>(Tdap or Td)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication (if born in 1957 or later)</td>
<td>For healthcare personnel, see notes</td>
</tr>
<tr>
<td>Varicella (VZV)</td>
<td>2 doses (if born in 1980 or later)</td>
<td>2 doses</td>
<td>2 doses</td>
<td></td>
</tr>
<tr>
<td>Zoster recombinant (ZSV)</td>
<td>2 doses for immunocompromising conditions (see notes)</td>
<td>2 doses</td>
<td>2 doses</td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td>2 or 3 doses depending on age at initial vaccination or condition</td>
<td>27 through 45 years</td>
<td>27 through 45 years</td>
<td>27 through 45 years</td>
</tr>
<tr>
<td>Pneumococcal (PCV15, PCV20, PPSV23)</td>
<td>1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)</td>
<td>See Notes</td>
<td>See Notes</td>
<td>See Notes</td>
</tr>
<tr>
<td>Hepatitis A (HepA)</td>
<td>2, 3, or 4 doses depending on vaccine</td>
<td></td>
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</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td>2, 3, or 4 doses depending on vaccine or condition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal A, C, W, Y (MenACWY)</td>
<td>1 or 2 doses depending on indication, see notes for booster recommendations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td>2 or 3 doses depending on vaccine and indication, see notes for booster recommendations</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenzae type b (Hib)</td>
<td>1 or 3 doses depending on indication</td>
<td></td>
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</tbody>
</table>

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection.
Recommended vaccination for adults with an additional risk factor or another indication.
Recommended vaccination based on shared clinical decision-making.
No recommendation/Not applicable.
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19</td>
<td></td>
<td></td>
<td>2- or 3-dose primary series and booster (See Notes)</td>
<td></td>
</tr>
<tr>
<td>Influenza inactivated (ILV) or Influenza recombinant (RIIV)</td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza live, attenuated (LAIV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Td or Tdap)</td>
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<td></td>
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<tr>
<td>Varicella (VAR)</td>
<td></td>
<td></td>
<td>2 doses (if born in 1980 or later)</td>
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<td></td>
<td></td>
<td>27 through 45 years</td>
<td></td>
</tr>
<tr>
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<td>1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)</td>
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</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Haemophilus influenzae</em> type b (Hib)</td>
<td></td>
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</table>

- Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection
- Recommended vaccination for adults with an additional risk factor or another indication
- Recommended vaccination based on shared clinical decision making
- No recommendation/Not applicable
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<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
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<tbody>
<tr>
<td>COVID-19</td>
<td></td>
<td></td>
<td>2- or 3-dose primary series and booster (see Notes)</td>
<td></td>
</tr>
<tr>
<td>Influenza inactivated (IIV) or Influenza recombinant (RV)</td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza live, attenuated (LAIV)</td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Tdap or Td)</td>
<td></td>
<td>1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes)</td>
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<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td></td>
<td>1 dose Tdap, then Td or Tdap booster every 10 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella (VAR)</td>
<td>2 doses</td>
<td>1 or 2 doses depending on indication (if born in 1937 or later)</td>
<td></td>
<td></td>
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<tr>
<td>Varicella (VAR)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Zoster recombinant (ZDV)</td>
<td>2 doses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td>2 or 3 doses depending on age at initial vaccination or condition</td>
<td>27 through 45 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal (PCV15, PCV20, PPSV23)</td>
<td>1 dose PCV15 followed by PPSV23 or 1 dose PCV20 (see notes)</td>
<td>See Notes</td>
<td>See Notes</td>
<td></td>
</tr>
<tr>
<td><strong>Hepatitis A</strong> (HepA)</td>
<td><strong>2, 3, or 4 doses depending on vaccine</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Meningococcal A, C, W, Y (MenACWY)</td>
<td></td>
<td>1 or 2 doses depending on indication, see notes for booster recommendations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td></td>
<td>2 or 3 doses depending on vaccine and indication, see notes for booster recommendations</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Haemophilus influenzae type b</em> (Hib)</td>
<td></td>
<td>1 or 3 doses depending on indication</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2

Recommended Adult Immunization Schedule by Medical Indication
# Table 2: Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2023

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Pregnancy</th>
<th>Immuno-compromised (excluding HIV infection)</th>
<th>HIV infection CD4 percentage and count</th>
<th>Asplenia, complement deficiencies</th>
<th>End-stage renal disease, or on hemodialysis</th>
<th>Heart or lung disease; alcoholism*</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
<th>Health care personnel*</th>
<th>Men who have sex with men</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19</td>
<td></td>
<td>See Notes</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPV or RIV4</td>
<td></td>
<td>Contraindicated</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>LAIV4</td>
<td></td>
<td>Contraindicated</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tdap or Td</td>
<td>1 dose Tdap each pregnancy</td>
<td>1 dose Tdap, then Td or Tdap booster every 10 years</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>MMR</td>
<td>Contraindicated</td>
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<td>Contraindicated</td>
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<tr>
<td>RZV</td>
<td>2 doses at age ≥19 years</td>
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<tr>
<td>HPV</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal (PCV15; PCV20; PPSV23)</td>
<td>3 doses through age 26 years</td>
<td>2 doses at age ≥50 years</td>
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<tr>
<td>PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>HepA</td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>HepB</td>
<td>3 doses (see notes)</td>
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<td>MenACWY</td>
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<tr>
<td>MenB</td>
<td>Precaution</td>
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</tr>
<tr>
<td>Hib</td>
<td>3 doses HSCIT recipients only</td>
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</tr>
</tbody>
</table>

- Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection
- Recommended vaccination for adults with an additional risk factor or another indication
- Recommended vaccination based on shared clinical decision-making
- Precaution—vaccination might be indicated if benefit of protection outweighs risk of adverse reaction
- Contraindicated or not recommended—vaccine should not be administered. *Vaccinate after pregnancy.
- No recommendation
- Not applicable

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*See notes for influenza; hepatitis B; measles, mumps, and rubella; and varicella vaccinations. c. Hematopoietic stem cell transplant.
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Pregnancy</th>
<th>Immuno-compromised (excluding HIV infection)</th>
<th>HIV infection CD4 percentage and count</th>
<th>Asplenia, complement deficiencies</th>
<th>End-stage renal disease, or on hemodialysis</th>
<th>Heart or lung disease; alcoholism</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
<th>Health care personnel</th>
<th>Men who have sex with men</th>
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<td>COVID-19</td>
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<tr>
<td>Tdap or Td</td>
<td>1 dose Tdap each pregnancy</td>
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<td>1 dose Tdap, then Td or Tdap booster every 10 years</td>
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<tr>
<td>HPV</td>
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<tr>
<td>MenB</td>
<td>Precaution</td>
<td>2 or 3 doses depending on vaccine and indication, see notes for booster recommendations</td>
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<td>Hib</td>
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</tbody>
</table>

- Recommendations for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection
- Recommended vaccination for adults with an additional risk factor or another indication
- Recommended vaccination based on shared clinical decision-making
- Precaution—vaccination might be indicated if benefit of protection outweighs risk of adverse reaction
- Contraindicated or not recommended—vaccine should not be administered
- Vaccine after pregnancy

Notes:
- HepA (2 doses are recommended for adults with HIV infection)
- HepB (3 doses are recommended for adults with HIV infection)
- MenB (3 doses are recommended for adults with HIV infection)
- Hib (4 doses are recommended for adults with HIV infection)

*Precaution for LAIV does not apply to alcoholism.

**See notes for influenza, hepatitis B, measles, mumps, and rubella, and varicella vaccinations.

***Immunocompromised status or transplant.
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Pregnancy</th>
<th>Immuno-compromised (excluding HIV infection)</th>
<th>HIV Infection CD4 percentage and count&lt;15% or &lt;200 mm³</th>
<th>≥15% and ≤200 mm³</th>
<th>≥250 mm³</th>
<th>Asplenia, complement deficiencies</th>
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<th>Heart or lung disease; alcoholism*</th>
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<th>Diabetes</th>
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<td>Tdap or Td</td>
<td>1 dose Tdap each pregnancy</td>
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*Precaution for LAIV4 does not apply to alcoholism.
†See notes for influenza, hepatitis B, measles, mumps, and rubella, and varicella vaccinations.
‡Hematopoietic stem cell transplant.
Notes
Recommended Adult Immunization Schedule for ages 19 years or older, United States, 2023

### Haemophilus influenzae type b vaccination

**Special situations**
- Anatomical or functional asplenia (including sickle cell disease): 1 dose if previously did not receive Hib; if elective splenectomy, 1 dose preferably at least 14 days before splenectomy
- Hematopoietic stem cell transplant (HSCT): 3-dose series 4 weeks apart starting 6–12 months after successful transplant, regardless of Hib vaccination history

### Hepatitis A vaccination

**Routine vaccination**
- Not at risk but want protection from hepatitis A (identification of risk factor not required): 2-dose series HepA (Havrix 6–12 months apart or Vaqta 6–18 months apart [minimum interval: 6 months]) or 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 5 months])

### Hepatitis B vaccination

**Routine vaccination**
- Age 19 through 59 years: complete a 2- or 3- or 4-dose series
  - 2-dose series only applies when 2 doses of Hepatitis B® are used at least 4 weeks apart
  - 3-dose series Engerix-B, PreHebrix®, or Recombivax HB at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 8 weeks / dose 1 to dose 3: 16 weeks]
  - 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 5 months])
  - 4-dose series HepA-HepB (Twinrix) accelerated schedule of 3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months

*Note: Hepatitis B and PreHebrix are not recommended in pregnancy due to lack of safety data in pregnant persons.*
Recommended Adult Immunization Schedule for ages 19 years or older, United States, 2023

**Hemophilus influenzae type b vaccination**

**Special situations**

- Anatomical or functional asplenia (including sickle cell disease): 1 dose if previously did not receive Hib; if effective splenectomy, 1 dose preferably at least 14 days before splenectomy.
- Hematopoietic stem cell transplant (HSCT): 3-dose series 4 weeks apart starting 6–12 months after successful transplant, regardless of Hib vaccination history.

**Hepatitis A vaccination**

**Routine vaccination**

- Not at risk but want protection from hepatitis A (identification of risk factor not required):
  - 2-dose series HepA ( Havrix 6–12 months apart or Vaqta 6–18 months apart [minimum interval: 6 months]) or 3-dose series HepA-Hepl (Twixir at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 2 weeks; dose 2 to dose 3: 5 months]).

**Special situations**

- At risk for hepatitis A virus infection: 2-dose series HepA or 3-dose series HepA-Hepl as above.
- Chronic liver disease (e.g., persons with hepatitis B, hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice the upper limit of normal).
- HIV infection.
- Men who have sex with men.
- Injection or noninjection drug use.
- Persons experiencing homelessness.
- Work with hepatitis A virus in research laboratory or with nonhuman primates with hepatitis A virus infection.
- Travel in countries with high or intermediate endemic hepatitis A (HepA-Hepl [Twixir]) may be administered on an accelerated schedule of 3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months.
- Close, personal contact with international adoptee (e.g., household or regular babysitting) in first 180 days after arrival from country with high or intermediate endemic hepatitis A (administration of dose 1 as soon as adoption is planned; at least 2 weeks before adoptee’s arrival).
- Pregnancy if at risk for infection or severe outcome from infection during pregnancy.
- Settings for exposure, including health care settings targeting services to injection or noninjection drug users or group homes and nonresidential day care facilities for developmentally disabled persons (individual risk factor screening not required).

**Hepatitis B vaccination**

**Routine vaccination**

- Age 19 through 59 years: complete a 2- or 3- or 4-dose series.
  - 2-dose series only applies when 2 doses of Hepatitis-B are used at least 4 weeks apart.
  - 3-dose series Engerix-B, PreHepl* or Recombivax HB at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 2 weeks; dose 2 to dose 3: 6 weeks; dose 1 to dose 3: 16 weeks].
  - 3-dose series HepA-Hepl (Twixir at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks; dose 2 to dose 3: 6 weeks; dose 1 to dose 3: 16 weeks]).
  - 4-dose series HepA-Hepl (Twixir accelerated schedule of 3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months).

*Note: Hepatitis-B and PreHepl are not recommended in pregnancy due to lack of safety data in pregnant persons.
For vaccine recommendations for persons 18 years of age or younger, see the Recommended Child and Adolescent Immunization Schedule.

**COVID-19 vaccination**

**Routine vaccination**
- **Primary series:** 2-dose series at 0, 4-8 weeks (Moderna) or 2-dose series at 0, 3-8 weeks (Novavax, Pfizer-BioNTech)
- **Booster dose:** see https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

**Special situations**
- Persons who are moderately or severely immunocompromised
- **Primary series**
  - 3-dose series at 0, 4, 8 weeks (Moderna) or 3-dose series at 0, 3, 7 weeks (Pfizer-BioNTech)
  - 2-dose series at 0, 3 weeks (Novavax)
- **Booster dose:** see https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html
- **Pre-exposure prophylaxis** (e.g., monoclonal antibodies) may be considered to complement COVID-19 vaccination. See https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.pdf


**Hemophilus influenzae type b vaccination**

**Special situations**
- Anatomical or functional asplenia (including sickle cell disease): 1 dose if previously did not receive Hib; effective splenectomy, 1 dose preferably at least 14 days before splenectomy
- Hematopoietic stem cell transplant (HSCT): 3-dose series 4 weeks apart starting 3-12 months after successful transplant, regardless of Hib vaccination history

**Hepatitis A vaccination**

**Routine vaccination**
- Not at risk but want protection from hepatitis A: see https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

**Special situations**
- At risk for hepatitis A virus infection: 2-dose series HepA or 3-dose series HepA-HepB as above
- Chronic liver disease (e.g., persons with hepatitis B, hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice the upper limit of normal)
- HIV infection
- Men who have sex with men
- Injection or noninjection drug use
- Persons experiencing homelessness
- Work with hepatitis A virus in research laboratory or with nonhuman primates with hepatitis A virus infection
- Travel in countries with high or intermediate endemic hepatitis A (HepA-HepB [Twinstix] may be administered on an accelerated schedule of 3 doses at 0, 7, and 21-30 days, followed by a booster dose at 12 months)
- Close, personal contact with international adoptee (e.g., household or regular babysitting) in first 60 days after arrival from country with high or intermediate endemic hepatitis A (administer dose 1 as soon as adoption is planned, at least 2 weeks before adoptee's arrival)
- Pregnancy if at risk for infection or severe outcome from infection during pregnancy
- Settings for exposure, including health care settings targeting services to injection or noninjection drug users or group homes and nonresidential day care facilities for developmentally disabled persons (individual risk factor screening not required)

**Hepatitis B vaccination**

**Routine vaccination**
- Age 19 through 59 years: complete a 2- or 3- or 4-dose series
- 2-dose series only applies when 2 doses of Hepatitis B are used at least 4 weeks apart
- 3-dose series (Engerix-B, PreHebrix-B, or Recombivax HB at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 6 weeks / dose 1 to dose 3: 16 weeks])
- 3-dose series HepA-HepB (Twinstix at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 6 weeks / dose 1 to dose 3: 16 weeks])
- 4-dose series HepA-HepB (Twinstix accelerated schedule of 3 doses at 0, 7, and 21-30 days, followed by a booster dose at 12 months)

*Note:* Hepatitis B and PreHebrix-B are not recommended in pregnancy due to lack of safety data in pregnant persons.
Routine vaccination

- Added description of the primary series
Routine vaccination

- Hyperlink to see latest booster dose recommendations
Special situations

- Primary series description for persons who are moderately or severely immunocompromised
Special situations

- Hyperlink to see latest booster dose recommendations
Special situations

- Pre-exposure prophylaxis considerations for persons who are moderately or severely immunocompromised
Recommended Adult Immunization Schedule for ages 19 years or older, United States, 2023

Special situations
• Additional resources on COVID-19 schedules and EUA indications
Recommended Adult Immunization Schedule for ages 19 years or older, United States, 2023

**COVID-19 vaccination**

**Routine vaccination**
- Primary series: 2-dose series at 0, 4–6 weeks (Moderna) or 3–4 weeks (Novavax, Pfizer-BioNTech)
- Booster dose: see [www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html](http://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html)

**Special situations**
- Persons who are moderately or severely immunocompromised
  - Primary series:
    - 3-dose series at 0, 4, 8 weeks (Moderna) or 3, 4 weeks (Pfizer-BioNTech)
    - 2-dose series at 0, 3 weeks (Novavax)
  - Booster dose: see [www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html](http://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html)


**Haemophilus influenzae type b vaccination**

**Special situations**
- Anatomical or functional asplenia (including sickle cell disease): 1 dose if previously did not receive Hib; if effective splenectomy, 1 dose preferably at least 14 days before splenectomy
- Hematopoietic stem cell transplant (HSCT): 5–9 doses 4 weeks apart starting 6–12 months after successful transplant, regardless of Hib vaccination history

**Hepatitis A vaccination**

**Routine vaccination**
- Not at risk but want protection from hepatitis A (identification of risk factor not required):
  - 2-dose series HepA (Havrix 6–12 months apart or Vaqta 6–18 months apart) (minimum interval: 6 months)
  - 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months (minimum interval: dose 1 to dose 2; 4 weeks / dose 2 to dose 3: 3 months))

**Special situations**
- At risk for hepatitis A virus infection: 2-dose series HepA or 3-dose series HepA-HepB as above
  - Chronic liver disease (e.g., persons with hepatitis B, hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice the upper limit of normal)
  - HIV infection
  - Men who have sex with men
  - Injection or noninjection drug use
  - Persons experiencing homelessness
  - Work with hepatitis A virus in research laboratory or with nonhuman primates with hepatitis A virus infection

- Travel in countries with high or intermediate endemic hepatitis A (HepA-HepB [Twinrix] may be administered on an accelerated schedule of 3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months)
- Close, personal contact with international adoptee (e.g., household or regular babysitting) in first 60 days after arrival from country with high or intermediate endemic hepatitis A (administer dose 1 as soon as adoption is planned, at least 2 weeks before adoptee’s arrival)
- Pregnancy if at risk for infection or severe outcome from infection during pregnancy
- Settings for exposure, including health care settings, targeting services to injection or noninjection drug users or group homes and nonresidential day care facilities for developmentally disabled persons (individual risk factor screening not required)

**Hepatitis B vaccination**

**Routine vaccination**
- Age 19 through 59 years: complete a 2- or 3- or 4-dose series
  - 2-dose series only applies when 2 doses of Heplisav-B® are used at least 4 weeks apart
  - 3-dose series Engerix-B, PreHevBio®, or Recombivax HB at 0, 1, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 8 weeks / dose 1 to dose 3: 16 weeks)
  - 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months (minimum intervals: dose 1 to dose 2; 4 weeks / dose 2 to dose 3: 5 months))
  - 4-dose series HepA-HepB (Twinrix) accelerated schedule of 3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months

*Note: Heplisav-B and PreHevBio are not recommended in pregnancy due to lack of safety data in pregnant persons.*
Routine vaccination

- Revised the descriptions of the 2-, 3-, and 4-dose series.
### Recommended Adult Immunization Schedule for ages 19 years or older, United States, 2023

**Notes**
For vaccine recommendations for persons 18 years of age or younger, see the Recommended Child and Adolescent Immunization Schedule.

### COVID-19 vaccination

**Routine vaccination**
- Primary series: 2-dose series at 0, 4–8 weeks (Moderna) or 0, 3–8 weeks (Novavax; Pfizer-BioNTech)
- Booster dose: see www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

**Special situations**
- Individuals who are moderately or severely immunocompromised
  - Primary series: 2-dose series at 0, 4–8 weeks (Moderna) or 2-dose series at 0, 3–8 weeks (Pfizer-BioNTech)
- Booster dose: see www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

**Pre-exposure prophylaxis** (e.g., monoclonal antibodies) may be considered to complement COVID-19 vaccination. See www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

For Janssen COVID-19 Vaccine recipients see COVID-19 schedule at www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

**Note:** Current COVID-19 schedule available at www.cdc.gov/vaccines/covid-19/downloads/CDC COVID Immunization Schedule-ages-6months-and-older.pdf.


### Haemophilus influenzae type b vaccination

**Special situations**
- Anatomical or functional asplenia (including sickle cell disease): 1 dose if previously did not receive Hib; if effective splenectomy, 1 dose preferably at least 14 days before splenectomy
- Hematopoietic stem cell transplant (HSCT): 3-dose series 4 weeks apart starting 0–12 months after successful transplant, regardless of Hib vaccination history

### Hepatitis A vaccination

**Routine vaccination**
- Not at risk but want protection from hepatitis A (identification of risk factor not required): 2-dose series HepA (Havrix 6–12 months apart or Vaqta 6–18 months apart [minimum interval: 6 months]) or 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum interval: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 5 months])

**Special situations**
- At risk for hepatitis A virus infection: 2-dose series HepA or 3-dose series HepA-HepB as above
  - Chronic liver disease (e.g., persons with hepatitis B, hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alpha-1 antitrypsin deficiency [ALT] or aspartate aminotransferase [AST] level greater than twice the upper limit of normal)
  - HIV infection
  - Men who have sex with men
  - Injection or noninjection drug use
  - Persons experiencing homelessness
  - Work with hepatitis A virus in research laboratory or with nonhuman primates with hepatitis A virus infection

- Travel in countries with high or intermediate endemic hepatitis A (HepA-HepB) [Twinrix] may be administered on an accelerated schedule of 3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months

- Close, personal contact with international adoptee (e.g., household or regular babysitting) in first 60 days after arrival from country with high or intermediate endemic hepatitis A (administer dose 1 as soon as adoption is planned, at least 2 weeks before adoptee’s arrival)

- Pregnancy if at risk for infection or severe outcome from infection during pregnancy
- Settings for exposure, including health care settings targeting services to injection or noninjection drug users or group homes and nonresidential day care facilities for developmentally disabled persons (individual risk factor screening not required)

### Hepatitis B vaccination

**Routine vaccination**
- Age 19 through 59 years: complete a 2- or 3- or 4-dose series
  - 2-dose series only applies when 2 doses of Hepatitis B or A vaccine are used at least 4 weeks apart
  - 3-dose series Engerix-B, PreHepB*, or Recombivax HB at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 2 weeks / dose 2 to dose 3: 4 weeks / dose 1 to dose 3: 16 weeks]
  - 4-dose series Engerix-B, PreHepB*, or Recombivax HB at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 2 weeks / dose 2 to dose 3: 4 weeks / dose 3: 5 months]

**Note:** Hepatitis B and PreHepB are not recommended in pregnancy due to lack of safety data in pregnant persons.
Routine vaccination

• Note describes that Heplisav-B and PreHevbrio are not recommended in pregnancy
**Recommended Adult Immunization Schedule, United States, 2023**

**Human papillomavirus vaccination**

**Routine vaccination**
- HPV vaccination recommended for all persons through age 26 years: 2-3 dose series depending on age at initial vaccination or condition:
  - Age 15 years or older at initial vaccination:
    - 3-dose series at 0, 1-2 months, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 3 months; repeat dose if administered too soon)
  - Age 9-14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart:
    - 1 additional dose
  - Age 9-14 years at initial vaccination and received 2 doses at least 5 months apart: HPV vaccination series complete, no additional dose needed
- Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted
- No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals.

**Special situations**
- Some adults age 27-45 years: Based on shared clinical decision-making, 2-3 dose series as above

**Influenza vaccination**

**Routine vaccination**
- Age 19 years or older: 1 dose any influenza vaccine appropriate for age and health status annually.
- Age 65 years or older: Any one of quadrivalent high-dose inactivated influenza vaccine (HD-IIV4), quadrivalent recombinant influenza vaccine (RIV4), or quadrivalent adjuvanted inactivated influenza vaccine (allIV4) is preferred. If none of these three vaccines is available, any other age-appropriate influenza vaccine should be used.

**Special situations**
- Egg allergy, hives only: any influenza vaccine appropriate for age and health status annually
- Egg allergy—any symptom other than hives (e.g., angioedema, respiratory distress or required epinephrine or another emergency medical intervention): Any influenza vaccine appropriate for age and health status may be administered. If using egg-based IIV4 or LAIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions.
- Close contacts (e.g., caregivers, healthcare workers) of severely immunosuppressed persons who require a protected environment: these persons should not receive LAIV4. If LAIV4 is given, they should avoid contact with/caring for such immunosuppressed persons for 7 days after vaccination.
- Severe allergic reaction (e.g., anaphylaxis) to a vaccine component or a previous dose of any influenza vaccine: see Appendix listing contraindications and precautions
Routine vaccination

- Added two bullets for persons who are 60 years of age and older.
Human papillomavirus vaccination

Routine vaccination

- HPV vaccination recommended for all persons through age 26 years: 2- or 3-dose series depending on age at initial vaccination or condition:
  - Age 15 years or older at initial vaccination:
    - 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2: 2 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon)
  - Age 9–14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart:
    - 1 additional dose
  - Age 9–14 years at initial vaccination and received 2 doses at least 5 months apart: HPV vaccination series complete, no additional dose needed
- Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted
- No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals.

Shared clinical decision-making

- Some adults age 27–45 years: Based on shared clinical decision-making, 2- or 3-dose series as above

Special situations

- Age ranges recommended above for routine and catch-up vaccination or shared clinical decision-making also apply in special situations
- Immunocompromising conditions, including HIV infection: 3-dose series, even for those who initiate vaccination at age 9 through 14 years
- Pregnancy: Pregnancy testing is not needed before vaccination; HPV vaccination is not recommended until after pregnancy: no intervention needed if inadvertently vaccinated while pregnant

Influenza vaccination

Routine vaccination

- Age 19 years or older: 1 dose any influenza vaccine appropriate for age and health status annually
- Age 65 years or older: Any one of quadrivalent high-dose inactivated influenza vaccine (HD-IIV4), quadrivalent recombinant influenza vaccine (RIV4), or quadrivalent adjuvanted inactivated influenza vaccine (allIIV4) is preferred. If none of these three vaccines is available, then other age-appropriate influenza vaccine should be used.

- For the 2022–2023 season, see www.cdc.gov/mmwr/volumes/71/mm7101a1.htm
- For the 2023–2024 season, see the 2023–2024 ACIP influenza vaccine recommendations.

Special situations

- Egg allergy, hives only: any influenza vaccine appropriate for age and health status annually
- Egg allergy—any symptom other than hives (e.g., angioedema, respiratory distress or required epinephrine or another emergency medical intervention): Any influenza vaccine appropriate for age and health status may be administered. If using egg-based IIV4 or LAIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions.
- Close contacts (e.g., caregivers, healthcare workers) of severely immunosuppressed persons who require a protected environment: these persons should not receive LAIV4. If LAIV4 is given, they should avoid contact with/caring for such immunosuppressed persons for 7 days after vaccination.
- Severe allergic reaction (e.g., anaphylaxis) to a vaccine component or a previous dose of any influenza vaccine: see Appendix listing contraindications and precautions
### Human papillomavirus vaccination

**Routine vaccination**
- HPV vaccination recommended for all persons through age 26 years: 2- or 3-dose series depending on age at initial vaccination or condition:
  - Age 15 years or older at initial vaccination: 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon).
  - Age 9–14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart: 1 additional dose.
  - Age 9–14 years at initial vaccination and received 2 doses at least 5 months apart: HPV vaccine series complete; no additional dose needed.
  - Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted.
  - No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals.

**Special situations**
- Some adults age 27–45 years: Based on shared clinical decision-making, 2- or 3-dose series as above.

### Influenza vaccination

**Routine vaccination**
- Age 19 years or older: 1 dose any influenza vaccine appropriate for age and health status annually.
  - Age 65 years or older: Any one of quadrivalent high-dose inactivated influenza vaccine (HD-IIV4), quadrivalent recombinant influenza vaccine (RIV4), or quadrivalent adjuvanted inactivated influenza vaccine (allIV4) is preferred. If none of these three vaccines is available, then any other age-appropriate influenza vaccine should be used.
  - For the 2022–2023 season, see www.cdc.gov/mmwr/volumes/71/mm711014.htm.
  - For the 2023–2024 season, see the 2023–2024 ACIP influenza vaccine recommendations.

**Special situations**
- Egg allergy, hives only: any influenza vaccine appropriate for age and health status annually.
- Egg allergy: any symptom other than hives (e.g., angioedema, respiratory distress or required epinephrine or another emergency medical intervention): Any influenza vaccine appropriate for age and health status may be administered. If using egg-based IIV4 or LAIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions.
- Close contacts (e.g., caregivers, healthcare workers) of severely immunosuppressed persons who require a protected environment: these persons should not receive LAIV4. If LAIV4 is given, they should avoid contact with/caring for such immunosuppressed persons for 7 days after vaccination.
- Severe allergic reaction (e.g., anaphylaxis) to a vaccine component or a previous dose of any influenza vaccine: see Appendix listing contraindications and precautions.
Routine vaccination

- Risk factors for Hepatitis B infection are listed

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**Human papillomavirus vaccination**

- HPV vaccination recommended for all persons through age 18 years.
  - 3-dose series:
    - 0, 1, 2 months
    - 12 weeks
    - 12 months
  - Administer:
    - Age 9–14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart:
      - 1 additional dose
    - Age 15–26 years at initial vaccination and received 2 doses at least 5 months apart: HPV vaccination series complete, no additional dose needed.
    - Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted.
    - No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals.

**Influenza vaccination**

- Age 19 years or older: 1 dose any influenza vaccine annually.
  - Quadrivalent influenza vaccine (H3N2, H1N1, influenza A (H1N1) virus strains, influenza B, 1 dose every 6 months.
  - For the 2022–2023 season, see https://www.cdc.gov/mmwr/volumes/71/mm1710f1.htm
  - For the 2023–2024 season, see the 2023–2024 ACIP Influenza vaccine recommendations.

**Special situations**

- Egg allergy, hives only: any influenza vaccine appropriate for age and health status annually.
- Egg allergy—any symptom other than hives (e.g., angioedema, respiratory distress or required epinephrine or another emergency medical intervention): Any influenza vaccine appropriate for age and health status may be administered. If using egg-based LVIV or LAIV, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions.
- Close contacts (e.g., caregivers, healthcare workers) of severely immunosuppressed persons who require a protected environment: these persons should not receive LAIV. If LAIV is given, they should avoid contact with caring for such immunosuppressed persons for 7 days after vaccination.
- Severe allergic reaction (e.g., anaphylaxis) to a vaccine component or a previous dose of any influenza vaccine: see Appendix listing contraindications and precautions.
### Special situations

- **Describes regimen for patients on hemodialysis**
Human papillomavirus vaccination

Routine vaccination
- HPV vaccination recommended for all persons through age 26 years: 2- or 3-dose series depending on age at initial vaccination or condition:
  - Age 14 years or younger at initial vaccination: 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2; 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3; 5 months; repeat dose if administered too soon).
  - Age 15–18 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart: 1 additional dose.
  - Age 19–64 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart: HPV vaccination series complete, no additional dose needed.
- Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted.
- Additional doses recommended when any HPV vaccine series has been completed using the recommended dosing intervals.

Shared clinical decision-making
- Some adults age 27–45 years: Based on shared clinical decision-making, 2- or 3-dose series as above.

Special situations:
- Patients on dialysis: complete a 3- or 4-dose series:
  - 3-dose series Recombivax Hb at 0, 1, 6 months (note: use Dialysate Formulation 1 mL = 40 mcg).
  - 4-dose series Engerix-B at 0, 1, 2, and 6 months (note: use 2 mL dose instead of the normal adult dose of 1 mL).

Influenza vaccination

Routine vaccination
- Age 19 years or older: 1 dose any influenza vaccine appropriate for age and health status annually.
- Age 65 years or older: Any one of quadrivalent high-dose inactivated influenza vaccine (HDIIV4), quadrivalent recombinant influenza vaccine (RIV4), or quadrivalent adjuvanted inactivated influenza vaccine (allIV) is preferred. If none of these three vaccines is available, then any other age-appropriate influenza vaccine should be used.
- For the 2022–2023 season, see www.cdc.gov/mmwr/volumes/71/mm7101a1.htm.
- For the 2023–2024 season, see the 2023–2024 ACIP influenza vaccine recommendations.

Special situations:
- Egg allergy, hives only: any influenza vaccine appropriate for age and health status annually.
- Egg allergy: any symptom other than hives (e.g., angioedema, respiratory distress or required epinephrine or another emergency medical intervention): Any influenza vaccine appropriate for age and health status may be administered. If using egg-based IIV4 or LAIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions.
- Close contacts (e.g., caregivers, healthcare workers) of severely immunosuppressed persons who require a protected environment: these persons should not receive LAIV4. If LAIV4 is given, they should avoid contact with/caring for such immunosuppressed persons for 7 days after vaccination.
- Severe allergic reaction (e.g., anaphylaxis) to a vaccine component or a previous dose of any influenza vaccine: see Appendix listing contraindications and precautions.
Routine vaccination

- Sub-bullet added for persons 65 years of age or older
Human papillomavirus vaccination

Routine vaccination
- HPV vaccination recommended for all persons through age 26 years: 2- or 3-dose series depending on age at initial vaccination or condition:
  - Age 15 years or older at initial vaccination: 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon)
  - Age 9–14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart:
    1 additional dose
  - Age 9–14 years at initial vaccination and received 2 doses at least 5 months apart: HPV vaccine series complete, no additional dose needed.
  - Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted.
  - No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals.

Shared clinical decision-making
- Some adults age 27–45 years: Based on shared clinical decision-making, 2- or 3-dose series as above

Special situations
- Age ranges recommended above for routine and catch-up vaccination or shared clinical decision-making also apply in special situations.
  - Immunocompromising conditions, including HIV infection: 3-dose series, even for those who initiate vaccination at age 9 through 14 years.
  - Pregnancy: Pregnancy testing is not needed before vaccination. HPV vaccination is not recommended until after pregnancy: no intervention needed if inadvertently vaccinated while pregnant.

Influenza vaccination

Routine vaccination
- Age 19 years or older: 1 dose any influenza vaccine appropriate for age and health status annually.
  - Age 65 years or older: Any one of quadrivalent high-dose inactivated influenza vaccine (HD-IIV4), quadrivalent recombinant influenza vaccine (RIV4), or quadrivalent adjuvanted inactivated influenza vaccine (allIV) is preferred. If none of these three vaccines is available, then any other age-appropriate influenza vaccine should be used.
- For the 2022–2023 season, see www.cdc.gov/mmwr/volumes/71/mm7101a1.htm
- For the 2023–2024 season, see the 2023–2024 ACIP influenza vaccine recommendations.

Special situations
- Egg allergy, hives only: any influenza vaccine appropriate for age and health status annually.
- Egg allergy—any symptom other than hives (e.g., angioedema, respiratory distress or required epinephrine or another emergency medical intervention): Any influenza vaccine appropriate for age and health status may be administered. If using egg-based IIV4 or LAIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions.
- Close contacts (e.g., caregivers, healthcare workers) of severely immunosuppressed persons who require a protected environment: these persons should not receive LAIV4. If LAIV4 is given, they should avoid contact with/caring for such immunosuppressed persons for 7 days after vaccination.
- Severe allergic reaction (e.g., anaphylaxis) to a vaccine component or a previous dose of any influenza vaccine: see Appendix listing contraindications and precautions.
Routine vaccination
- Added hyperlink to the 2022-2023 influenza recommendations and a bullet for the 2023-2024 influenza recommendations.
Special situations

- Included influenza vaccine recommendations for people with an egg allergy who experienced any symptom other than hives the bullet for egg-allergy
Recommended Adult Immunization Schedule, United States, 2023

**Human papillomavirus vaccination**

- **Routine vaccination**
  - HPV vaccination recommended for all persons through age 26 years: 2- or 3-dose series depending on age at initial vaccination or condition:
    - Age 55 years or older at initial vaccination:
      - 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 dose 2 to 4 weeks; dose 2 to dose 3: 12 weeks; dose 1 to dose 3: 5 months; repeat dose if administered too soon)
    - Age 9–14 years at initial vaccination and received:
      - 1 dose or 2 doses less than 5 months apart:
        - 1 additional dose
      - Age 9–14 years at initial vaccination and received:
        - 2 doses at least 5 months apart: HPV vaccine schedule complete, no additional dose needed.
      - Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted.
      - No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals.

**Influenza vaccination**

- **Routine vaccination**
  - Age 19 years or older: 1 dose any influenza vaccine appropriate for age and health status annually.
  - Age 65 years or older: Any one of quadrivalent high-dose inactivated influenza vaccine (H3N2), quadrivalent recombinant influenza vaccine (RIV4), or quadreal vaccine inactivated influenza vaccine (allIV3) is preferred. If none of these three vaccines is available, then any other age-appropriate influenza vaccine should be used.
    - For the 2022–2023 season, see www.cdc.gov/mmwr/volumes/71/mm7101a1.htm
    - For the 2023–2024 season, see the 2023–2024 ACIP influenza vaccine recommendations.

**Special situations**

- Egg allergy, hives only; any influenza vaccine appropriate for age and health status annually.
- Egg allergy; any symptom other than hives (e.g., angioedema, respiratory distress or required epinephrine or another emergency medical intervention): Any influenza vaccine appropriate for age and health status may be administered. If using egg-based IIV4 or LAIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions.
- Close contacts (e.g., caregivers, healthcare workers) of severely immunosuppressed persons who require a protected environment; these persons should not receive LAIV4. If LAIV4 is given, they should avoid contact with caring for such immunosuppressed persons for 7 days after vaccination.
- Severe allergic reaction (e.g., anaphylaxis) to a vaccine component or a previous dose of any influenza vaccine; see Appendix listing contraindications and precautions.
• Added a bullet about close contacts to those who are severely immunosuppressed AND required a protected environment.
Notes

Recommended Adult Immunization Schedule, United States, 2023

- Age 60 years or older with known risk factors for hepatitis B virus infection should complete a HepB vaccination series.
- Age 60 years or older without known risk factors for hepatitis B virus infection may complete a HepB vaccination series.
- Risk factors for hepatitis B virus infection include:
  - Chronic liver disease (e.g., persons with hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alcoholic aminotransferase [ALT] or aspartic aminotransferase [AST] level greater than twice upper limit of normal)
  - HIV infection
  - Sexual exposure risk (e.g., sex partners of hepatitis B surface antigen [HBsAg]-positive persons; sexuially active persons not in mutually monogamous relationships; persons seeking evaluation or treatment for a sexually transmitted infection; men who have sex with men)
  - Current or recent injection drug use
  - Perinatal risk (e.g., household contacts of HBsAg-positive persons; residents and staff of facilities for developmentally disabled persons; health care and public safety personnel with reasonably anticipated risk for exposure to blood or blood-contaminated body fluids; persons on maintenance dialysis, including in-center or home hemodialysis and peritoneal dialysis; and persons who are predialysis, patients with diabetes, incarceration, travel in countries with high or intermediate endemic hepatitis B
- Special situations:
  - Patients on dialysis: complete a 3- or 4-dose series
    - 3-dose series Recombivax HB at 0, 1, 6 months (note: use Dialysis Formula: 1 mL = 40 mcg)
    - 4-dose series Engerix-B at 0, 1, 2, and 6 months (note: use 2 mL dose instead of the normal adult dose of 1 mL)
  - Human papillomavirus vaccination
    - Routine vaccination:
      - HPV vaccination recommended for all persons through age 26 years: 2- or 3-dose series depending on age at initial vaccination or condition:
        - Age 15 years or older at initial vaccination:
          - 3-dose series at 0, 1–2 months, 6 months (minimum interval: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon)
        - Age 9–14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart:
          - 1 additional dose
        - Age 9–14 years at initial vaccination and received 2 doses at least 5 months apart:
          - HPV vaccination series complete, no additional dose needed
      - Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted.
      - No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals.
  - Special situations:
    - Age ranges recommended above for routine and catch-up vaccination or shared clinical decision-making also apply in special situations:
      - Immunocompromising conditions, including HIV infection: 3-dose series, even for those who initiate vaccination at age 9 through 14 years
      - Pregnancy: Pregnancy testing is not needed before vaccination. HPV vaccination is recommended until after pregnancy: no intervention needed if inadvertently vaccinated while pregnant.

Influenza vaccination

- Routine vaccination:
  - Age 19 years or older: 1 dose any influenza vaccine appropriate for age and health status annually.
  - Age 65 years or older: Any one of quadrivalent high-dose inactivated influenza vaccine (HD-IIV4), quadrivalent recombinant influenza vaccine (RIV4), or quadrivalent adjuvanted inactivated influenza vaccine (allIIV4) is preferred. If none of these three vaccines is available, then any other age-appropriate influenza vaccine should be used.
  - For the 2022–2023 season, see www.cdc.gov/mmwr/volumes/71/mm7101a1.htm
  - For the 2023–2024 season, see the 2023–2024 ACIP influenza vaccine recommendations.
- Special situations:
  - Egg allergy, hives only: any influenza vaccine appropriate for age and health status annually
  - Egg allergy—any symptom other than hives (e.g., angioedema, respiratory distress or required epinephrine or another emergency medical intervention): Any influenza vaccine appropriate for age and health status may be administered. If using egg-based IIV4 or LAIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions.
  - Close contacts (e.g., caregivers, healthcare workers) of severely immunosuppressed persons who require a protected environment: these persons should not receive LAIV4. If LAIV4 is given, they should avoid contact with another for such immunocompromised persons for 7 days after vaccination.
  - Severe allergic reaction (e.g., anaphylaxis) to a vaccine component or a previous dose of any influenza vaccine: see Appendix listing contraindications and precautions
Notes

Recommended Adult Immunization Schedule, United States, 2023

- History of Guillain-Barré syndrome within 6 weeks after previous dose of influenza vaccine: Generally, should not be vaccinated unless vaccination benefits outweigh risks for those at higher risk for severe complications from influenza

Measles, mumps, and rubella vaccination

Routine vaccination
- No evidence of immunity to measles, mumps, or rubella: 1 dose
- Evidence of immunity: Born before 1957 (health care personnel, see below), documentation of receipt of MMR vaccine, laboratory evidence of immunity or disease (diagnosis of disease without laboratory confirmation is not evidence of immunity)

Special situations
- Pregnancy with no evidence of immunity to rubella: MMR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose
- Nonpregnant persons of childbearing age with no evidence of immunity to rubella: 1 dose
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm³ for at least 6 months and no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart; MMR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm³
- Severe immunosuppression conditions: MMR contraindicated
- Students in postsecondary educational institutions, international travelers, and household or close, personal contacts of immunocompromised persons with no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart if previously did not receive any doses of MMR or 1 dose if previously received 1 dose MMR

- In mumps outbreak settings, for information about additional doses of MMR (including 3rd dose of MMR), see www.cdc.gov/mmwr/volumes/67/wr/mm6703a7.htm

Health care personnel:
- Born before 1957 with no evidence of immunity to measles, mumps, or rubella: Consider 2-dose series at least 4 weeks apart for protection against measles or mumps or 1 dose for protection against rubella
- Born in 1957 or later with no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart for protection against measles or mumps or at least 1 dose for protection against rubella

Meningococcal vaccination

Special situations for MenACWY
- Anatomical or functional asplenia (including sickle cell disease), HIV infection, persistent complement component deficiency, complement inhibitor (e.g., echistusab, ravulizumab) use, or microbiologists routinely exposed to Neisseria meningitidis: 2-dose primary series MenB-4C (Bexsero) at least 1 month apart or 3-dose primary series MenB-FHbp (Trumenba) at 0, 6 months (if dose 2 was administered less than 6 months after dose 1, administer dose 3 at least 4 months after dose 2); MenB-4C and MenB-FHbp are not interchangeable (use same product for all doses in series)

- Pregnancy: Delay MenB until after pregnancy unless at increased risk and vaccination benefits outweigh potential risks
- For MenB booster dose recommendations for groups listed under “Special situations” and in an outbreak setting (e.g., in community or organizational settings and among men who have sex with men) and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm

Note: MenB vaccines may be administered simultaneously with MenACWY vaccines if indicated, but at a different anatomic site, if feasible.

Shared clinical decision-making for MenB
- Adolescents and young adults age 16–23 years (age 16–18 years preferred) not at increased risk for meningococcal disease: Based on shared clinical decision-making, 2-dose series MenB-4C (Bexsero) at least 1 month apart or 2-dose series MenB-FHbp (Trumenba) at 0, 6 months (if dose 2 was administered less than 6 months after dose 1, administer dose 3 at least 4 months after dose 2); MenB-4C and MenB-FHbp are not interchangeable (use same product for all doses in series)
Recommended Adult Immunization Schedule, United States, 2023

- History of Guillain-Barré syndrome within 6 weeks after previous dose of influenza vaccine: Generally, should not be vaccinated unless vaccination benefits outweigh risks for those at higher risk for severe complications from influenza.

### Measles, mumps, and rubella vaccination

**Routine vaccination**

- No evidence of immunity to measles, mumps, or rubella: 1 dose
- Evidence of immunity: Born before 1957 (health care personnel, see below), documentation of receipt of MMR vaccine, laboratory evidence of immunity or disease (diagnosis of disease without laboratory confirmation is not evidence of immunity)

**Special situations**

- Pregnancy with no evidence of immunity to rubella: MMR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose
- Nonpregnant persons of childbearing age with no evidence of immunity to rubella: 1 dose
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm³ for at least 6 months and no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart; MMR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm³
- Severe immunocompromising conditions: MMR contraindicated
- Students in postsecondary educational institutions, international travelers, and household or close, personal contacts of immunocompromised persons with no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart if previously did not receive any doses of MMR or 1 dose if previously received 1 dose MMR

- In mumps outbreak settings, for information about additional doses of MMR (including 3rd dose of MMR), see www.cdc.gov/mmwr/volumes/67/wr/mm6701a7.htm

- Health care personnel:
  - Born before 1957 with no evidence of immunity to measles, mumps, or rubella:
  - Conduct 2-dose series at least 4 weeks apart for protection against measles or mumps or 1 dose for protection against rubella
  - Born in 1957 or later with no evidence of immunity to measles, mumps, or rubella:
  - 2-dose series at least 4 weeks apart for protection against measles or mumps or at least 1 dose for protection against rubella

### Meningococcal vaccination

**Special situations for MenACWY**

- Anatomical or functional asplenia (including sickle cell disease), persistent complement component deficiency, complement inhibitor (e.g., echistatimab, ravulizumab), or microbiologists routinely exposed to Neisseria meningitidis: 2-dose primary series MenB-AC, MenB-AC/Yellow fever virus vaccine (MenB-AC/YFVax) at least 1 month apart or 3-dose primary series MenB-FHbp (Trumebuata) at 0, 6 months (if dose 2 was administered less than 6 months after dose 1, administer dose 3 at least 4 months after dose 2), MenB-AC and MenB-FHbp are not interchangeable (use same product for all doses in series)

- Travel in countries with hyperendemic or epidemic meningococcal disease, or microbiologists routinely exposed to Neisseria meningitidis: 1 dose MenACWY (MenA/C/MenW/MenG) and revaccinate every 5 years if risk remains

- Pregnant: Delay MenB until after pregnancy unless at increased risk and vaccination benefits outweigh potential risks

- For MenB booster dose recommendations for groups listed under “Special situations” and in an outbreak setting (e.g., in community or organizational settings and among men who have sex with men) and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/wr/mm6903a1.htm

Note: MenB vaccines may be administered simultaneously with MenACWY vaccines if indicated, but at a different anatomic site if feasible.
Special situations

• Added additional dose guidance in mumps outbreak settings

Meningococcal vaccination

Special situations for MenB

• Anatomical or functional asplenia (including sickle cell disease), persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use, or microbiologists routinely exposed to Neisseria meningitidis: 2-dose primary series MenB-4C, (Bexsero) at least 1 month apart or 3-dose primary series MenB-FHbp (Trumena) at 0, 1–2, 6 months, if dose 2 was administered at least 6 months after dose 1. Dose 3 not needed, if dose 3 is administered earlier than 4 months after dose 2. A fourth dose should be administered at least 4 months after dose 3, MenB-4C and MenB-FHbp are not interchangeable (use same product for all doses in series), 1 dose MenB booster 1 year after primary series and revaccinate every 2–3 years if risk remains.

• Pregnancy: Delay MenB until after pregnancy unless at increased risk and vaccination benefits outweigh potential risks.

• For MenB booster dose recommendations for groups listed under “Special situations” and in an outbreak setting (e.g., in community or organizational settings and among men who have sex with men) and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/n1/mm69009a1.htm.

Note: MenB vaccines may be administered simultaneously with MenACWY vaccines if indicated, but at a different anatomic site, if feasible.
Recommended Adult Immunization Schedule, United States, 2023

- History of Guillain-Barré syndrome within 6 weeks after previous dose of influenza vaccine: Generally, should not be vaccinated unless vaccination benefits outweigh risks for those at higher risk for severe complications from influenza.

**Measles, mumps, and rubella vaccination**

**Routine vaccination**
- No evidence of immunity to measles, mumps, or rubella: 1 dose
- Evidence of immunity: Born before 1957 (health care personnel, see below), documentation of receipt of MMR vaccine, laboratory evidence of immunity or disease (diagnosis of disease without laboratory confirmation is not evidence of immunity).

**Special situations**
- Pregnancy with no evidence of immunity to rubella: MMR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose
- Nonpregnant persons of childbearing age with no evidence of immunity to rubella: 1 dose
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm³ for at least 6 months and no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart; MMR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm³
- Severe immunocompromising conditions: MMR contraindicated
- Students in postsecondary educational institutions, international travelers, and household or close, personal contacts of immunocompromised persons with no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart if previously did not receive any doses of MMR or 1 dose if previously received 1 dose MMR

In mumps outbreak settings, for information about additional doses of MMR (including 3rd dose of MMR), see [www.cdc.gov/mmwr/volumes/67/wr/mm6701a7.htm](http://www.cdc.gov/mmwr/volumes/67/wr/mm6701a7.htm)

- Health care personnel:
  - Born before 1957 with no evidence of immunity to measles, mumps, or rubella: 1 dose
  - Born in 1957 or later with no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart for protection against measles or mumps or at least 1 dose for protection against rubella

**Meningococcal vaccination**

**Special situations for MenACWY**
- Anatomical or functional asplenia (including sickle cell disease), persistent complement component deficiency, complement inhibitor (e.g., eclizumab, ravulizumab) use, or microbiologists routinely exposed to *Neisseria meningitidis*:
  - MenACWY (Menactra, Menveo, or MenQuadri) at least 8 weeks apart and revaccinate every 5 years if risk remains.

**Travel in countries with hyperendemic or epidemic meningococcal disease, or microbiologists routinely exposed to *Neisseria meningitidis***: 1 dose MenACWY (Menactra, Menveo, or MenQuadri) and revaccinate every 5 years if risk remains.

- First-year college students who live in residential housing (if not previously vaccinated at age 16 years or older) or military recruits: 1 dose MenACWY (Menactra, Menveo, or MenQuadri)
- For MenACWY booster dose recommendations for groups listed under "Special situations" and in an outbreak setting (e.g., in community or organizational settings and among men who have sex with men) and additional meningococcal vaccination information, see [www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm](http://www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm)

**Note**: MenB vaccines may be administered simultaneously with MenACWY vaccines if indicated, but at a different anatomic site if feasible.
• History of Guillain-Barré syndrome within 6 weeks after previous dose of influenza vaccine: Generally, should not be vaccinated unless vaccination benefits outweigh risks for those at higher risk for severe complications from influenza

Measles, mumps, and rubella vaccination

Routine vaccination
- No evidence of immunity to measles, mumps, or rubella: 1 dose
- Evidence of immunity: Born before 1957, health care personnel, see below, documentation of receipt of MMR vaccine, laboratory evidence of immunity or disease (diagnosis of disease without laboratory confirmation is not evidence of immunity).

Special situations
- Pregnancy with no evidence of immunity to rubella: MMR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose
- Nonpregnant persons of childbearing age with no evidence of immunity to rubella: 1 dose
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm² for at least 6 months and no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart; MMR contraindicated for HIV infection with CD4 percentage ≤15% or CD4 count <200 cells/mm²
- Severe immunocompromising conditions: MMR contraindicated
- Students in postsecondary educational institutions, international travelers, and household or close personal contacts of immunocompromised persons with no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart if previously did not receive any doses of MMR or 1 dose if previously received 1 dose MMR

In mumps outbreak settings, for information about additional doses of MMR including 3rd dose of MMR; see www.cdc.gov/mmwr/volumes/65/mm65014h2.htm

Health care personnel:
- Born before 1957 with no evidence of immunity to measles, mumps, or rubella: Consider 2-dose series at least 4 weeks apart for protection against measles or mumps or 1 dose for protection against rubella
- Born in 1957 or later with no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart for protection against measles or mumps or at least 1 dose for protection against rubella

Meningococcal vaccination

Special situations for MenACWY
- Anatomical or functional asplenia (including sickle cell disease), HIV infection, persistent complement component deficiency, complement inhibitor (e.g., echinocand, ravulizumab) use, or microbiologists routinely exposed to Neisseria meningitidis: 2-dose primary series MenB-4C (Bexsero) at least 1 month apart or 3-dose primary series MenB-FHbp (Trumenba) at 0, 1–2, 6 months (if dose 2 was administered at least 6 months after dose 1, dose 3 not needed; if dose 3 is administered earlier than 4 months after dose 2, a fourth dose should be administered at least 4 months after dose 3; MenB-4C and MenB-FHbp are not interchangeable (use same product for all doses in series); 1 dose MenB booster 1 year after primary series and revaccinate every 2–3 years if risk remains
- Pregnancy: Delay MenB until after pregnancy unless at increased risk and vaccination benefits outweigh potential risks
- For MenB booster dose recommendations for groups listed under “Special situations” and in an outbreak setting (e.g., in community or organizational settings and among men who have sex with men) and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm

Note: MenB vaccines may be administered simultaneously with MenACYW vaccines if indicated, but at a different anatomic site, if feasible.
Recommended Adult Immunization Schedule, United States, 2023

- History of Guillain-Barré syndrome within 6 weeks after previous dose of influenza vaccine: Generally, should not be vaccinated unless vaccination benefits outweigh risks for those at higher risk for severe complications from influenza.

**Measles, mumps, and rubella vaccination**

**Routine vaccination**
- No evidence of immunity to measles, mumps, or rubella: 1 dose
- Evidence of immunity: Born before 1957 (health care personnel, see below), documentation of receipt of MMR vaccine, laboratory evidence of immunity or disease (diagnosis of disease without laboratory confirmation is not evidence of immunity).

**Special situations**
- Pregnancy with no evidence of immunity to rubella: MMR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose
- Nonpregnant persons of childbearing age with no evidence of immunity to rubella: 1 dose
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm³ for at least 6 months and no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart; MMR contraindicated for HIV infection with CD4 percentage ≤15% or CD4 count <200 cells/mm³.
- Severe immunocompromising conditions: MMR contraindicated.
- Students in postsecondary educational institutions, international travelers, and household or close personal contacts of immunocompromised persons with no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart if previously did not receive any doses of MMR or 1 dose if previously received 1 dose MMR.

- In mumps outbreak settings, for information about additional doses of MMR (including 3rd dose of MMR), see www.cdc.gov/mmwr/volumes/67/mm6714/rr6714a2.htm
- Health care personnel:
  - Born before 1957 with no evidence of immunity to measles, mumps, or rubella: Consider 1-dose series at least 4 weeks apart for protection against measles or mumps or 1 dose for protection against rubella.
  - Born in 1957 or later with no evidence of immunity to measles, mumps, or rubella: 2-dose series at least 4 weeks apart for protection against measles or mumps or at least 1 dose for protection against rubella.

**Meningococcal vaccination**

**Special situations for MenACWY**
- Anatomical or functional asplenia (including sickle cell disease), HIV infection, persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use, or microbiologists routinely exposed to Neisseria meningitidis: 2-dose primary series MenB-4C (Bexsero) at least 1 month apart or 3-dose primary series MenB-FHp (Trumena) at 0, 1–2, 6 months (if dose 2 was administered at least 6 months after dose 1, dose 3 not needed; if dose 3 is administered earlier than 4 months after dose 2, a fourth dose should be administered at least 4 months after dose 3; MenB-4C and MenB-FHp are not interchangeable (use same product for all doses in series); 1 dose MenB booster 1 year after primary series and revaccinate every 2–3 years if risk remains
- Pregnancy: Delay MenB until after pregnancy unless at increased risk and vaccination benefits outweigh potential risks
- For MenB booster dose recommendations for groups listed under “Special situations” and in an outbreak setting (e.g., in community or organizational settings and among men who have sex with men) and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm

**Shared clinical decision-making for MenB**
- Adolescents and young adults age 16–23 years (age 16–18 years preferred) not at increased risk for meningococcal disease: Based on shared clinical decision-making, 2-dose series MenB-4C (Bexsero) at least 1 month apart or 2-dose series MenB-FHp (Trumena) at 0, 6 months (if dose 2 was administered less than 6 months after dose 1, administer dose 3 at least 4 months after dose 2); MenB-4C and MenB-FHp are not interchangeable (use same product for all doses in series)

**Special situations for MenB**
- Anatomical or functional asplenia (including sickle cell disease), persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use, or microbiologists routinely exposed to Neisseria meningitidis: 2-dose primary series MenB-4C (Bexsero) at least 1 month apart or 3-dose primary series MenB-FHp (Trumena) at 0, 1–2, 6 months (if dose 2 was administered at least 6 months after dose 1, dose 3 not needed; if dose 3 is administered earlier than 4 months after dose 2, a fourth dose should be administered at least 4 months after dose 3; MenB-4C and MenB-FHp are not interchangeable (use same product for all doses in series); 1 dose MenB booster 1 year after primary series and revaccinate every 2–3 years if risk remains
- Pregnancy: Delay MenB until after pregnancy unless at increased risk and vaccination benefits outweigh potential risks
- For MenB booster dose recommendations for groups listed under “Special situations” and in an outbreak setting (e.g., in community or organizational settings and among men who have sex with men) and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm

**Note:** MenB vaccines may be administered simultaneously with MenACWY vaccines if indicated, but at a different anatomic site, if feasible.
Pneumococcal vaccination

**Routine vaccination**
- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
- Previously received only PCV7: follow the recommendation above.
- Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).
- Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
- Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).
- Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

**Special situations**
- Age 19–64 years with certain underlying medical conditions or other risk factors** who have:
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

*Note: Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.

**Note: Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cochlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.

Polio vaccination

**Routine vaccination**
- Routine poliovirus vaccination of adults residing in the United States is not necessary.

**Special situations**
- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses) administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series.
  - Evidence of completed polio vaccination series (i.e., at least 3 doses); may administer one lifetime IPV booster.

For detailed information, see: [www.cdc.gov/vaccines/vpd/poliomyelitis/recommendations.html](http://www.cdc.gov/vaccines/vpd/poliomyelitis/recommendations.html)
**Routine vaccination**

- Age 65 years or older who have:

  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition, coexisting illness, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
  
  - Previously received only PCV7: follow the recommendation above.
  
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).
  
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
  
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).
  
  - Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

**Special situations**

- Age 19–64 years with certain underlying medical conditions or other risk factors who have:

  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition, coexisting illness, or cerebrospinal fluid leak.
  
  - Previously received only PCV7: follow the recommendation above.

  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).

  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).

  - Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

**Note:** Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.

**Special situations**

- Age 19–64 years with certain underlying medical conditions or other risk factors who have:

  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition, coexisting illness, or cerebrospinal fluid leak.

  - Previously received only PCV7: follow the recommendation above.

  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).

  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).

  - Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

**Polio vaccination**

Routine vaccination

Routine poliovirus vaccination of adults residing in the United States is not necessary.

Special situations

- Adults at increased risk of exposure to poliovirus with:

  - No evidence of a complete polio vaccination series (i.e., at least 3 doses) administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series.

  Evidence of completed polio vaccination series (i.e., at least 3 doses) may administer one lifetime IPV booster.

For detailed information, see [www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html](http://www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html).
Recommended Adult Immunization Schedule, United States, 2023

Pneumococcal vaccination

Routine vaccination

- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition, coagulopathy, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
  - Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

Special situations

- Age 19–64 years with certain underlying medical conditions or other risk factors** who have:
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition, coagulopathy, or cerebrospinal fluid leak.
  - Previously received only PCV7: follow the recommendation above.

Polio vaccination

Routine vaccination

Routine poliovirus vaccination of adults residing in the United States is not necessary.

Special situations

- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses) administered at least 1 year apart (1, 2, or 3 doses) to complete a 3-dose series
  - Evidence of completed polio vaccination series (i.e., at least 3 doses): may administer one lifetime IPV booster

For detailed information, see: www.cdc.gov/vaccines/vpd/polioc/ipv/statedocuments.html
Recommended Adult Immunization Schedule, United States, 2023

**Pneumococcal vaccination**

**Routine vaccination**

- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition, cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).
  - Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older:
    - Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

**Special situations**

- Age 19–64 years with certain underlying medical conditions or other risk factors** who have
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20.
  - If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition, cochlear implant, or cerebrospinal fluid leak.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here [www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf](http://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).
  - Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older:
    - Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

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**Note:** Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.

**Note:** Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cochlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.

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**Polio vaccination**

**Routine vaccination**

Routine poliovirus vaccination of adults residing in the United States is not necessary.

**Special situations**

- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses) administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series.
  - Evidence of completed polio vaccination series (i.e., at least 3 doses); may administer one lifetime IPV booster.

For detailed information, see: [www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html](http://www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html)
**Recommended Adult Immunization Schedule, United States, 2023**

**Pneumococcal vaccination**

**Routine vaccination**
- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cocharle implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.

- Previously received only PCV7: follow the recommendation above.
- Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
- Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
- Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
- Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

**Special situations**
- Age 19–64 years with certain underlying medical conditions or other risk factors** who have:
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cocharle implant, or cerebrospinal fluid leak.
  - Previously received only PCV7: follow the recommendation above.

- Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
- Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

**Note:** Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired aspergillus, sickle cell disease, or other hemoglobinopathies.

**Note:** Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cocharle implant, congenital or acquired aspergillus, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.

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**Polio vaccination**

**Routine vaccination**
- Routine poliovirus vaccination of adults residing in the United States is not necessary.

**Special situations**
- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses; administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series.
  - Evidence of completed polio vaccination series (i.e., at least 3 doses; may administer one lifetime IPV booster.

For detailed information, see: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html.
Recommended Adult Immunization Schedule, United States, 2023

Pneumococcal vaccination

Routine vaccination

- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose.
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
  - Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

For guidance on determining which pneumococcal vaccines a patient needs and when, please refer to the mobile app which can be downloaded here: www.cdc.gov/vaccines/vpd/pneumo/hcp/pneumooapp.html

Special situations

- Age 19–64 years with certain underlying medical conditions or other risk factors** who have
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak.

*Note: Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.

**Note: Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cochlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.

Polio vaccination

Routine vaccination

Routine poliovirus vaccination of adults residing in the United States is not necessary.

Special situations

- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses) administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series
  - Evidence of completed polio vaccination series (i.e., at least 3 doses) may administer one lifetime IPV booster

For detailed information, see: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html
Recommended Adult Immunization Schedule, United States, 2023

**Pneumococcal vaccination**

**Routine vaccination**
- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
  - Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

**Special situations**
- Age 19–64 years with certain underlying medical conditions or other risk factors** who have
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

**Note:** Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.

**Special situations**
- Age 19–64 years with certain underlying medical conditions or other risk factors** who have
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf.
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

**Note:** Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cochlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.

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**Polio vaccination**

**Routine vaccination**
- Routine poliovirus vaccination of adults residing in the United States is not necessary.

**Special situations**
- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses) administered at age 1 year or older (1, 2, or 3 doses) to complete a 3-dose series.
  - Evidence of completed polio vaccination series (i.e., at least 3 doses) may administer one lifetime IPV booster.

For detailed information, see: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html
**Pneumococcal vaccination**

**Routine vaccination**

- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV13 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose.
  - Minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
- Previously received only PCV7: follow the recommendation above.
- Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
- Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose.
  - If PCV15 is used, it need not be followed by another dose of PPSV23.
- Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
- Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

*Note: Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.

**Special situations**

- Age 19–64 years with certain underlying medical conditions or other risk factors:** who have
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV13 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose.
  - A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak
- Previously received only PCV7: follow the recommendation above.
- Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
- Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose.
  - If PCV15 is used, it need not be followed by another dose of PPSV23.
- Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
- Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

**Note:** Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cochlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.

**Polio vaccination**

**Routine vaccination**

Routine poliovirus vaccination of adults residing in the United States is not necessary.

**Special situations**

- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses); administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series.
  - Evidence of completed polio vaccination series (i.e., at least 3 doses); may administer one lifetime IPV booster.

For detailed information, see www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html.
Recommended Adult Immunization Schedule, United States, 2023

**Pneumococcal vaccination**

**Routine vaccination**

- Age 65 years or older who have:

  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition, coexistent or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.

- Previously received only PCV7: follow the recommendation above.

- Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose or complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumosseq.html.

- Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

- Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumosseq.html.

- Previously received both PCV13 and PPSV23, AND PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

- For guidance on determining which pneumococcal vaccine a patient needs and when, please refer to the mobile app which can be downloaded here: www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumosseq.html.

**Special situations**

- Age 19–64 years with certain underlying medical conditions or other risk factors who have not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition, coexistent or cerebrospinal fluid leak.

- Previously received only PCV2: follow the recommendation above.

- Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose or complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumosseq.html.

- Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

- Previously received both PCV13 and PPSV23, but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumosseq.html.

**Polio vaccination**

**Routine vaccination**

Routine poliovirus vaccination of adults residing in the United States is not necessary.

**Special situations**

- Adults at increased risk of exposure to poliovirus with:

  - No evidence of a complete polio vaccination series (i.e., at least 3 doses): administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series.

  - Evidence of completed polio vaccination series (i.e., at least 3 doses): may administer one lifetime IPV booster.

For detailed information, see: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html.
Pneumococcal vaccination

**Routine vaccination**

- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PPV23 who whose previous vaccination history is unknown: 1 dose PCV13 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPV23 in these vulnerable groups.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPV23 series as described here: www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumo-vaccine-timing.pdf.
  - Previously received only PPV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPV23 dose. If PCV15 is used, it need not be followed by another dose of PPV23.
  - Previously received both PCV13 and PPV23 but no PPV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPV23 series as described here: www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumo-vaccine-timing.pdf.
  - Previously received both PCV13 and PPV23, and PPV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

For guidance on determining which pneumococcal vaccine is needed and when, please refer to the mobile app which can be downloaded here: www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumoapp.html

**Special situations**

- Age 19–64 years with certain underlying medical conditions or other risk factors** who have:
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV13 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPV23 series as described here: www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumo-vaccine-timing.pdf.
  - Previously received only PPV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPV23 dose. If PCV15 is used, it need not be followed by another dose of PPV23.

**Note:** Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.

**Note:** Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cochlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.

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Polio vaccination

**Routine vaccination**

Routine poliovirus vaccination of adults residing in the United States is not necessary.

**Special situations**

- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses): administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series
  - Evidence of completed polio vaccination series (i.e., at least 3 doses): may administer one lifetime IPV booster

For detailed information, see: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html
Recommended Adult Immunization Schedule, United States, 2023

Pneumococcal vaccination

Routine vaccination

- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV13 OR 1 dose PCV20. If PCV15 is used, it should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
  - Previously received only PPSV23: 1 dose PCV13 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
  - Previously received both PCV13 and PPSV23, and PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

Special situations

- Age 19–64 years with certain underlying medical conditions or other risk factors** who have:
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV13 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
  - Previously received only PPSV23: 1 dose PCV13 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

**Note: Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cochlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.

Polio vaccination

Routine vaccination

Routine poliovirus vaccination of adults residing in the United States is not necessary.

Special situations

- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses): administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series
  - Evidence of completed polio vaccination series (i.e., at least 3 doses): may administer one lifetime IPV booster

For detailed information, see: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html
Recommended Adult Immunization Schedule, United States, 2023

Pneumococcal vaccination

Routine vaccination

- Age 65 years or older who have:
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose or complete the recommended PPSV23 series as described above.
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described in the previous section.

- For guidance on determining which pneumococcal vaccine is best for patients, please refer to the mobile app which can be downloaded here: www.cdc.gov/vaccines/vpd/pneumonia/hcp/pneumovaccine.html

Special situations

- Age 19–64 years with certain underlying medical conditions or other risk factors** who have:
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* cochlear implant, or cerebrospinal fluid leak.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose or complete the recommended PPSV23 series as described above.
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.

- Not everyone ages 19–64 years will need this dose
  - See the recommendation on pneumococcal disease risk assessment for adults, 19–64 years included with the meningococcal vaccination

**Note: Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, cochlear implant, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.

Polio vaccination

Routine poliovirus vaccination of adults residing in the United States is not necessary.

Special situations

- Adults at increased risk of exposure to poliovirus with:
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses): administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series
  - Evidence of completed polio vaccination series (i.e., at least 3 doses): may administer one lifetime IPV booster

For detailed information, see: www.cdc.gov/vaccines/vpd/polio/hcp/recommendations.html
**Recommended Adult Immunization Schedule, United States, 2023**

### Pneumococcal vaccination

#### Routine vaccination

- **Age 65 years or older who have:**
  - Not previously received a dose of PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, it should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* coelhlear implant, or cerebrospinal fluid leak to minimize the risk of invasive pneumococcal disease caused by serotypes unique to PPSV23 in these vulnerable groups.
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
  - Previously received both PCV13 and PPSV23, and PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

#### Special situations

- **Age 19–64 years with certain underlying medical conditions or other risk factors** who have
  - Not previously received a PCV13, PCV15, or PCV20 or whose previous vaccination history is unknown: 1 dose PCV15 OR 1 dose PCV20. If PCV15 is used, this should be followed by a dose of PPSV23 given at least 1 year after the PCV15 dose. A minimum interval of 8 weeks between PCV15 and PPSV23 can be considered for adults with an immunocompromising condition,* coelhlear implant, or cerebrospinal fluid leak
  - Previously received only PCV7: follow the recommendation above.
  - Previously received only PCV13: 1 dose PCV20 at least 1 year after the PCV13 dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
  - Previously received only PPSV23: 1 dose PCV15 OR 1 dose PCV20 at least 1 year after the PPSV23 dose. If PCV15 is used, it need not be followed by another dose of PPSV23.
  - Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older: 1 dose PCV20 at least 5 years after their last pneumococcal vaccine dose OR complete the recommended PPSV23 series as described here www.cdc.gov/vaccines/vpd/pneumonia/downloads/pneumo-vaccine-timing.pdf.
  - Previously received both PCV13 and PPSV23, and PPSV23 was received at age 65 years or older: Based on shared clinical decision-making, 1 dose of PCV20 at least 5 years after the last pneumococcal vaccine dose.

*Note: Immunocompromising conditions include chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, human immunodeficiency virus, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplants, congenital or acquired asplenia, sickle cell disease, or other hemoglobinopathies.*

**Note: Underlying medical conditions or other risk factors include alcoholism, chronic heart/liver/lung disease, chronic renal failure, cigarette smoking, coelhlear implant, congenital or acquired asplenia, CSF leak, diabetes mellitus, generalized malignancy, HIV, Hodgkin disease, immunodeficiency, iatrogenic immunosuppression, leukemia, lymphoma, multiple myeloma, nephrotic syndrome, solid organ transplants, or sickle cell disease or other hemoglobinopathies.**

### Polio vaccination

#### Routine vaccination

Routine poliovirus vaccination of adults residing in the United States is not necessary.

#### Special situations

- **Adults at increased risk of exposure to poliovirus with:**
  - No evidence of a complete polio vaccination series (i.e., at least 3 doses): administer remaining doses (1, 2, or 3 doses) to complete a 3-dose series
  - Evidence of completed polio vaccination series (i.e., at least 3 doses): may administer one lifetime IPV booster

For detailed information, see: www.cdc.gov/vaccines/vdp/polio/hcp/recommendations.html
### Recommended Adult Immunization Schedule, United States, 2023

<table>
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<th>tetanus, diphtheria, and pertussis vaccination</th>
<th>Varicella vaccination</th>
<th>Zoster vaccination</th>
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| • Previously did not receive Tdap at or after age 11 years: 1 dose Tdap, then Td or Tdap every 10 years | • No evidence of immunity to varicella: 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR or MMRV) (measles-mumps-rubella-varicella vaccine) for children; if previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose | • Age 50 years or older*: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of zoster vaccine live (ZVL, Zostavax) vaccination.

*Note: Serologic evidence of prior varicella is not necessary for zoster vaccination. However, if serologic evidence of varicella susceptibility becomes available, providers should follow ACIP guidelines for varicella vaccination first. RZV is not indicated for the prevention of varicella, and there are limited data on the use of RZV in persons without a history of varicella or varicella vaccination.

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| • Previous primary vaccination series for tetanus, diphtheria, or pertussis: 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks later, and a third dose of Td or Tdap 6–12 months later (Tdap can be substituted for any Td dose, but preferred as first dose), Td or Tdap every 10 years thereafter | • Evidence of immunity: U.S.-born before 1980 (except for pregnant persons and health care personnel [see below]), documentation of 2 doses varicella-containing vaccine at least 4 weeks apart, diagnosis or verification of history of varicella or herpes zoster by a health care provider, laboratory evidence of immunity or disease | • Pregnancy: There is currently no ACIP recommendation for RZV use in pregnancy. Consider delaying RZV until after pregnancy.

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<td>• Pregnancy: 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36</td>
<td>• Immunocompromising conditions (including persons with HIV regardless of CD4 count)**: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon). For detailed information, see <a href="http://www.cdc.gov/shingles/vaccination/immunocompromised-adults.html">www.cdc.gov/shingles/vaccination/immunocompromised-adults.html</a></td>
<td>• Severe immunocompromising conditions: VAR contraindicated</td>
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| Wound management: Persons with 3 or more doses of tetanus-toxoid-containing vaccine for clean and minor wounds, administer Tdap or Td if more than 10 years since last dose of tetanus-toxoid containing vaccine; for all other wounds, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Tdap is preferred for persons who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant woman, use Tdap. For detailed information, see [www.cdc.gov/mmwr/volumes/69/wr/mm9003a5.htm](http://www.cdc.gov/mmwr/volumes/69/wr/mm9003a5.htm) | **Wound management:** | **Wound management:** |

**Note:** For those not meeting the requirements for varicella vaccination, consider offering a one-dose varicella vaccine if a complete series is not given or if base immunity is questionable.

**CD4 count:** CD4 count is the percentage of CD4 cells in the blood. CD4 cells are a type of white blood cell that help the immune system function properly.

**Recommended Adult Immunization Schedule, United States, 2023**

**Table:** Ranges of CD4 counts associated with a lower risk of immune-related complications and potential options for vaccination.

**Special situations:** Additional considerations for specific groups, such as pregnant women, individuals with HIV, and immunocompromised individuals.

**Evidence of immunity:** Documentation of prior vaccination or proof of infection.

**Recommended Adult Immunization Schedule, United States, 2023**

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**Recommended Adult Immunization Schedule, United States, 2023**

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**Recommended Adult Immunization Schedule, United States, 2023**

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**Special situations:** Additional considerations for specific groups, such as pregnant women, individuals with HIV, and immunocompromised individuals.

**Evidence of immunity:** Documentation of prior vaccination or proof of infection.
### Tetanus, diphtheria, and pertussis vaccination

**Routine vaccination**
- Previously did not receive Tdap at or after age 11 years: 1 dose Tdap, then Td or Tdap every 10 years

**Special situations**
- Previously did not receive primary vaccination series for tetanus, diphtheria, or pertussis: 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks later, and a third dose of Td or Tdap 6–12 months later (Td can be substituted for any Td dose, but preferred as first dose), Td or Tdap every 10 years thereafter
- Pregnancy: 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36
- Wound management: Persons with 3 or more doses of tetanus-toxoid-containing vaccine: For clean and minor wounds, administer Tdap or Td if more than 10 years since last dose of tetanus-toxoid-containing vaccine; otherwise, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Tdap is preferred for persons who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant woman, use Tdap. For detailed information, see www.cdc.gov/mmwr/volumes/69/wr/mm9903a5.htm

### Varicella vaccination

**Routine vaccination**
- No evidence of immunity to varicella: 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR or MMRV [measles-mumps-rubella-varicella vaccine] for children); if previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose
- Evidence of immunity: U.S.-born before 1980 (except for pregnant persons and health care personnel [see below]); documentation of 2 doses varicella-containing vaccine at least 4 weeks apart, diagnosis or verification of history of varicella or herpes zoster by a health care provider, laboratory evidence of immunity or disease

**Special situations**
- Pregnancy with no evidence of immunity to varicella: VAR contraindicated during pregnancy; after pregnancy, before discharge from health care facility, 1 dose if previously received 1 dose varicella-containing vaccine or dose of 1–2 doses series (dose 2: 4–8 weeks later) if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980
- Health care personnel with no evidence of immunity to varicella: 1 dose if previously received 1 dose varicella-containing vaccine 2-dose series 4–8 weeks apart if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm³ with no evidence of immunity: Vaccination may be considered (2 doses 3 months apart); VAR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm³
- Severe immunocompromising conditions: VAR contraindicated

### Zoster vaccination

**Routine vaccination**
- Age 50 years or older: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of zoster vaccine live (ZVL, Zostavax) vaccination
- Note: Serologic evidence of prior varicella is not necessary for zoster vaccination. However, if serologic evidence of varicella susceptibility becomes available, providers should follow ACIP guidelines for varicella vaccination first. RZV is not indicated for the prevention of varicella, and there are limited data on the use of RZV in persons without a history of varicella or varicella vaccination.

**Special situations**
- Pregnancy: There is currently no ACIP recommendation for RZV use in pregnancy. Consider delaying RZV until after pregnancy.
- Immunocompromising conditions (including persons with HIV regardless of CD4 count)**: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon). For detailed information, see www.cdc.gov/shingles/vaccination/immunocompromised-adults.html
- **Note:** If there is no documented history of varicella, varicella vaccination, or herpes zoster, providers should refer to the clinical considerations for use of RZV in immunocompromised adults aged ≥19 years and the ACIP varicella vaccine recommendations for further guidance: www.cdc.gov/mmwr/volumes/71/wr/mm7103a2.htm
### Special situations

- Minor edits to improve clarity of the language.
Tetanus, diphtheria, and pertussis vaccination

Routine vaccination

- Previously did not receive Tdap at or after age 11 years: 1 dose Tdap, then Td or Tdap every 10 years.

Special situations

- Previously did not receive primary vaccination series for tetanus, diphtheria, or pertussis: 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks later, and a third dose of Td or Tdap 9–12 months later (Tdap can be substituted for any Td dose, but preferred as first dose), Td or Tdap every 10 years thereafter.
- Pregnancy: 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36.
- Wound management: Persons with 3 or more doses of tetanus-toxoid-containing vaccine: For clean and minor wounds, administer Tdap or Td if more than 10 years since last dose of tetanus-toxoid-containing vaccine; for all other wounds, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Tdap is preferred for persons who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant woman, use Tdap.

For detailed information, see www.cdc.gov/mmwr/volumes/69/rr/mm9903a5.htm

Varicella vaccination

Routine vaccination

- No evidence of immunity to varicella: 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR or MMRV [measles-mumps-rubella-varicella vaccine] for children); if previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose.
- Evidence of immunity: U.S.-born before 1980 (except for pregnant persons and health care personnel [see below]), documentation of 2 doses varicella-containing vaccine at least 4 weeks apart, diagnosis or verification of history of varicella or herpes zoster by a health care provider, laboratory evidence of immunity or disease.

Special situations

- Pregnancy with no evidence of immunity to varicella: VAR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose if previously received 1 dose varicella-containing vaccine or dose 1 of 2-dose series (dose 2: 4–8 weeks later); if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980.
- Health care personnel with no evidence of immunity to varicella: 1 dose if previously received 1 dose varicella-containing vaccine; 2-dose series 4–8 weeks apart if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980.
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm² with no evidence of immunity: Vaccination may be considered (2 doses 3 months apart); VAR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm².
- Severe immunocompromising conditions: VAR contraindicated.

Zoster vaccination

Routine vaccination

- Age 50 years or older*: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of zoster vaccine live (ZVL, Zostavax) vaccination.
- Note: Serologic evidence of prior varicella is not necessary for zoster vaccination. However, if serologic evidence of varicella susceptibility becomes available, providers should follow ACIP guidelines for varicella vaccination first. RZV is not indicated for the prevention of varicella, and there are limited data on the prevention of RZV in persons without a history of varicella or varicella vaccination.

Special situations

- Pregnancy: There is currently no ACIP recommendation for RZV use in pregnancy. Consider delaying RZV until after pregnancy.
- Immunocompromising conditions (including persons with HIV regardless of CD4 count)**: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon).

For detailed information, see www.cdc.gov/immunization/immunocompromised-adults.html.

**Note: If there is no documented history of varicella, varicella vaccination, or herpes zoster, providers should refer to the clinical considerations for use of RZV in immunocompromised adults aged ≥19 years and the ACIP varicella vaccine recommendations for further guidance: www.cdc.gov/mmwr/volumes/71/rr/mm7103a2.htm.
Recommended Adult Immunization Schedule, United States, 2023

**Tetanus, diphtheria, and pertussis vaccination**

**Routine vaccination**
- Previously did not receive Tdap at or after age 11 years: 1 dose Tdap, then Td or Tdap every 10 years

**Special situations**
- Previously did not receive primary vaccination series for tetanus, diphtheria, or pertussis: 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks later, and a third dose of Td or Tdap 6–12 months later (Td or Tdap can be substituted for any Td dose, but preferred as first dose), Td or Tdap every 10 years thereafter
- Pregnancy: 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36
- Wound management: Persons with 3 or more doses of tetanus-toxoid-containing vaccine: For clean and minor wounds, administer Tdap or Td if more than 10 years since last dose of tetanus-toxoid-containing vaccine; for all other wounds, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Tdap is preferred for persons who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant woman, use Tdap. For detailed information, see www.cdc.gov/mmwr/volumes/69/wr/mm6903ss.htm

**Varicella vaccination**

**Routine vaccination**
- No evidence of immunity to varicella: 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR or MMRV [measles-mumps-rubella-varicella vaccine] for children). If previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose
- Evidence of immunity: U.S.-born before 1980 (except for pregnant persons and health care personnel [see below]), documentation of 2 doses varicella-containing vaccine at least 4 weeks apart, diagnosis or verification of history of varicella or herpes zoster by a health care provider, laboratory evidence of immunity or disease

**Special situations**
- Pregnancy with no evidence of immunity to varicella: VAR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose if previously received 1 dose varicella-containing vaccine or dose 1 of 2-dose series (dose 2: 4–8 weeks later) if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980
- Health care personnel with no evidence of immunity to varicella: 1 dose if previously received 1 dose varicella-containing vaccine, 2-dose series 4–8 weeks apart if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm³ with no evidence of immunity: Vaccination may be considered (2 doses 3 months apart; VAR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm³)
- Severe immunocompromising conditions: VAR contraindicated

**Zoster vaccination**

**Routine vaccination**
- Age 50 years or older*: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of zoster vaccine live (ZVL, Zostavax) vaccination.
- Note: Serologic evidence of prior varicella is not necessary for zoster vaccination. However, if serologic evidence of varicella susceptibility becomes available, providers should follow ACIP guidelines for varicella vaccination first. RZV is not indicated for the prevention of varicella, and there are limited data on the use of RZV in persons without a history of varicella or varicella vaccination.

**Special situations**
- Pregnancy: There is currently no ACIP recommendation for RZV use in pregnancy. Consider delaying RZV until after pregnancy.
- Immunocompromising conditions (including persons with HIV regardless of CD4 count)**: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon).
- For detailed information, see www.cdc.gov/shingles/vaccination/immunocompromised-adults.html

**Note:** If there is no documented history of varicella, varicella vaccination, or herpes zoster, providers should refer to the clinical considerations for use of RZV in immunocompromised adults aged ≥19 years and the ACIP varicella vaccination recommendations for further guidance: www.cdc.gov/mmwr/volumes/71/wr/mm7103a2.htm
Routine vaccination
• Note added to provide some background on serologic evidence of prior varicella
**Recommended Adult Immunization Schedule, United States, 2023**

**Tetanus, diphtheria, and pertussis vaccination**

**Routine vaccination**
- Previously did not receive Tdap at or after age 11 years: 1 dose Tdap, then Td or Tdap every 10 years.

**Special situations**
- Previously did not receive primary vaccination series for tetanus, diphtheria, or pertussis: 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks later, and a third dose of Td or Tdap 6–12 months later (Tdap can be substituted for any Td dose, but preferred as first dose). Td or Tdap every 10 years thereafter.
- Pregnancy: 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36.
- Wound management: Persons with 3 or more doses of tetanus-toxoid-containing vaccine: For clean and minor wounds, administer Td or Tdap if more than 10 years since last dose of tetanus-toxoid-containing vaccine; for all other wounds, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Td is preferred for persons who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant woman, use Tdap. For detailed information, see www.cdc.gov/mmwr/volumes/69/wr/mm690335e.htm.

**Varicella vaccination**

**Routine vaccination**
- No evidence of immunity to varicella: 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR) or MMRV (measles-mumps-rubella-varicella vaccine) for children; if previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose.
- Evidence of immunity: US-born before 1980 (except for pregnant persons and health care personnel [see below]); documentation of 2 doses varicella-containing vaccine at least 4 weeks apart; diagnosis or verification of history of varicella or herpetic zoster by a health care provider, laboratory evidence of immunity or disease.

**Special situations**
- Pregnancy with no evidence of immunity to varicella: VAR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose if previously received 1 dose varicella-containing vaccine at least 4 weeks apart; (dose 2): 4–8 weeks later if previously did not receive any varicella-containing vaccine, regardless of whether US-born before 1980.
- Health care personnel with no evidence of immunity to varicella: 1 dose if previously received 1 dose varicella-containing vaccine; 2-dose series 4–8 weeks apart if previously did not receive any varicella-containing vaccine, regardless of whether US-born before 1980.
- HIV infection with CD4 percentages ≤15% and CD4 count <200 cells/mm² with no evidence of immunity: Vaccination may be considered. (2 doses 3 months apart; VAR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm²).
- Severe immunocompromising conditions: VAR contraindicated.

**Zoster vaccination**

**Routine vaccination**
- Age 50 years or older*: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of zoster vaccine live (ZVL, Zostavax) vaccination.

*Note: Serologic evidence of prior varicella is not necessary for zoster vaccination. However, if serologic evidence of varicella susceptibility becomes available, providers should follow ACIP guidelines for varicella vaccination first. RZV is not indicated for the prevention of varicella, and there are limited data on the use of RZV in persons without a history of varicella or varicella vaccination.

**Special situations**
- Pregnancy: There is currently no ACIP recommendation for RZV use in pregnancy. Consider delaying RZV until after pregnancy.
- Immunocompromising conditions (including persons with HIV regardless of CD4 count)**: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon).

For detailed information, see www.cdc.gov/shingles/vaccination/immunocompromised-adults.html.

**Note: If there is no documented history of varicella, varicella vaccination, or herpes zoster, providers should refer to the clinical considerations for use of RZV in immunocompromised adults aged ≥19 years and the ACIP varicella vaccine recommendations for further guidance:** www.cdc.gov/mmwr/volumes/71/wr/mm7103a2.htm
**Special situations**

- Added language to clarify the immunocompromising bullet
**Recommended Adult Immunization Schedule, United States, 2023**

### Tetanus, diphtheria, and pertussis vaccination

**Routine vaccination**
- Previously did not receive Tdap at or after age 11 years: 1 dose Tdap, then Td or TdP every 10 years.

**Special situations**
- Previously did not receive primary vaccination series for tetanus, diphtheria, or pertussis: 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks later, and a third dose of Td or Tdap 6–12 months later (Tdap can be substituted for any Td dose, but preferred as first dose). Td or Tdap every 10 years thereafter.
- Pregnancy: 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36.
- Wound management: Persons with 3 or more doses of tetanus-toxoid-containing vaccine: For clean and minor wounds, administer Tdap or Td if more than 10 years since last dose of tetanus-toxoid-containing vaccine; for all other wounds, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Tdap is preferred for persons who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant woman, use Tdap. For detailed information, see [www.cdc.gov/mmwr/volumes/69/wr/mm6903s5.htm](http://www.cdc.gov/mmwr/volumes/69/wr/mm6903s5.htm).

### Varicella vaccination

**Routine vaccination**
- No evidence of immunity to varicella: 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR or MMRV [measles-mumps-rubella-varicella vaccine] for children); if previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose.
- Evidence of immunity: US-born before 1980 (except for pregnant persons and health care personnel [see below]): documentation of 2 doses varicella-containing vaccine at least 4 weeks apart, diagnosis or verification of history of varicella or herpes zoster by a health care provider, laboratory evidence of immunity or disease.

**Special situations**
- Pregnancy with no evidence of immunity to varicella: VAR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose if previously received 1 dose varicella-containing vaccine or dose 1 of 2-dose series (dose 2: 4–8 weeks later) if previously did not receive any varicella-containing vaccine, regardless of whether US-born before 1980.
- Health care personnel with no evidence of immunity to varicella: 1 dose if previously received 1 dose varicella-containing vaccine; 2-dose series 4–8 weeks apart if previously did not receive any varicella-containing vaccine, regardless of whether US-born before 1980.
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm³ with no evidence of immunity: Vaccination may be considered (2 doses 3 months apart); VAR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm³.
- Severe immunocompromising conditions: VAR contraindicated.

### Zoster vaccination

**Routine vaccination**
- Age 50 years or older*: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of zoster vaccine live (ZVL, Zostavax) vaccination.

*Note: Serologic evidence of prior varicella is not necessary for zoster vaccination. However, if serologic evidence of varicella susceptibility becomes available, providers should follow ACIP guidelines for varicella vaccination first. RZV is not indicated for the prevention of varicella, and there are limited data on the use of RZV in persons without a history of varicella or varicella vaccination.

**Special situations**
- Pregnancy: There is currently no ACIP recommendation for RZV use in pregnancy. Consider delaying RZV until after pregnancy.
- Immunocompromising conditions (including persons with HIV regardless of CD4 count)**: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon). For detailed information, see [www.cdc.gov/shingles/vaccination/immunocompromised-adults.htm](http://www.cdc.gov/shingles/vaccination/immunocompromised-adults.htm).

**Note: If there is no documented history of varicella, varicella vaccination, or herpes zoster, providers should refer to the clinical considerations for use of RZV in immunocompromised adults aged ≥19 years and the ACIP varicella vaccine recommendations for further guidance:** [www.cdc.gov/mmwr/volumes/71/wr/mm7103a2.htm](http://www.cdc.gov/mmwr/volumes/71/wr/mm7103a2.htm)
**Notes**

**Recommended Adult Immunization Schedule, United States, 2023**

**Tetanus, diphtheria, and pertussis vaccination**

**Routine vaccination**
- Previously did not receive Tdap at or after age 11 years: 1 dose Tdap, then Td or Tdap every 10 years

**Special situations**
- Previously did not receive primary vaccination series for tetanus, diphtheria, or pertussis: 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks later, and a third dose of Td or Tdap 6–12 months later (Tdap can be substituted for any Td dose, but preferred as first dose), Td or Tdap every 10 years thereafter
- Pregnancy: 1 dose Tdap during each pregnancy, preferably in the first part of gestational weeks 27–36
- Wound management: Persons with 3 or more doses of tetanus-toxoid-containing vaccine: For clean and minor wounds, administer Tdap or Td if more than 10 years since last dose of tetanus-toxoid-containing vaccine; for all other wounds, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Tdap is preferred for persons who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant woman, use Tdap. For detailed information, see [www.cdc.gov/mmwr/volumes/69/wr/mm69035e.htm](http://www.cdc.gov/mmwr/volumes/69/wr/mm69035e.htm).

**Varicella vaccination**

**Routine vaccination**
- No evidence of immunity to varicella: 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR or MMRV [measles-mumps-rubella-varicella vaccine] for children); if previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose
- Evidence of immunity: U.S.-born before 1980 (except for pregnant persons and health care personnel [see below]); documentation of 2 doses varicella-containing vaccine at least 4 weeks apart, diagnosis or verification of history of varicella or herpes zoster by a health care provider, laboratory evidence of immunity or disease

**Special situations**
- Pregnancy: VAR contraindicated during pregnancy; after pregnancy; before discharge from health care facility, 1 dose if previously received 1 dose varicella-containing vaccine or dose 1 of 2-dose series (dose 2: 4–8 weeks later) if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980
- Health care personnel with no evidence of immunity to varicella: VAR contraindicated during pregnancy; after pregnancy; before discharge from health care facility, 1 dose if previously received 1 dose varicella-containing vaccine or dose 1 of 2-dose series (dose 2: 4–8 weeks later) if previously did not receive any varicella-containing vaccine, regardless of whether U.S.-born before 1980

**Zoster vaccination**

**Routine vaccination**
- Age 50 years or older*: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of zoster vaccine live (ZVL, Zostavax) vaccination

*Note: Serologic evidence of prior varicella is not necessary for zoster vaccination. However, if serologic evidence of varicella susceptibility becomes available, providers should follow ACIP guidelines for varicella vaccination first. RZV is not indicated for the prevention of varicella, and there are limited data on the use of RZV in persons without a history of varicella or varicella vaccination.

**Special situations**
- Pregnancy: There is currently no ACIP recommendation for RZV use in pregnancy. Consider delaying RZV until after pregnancy.
- Immunocompromising conditions (including persons with HIV regardless of CD4 count)**: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon). For detailed information, see [www.cdc.gov/shingles/vaccination/immunocompromised-adults.html](http://www.cdc.gov/shingles/vaccination/immunocompromised-adults.html)

**Special situations**
- Note added to provide some background on history prior varicella infection, varicella vaccination, or prior herpes zoster

**VAR contraindicated**
Recommended Adult Immunization Schedule, United States, 2023

### Tetanus, diphtheria, and pertussis vaccination

**Routine vaccination**
- Previously did not receive Tdap at or after age 11 years: 1 dose Tdap, then Td or Tdap every 10 years

**Special situations**
- Previously did not receive primary vaccination series for tetanus, diphtheria, or pertussis: 1 dose Tdap followed by 1 dose Td or Tdap at least 4 weeks later, and a third dose of Td or Tdap 6–12 months later (Tdap can be substituted for any Td dose, but preferred as first dose). Td or Tdap every 10 years thereafter
- Pregnancy: 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36
- Wound management: Persons with 3 or more doses of tetanus-toxoid-containing vaccine: For clean and minor wounds, administer Tdap or Td if more than 10 years since last dose of tetanus-toxoid-containing vaccine; for all other wounds, administer Tdap or Td if more than 5 years since last dose of tetanus-toxoid-containing vaccine. Tdap is preferred for persons who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant woman, use Tdap. For detailed information, see [www.cdc.gov/mmwr/volumes/69/wr/mm690355.htm](http://www.cdc.gov/mmwr/volumes/69/wr/mm690355.htm).

### Varicella vaccination

**Routine vaccination**
- No evidence of immunity to varicella: 2-dose series 4–8 weeks apart if previously did not receive varicella-containing vaccine (VAR) or MMRV (measles-mumps-rubella-varicella vaccine) for children; if previously received 1 dose varicella-containing vaccine, 1 dose at least 4 weeks after first dose
- **Evidence of immunity**: US-born before 1980 (except for pregnant persons and health care personnel [see below]); documentation of 2 doses varicella-containing vaccine at least 4 weeks apart, diagnosis or verification of history of varicella or herpes zoster by a health care provider, laboratory evidence of immunity or disease.

**Special situations**
- Pregnancy with no evidence of immunity to varicella: VAR contraindicated during pregnancy; after pregnancy (before discharge from health care facility), 1 dose if previously received 1 dose varicella-containing vaccine or dose of 1 of 2-dose series (dose 2: 4–8 weeks later) if previously did not receive any varicella-containing vaccine, regardless of whether US-born before 1980
- Health care personnel with no evidence of immunity to varicella: 1 dose if previously received 1 dose varicella-containing vaccine; 2-dose series 4–8 weeks apart if previously did not receive any varicella-containing vaccine, regardless of whether US-born before 1980
- HIV infection with CD4 percentages ≥15% and CD4 count ≥200 cells/mm³ with no evidence of immunity: Vaccination may be considered (2 doses 3 months apart); VAR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm³
- Severe immunocompromising conditions: VAR contraindicated

### Zoster vaccination

**Routine vaccination**
- Age 50 years or older*: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon), regardless of previous herpes zoster or history of zoster vaccine live (ZVL, Zostavax) vaccination.
- **Note**: Serologic evidence of prior varicella is not necessary for zoster vaccination. However, if serologic evidence of varicella susceptibility becomes available, providers should follow ACIP guidelines for varicella vaccination first. RZV is not indicated for the prevention of varicella, and there are limited data on the use of RZV in persons without a history of varicella or varicella vaccination.

**Special situations**
- Pregnancy: There is currently no ACIP recommendation for RZV use in pregnancy. Consider delaying RZV until after pregnancy.
- **Immunocompromising conditions (including persons with HIV regardless of CD4 count)**: 2-dose series recombinant zoster vaccine (RZV, Shingrix) 2–6 months apart (minimum interval: 4 weeks; repeat dose if administered too soon). For detailed information, see [www.cdc.gov/shingles/vaccination/immunocompromised-adults.html](http://www.cdc.gov/shingles/vaccination/immunocompromised-adults.html).

**Note**: If there is no documented history of varicella, varicella vaccination, or herpes zoster, providers should refer to the clinical considerations for use of RZV in immunocompromised adults aged ≥19 years and the ACIP varicella vaccine recommendations for further guidance: [www.cdc.gov/mmwr/volumes/71/wr/mm7103a2.htm](http://www.cdc.gov/mmwr/volumes/71/wr/mm7103a2.htm).
Appendix
# Recommended Adult Immunization Schedule, United States, 2023

## Guide to Contraindications and Precautions to Commonly Used Vaccines

Adapted from Table 4-1 in Advisory Committee on Immunization Practices (ACIP) General Best Practice Guidelines for Immunization: Contraindication and Precautions available at www.cdc.gov/vaccines/hcp/advp/recs/general-recs/contraindications.html and ACIP’s Recommendations for the Prevention and Control of 2022-23 Seasonal Influenza with Vaccines available at www.cdc.gov/mmwr/volumes/71/rr/rr7101a1.htm

**For COVID-19 vaccine contraindications and precautions see**
www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#contraindications

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Contraindicated or Not Recommended</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza, egg-based, inactivated injectable (IV)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV, cIV, RV, or LAIV of any valency)</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Influenza, cell culture-based inactivated injectable [cIV, FlockHouse* Quadrivalent]</td>
<td>Severe allergic reaction (e.g., anaphylaxis) to any cIV of any valency or to any component* of cIV/4</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, RV, or LAIV of any valency; if using cIV, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions; may consult an allergist; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Influenza, recombinant injectable (RI), Flublok* Quadrivalent</td>
<td>Severe allergic reaction (e.g., anaphylaxis) to any RV of any valency, or to any component* of RV</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, cIV, or LAIV of any valency; if using RV, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions; may consult an allergist; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Influenza, live attenuated [LAIV, FluMist* Quadrivalent]</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV, cIV, RV, or LAIV of any valency)</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Severe allergic reaction (e.g., anaphylaxis) to any vaccine component* excluding egg</td>
<td>Anatomic or functional asplenia</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Severe allergic reaction (e.g., anaphylaxis) to any vaccine component* excluding egg</td>
<td>Immunosuppressed due to any cause including, but not limited to, medications and HIV infection</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Severe allergic reaction (e.g., anaphylaxis) to any vaccine component* excluding egg</td>
<td>Close contacts or caregivers of severely immunosuppressed persons who require a protected environment</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Severe allergic reaction (e.g., anaphylaxis) to any vaccine component* excluding egg</td>
<td>Pregnancy</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Severe allergic reaction (e.g., anaphylaxis) to any vaccine component* excluding egg</td>
<td>Cochlear implant</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Severe allergic reaction (e.g., anaphylaxis) to any vaccine component* excluding egg</td>
<td>Active communication between the cerebrospinal fluid (CSF) and the oropharynx, nasopharynx, nose, ear, or any other canal CSF leak</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Severe allergic reaction (e.g., anaphylaxis) to any vaccine component* excluding egg</td>
<td>Recipient influenza antiviral medications (oseltamivir or zanamivir) within the previous 48 hours, paroxysmal within the previous 5 days, or belated within the previous 17 days.</td>
<td>Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine; moderate or severe acute illness with or without fever</td>
</tr>
</tbody>
</table>

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1. When a contraindication is present, a vaccine should NOT BE administered. Kroger A, Bahia L, Hunter P. ACP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/advp/recs/general-recs/contraindications.html
2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kroger A, Bahia L, Hunter P. ACP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/advp/recs/general-recs/contraindications.html
3. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. Package inserts for US-licensed vaccines are available at www.fda.gov/vaccines-blood-biotherapeutics/approved-products/vaccines-licensed-use-united-states.
### For COVID-19 vaccine contraindications and precautions see
www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#contraindications

<table>
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<tbody>
<tr>
<td>Influenza, egg-based, inactivated injectable (IV)</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine, including any egg-based IV, IIV, or LAIV of any valency.</td>
<td>• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine. Moderate or severe acute illness with or without fever.</td>
</tr>
<tr>
<td></td>
<td>• Severe allergic reaction (e.g., anaphylaxis) to any vaccine component(s) excluding egg.</td>
<td></td>
</tr>
<tr>
<td>Influenza, cell culture-based, inactivated injectable (rIV) [Flumist* Quadrivalent]</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) to any vaccine component(s) or to any component(s) of other influenza vaccines.</td>
<td>• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine. Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, IIV, or LAIV of any valency. If using rIV, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. Moderate or severe acute illness with or without fever.</td>
</tr>
<tr>
<td></td>
<td>• Severe allergic reaction (e.g., anaphylaxis) to any RV of any valency, or to any component(s) of rIV.</td>
<td></td>
</tr>
<tr>
<td>Influenza, recombinant injectable (IIV), Flublok* Quadrivalent</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) to any vaccine component(s) or to any component(s) of other influenza vaccines.</td>
<td>• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine. Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, IIV, or LAIV of any valency. If using IIV, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. Moderate or severe acute illness with or without fever.</td>
</tr>
<tr>
<td></td>
<td>• Severe allergic reaction (e.g., anaphylaxis) to any RV of any valency, or to any component(s) of rIV.</td>
<td></td>
</tr>
<tr>
<td>Influenza, live attenuated [IIVA, Fluarix* Quadrivalent]</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine, including any egg-based IV, IIV, or LAIV of any valency.</td>
<td>• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine. Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, IIV, or LAIV of any valency. If using IIV, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. Moderate or severe acute illness with or without fever.</td>
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<td></td>
<td>• Severe allergic reaction (e.g., anaphylaxis) to any vaccine component(s) excluding egg.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Severe allergic reaction (e.g., anaphylaxis) to any RV of any valency, or to any component(s) of rIV.</td>
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1. When a contraindication is present, a vaccine should NOT be administered. Kroger A, Bahia L, Hunter P. ACP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
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<th>Vaccine</th>
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<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza, egg-based, inactivated injectable (0IV4)</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV, cdlV, RV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component (excluding egg)</td>
<td>• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Influenza, cell culture-based inactivated injectable (cVIV4, Flucelvax Quadivalent)</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) to any cdlV of any valency, or to any component of cdlV4</td>
<td>• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, RV, or LAIV of any valency. If using cdlV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Influenza, recombinant injectable (RIV4, Flublok Quadivalent)</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component of RIV4</td>
<td>• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, cdlV, or LAIV of any valency. If using RIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Influenza, live attenuated (LAIV, Flumist Quadivalent)</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV, cdlV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component (excluding egg) • Anatomic or functional asplenia • Immunocompromised due to any cause including, but not limited to, medications and HIV infection • Close contacts or caregivers of severely immunosuppressed persons who require a protected environment • Pregnancy • Cochlear implant • Active communication between the cerebrospinal fluid (CSF) and the oropharynx, nasopharynx, nose, ear, or any other cranial CSF leak • Received influenza antiviral medications oseltamivir or zanamivir within the previous 48 hours, peramivir within the previous 5 days, or baloxavir within the previous 17 days.</td>
<td>• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Asthma in persons aged 5 years old or older • Persons with underlying medical conditions (other than those listed under contraindications) that might predispose to complications after wild-type influenza virus infection (e.g., chronic pulmonary, cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus)) • Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Vaccine</td>
<td>Contraindicated or Not Recommended</td>
<td>Precautions</td>
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</tr>
</tbody>
</table>
| Influenza, egg-based, inactivated injectable (IIV4) | - Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV, IIV, RIV, or LAIV of any valency)  
- Severe allergic reaction (e.g., anaphylaxis) to any vaccine component (excluding egg) | - Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine  
- Moderate or severe acute illness with or without fever |
| Influenza, cell culture-based inactivated injectable (IIV4) Fluocivax® Quadrivalent | - Severe allergic reaction (e.g., anaphylaxis) to any cdIIV of any valency, or to any component of cdIIV4 | - Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine  
- Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, IIV, RIV, or LAIV of any valency. If using cdIIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist  
- Moderate or severe acute illness with or without fever |
| Influenza, recombinant injectable (RIV4, Flublok® Quadrivalent) | - Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component of RIV4 | - Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine  
- Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, IIV, RIV, or LAIV of any valency. If using RIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist  
- Moderate or severe acute illness with or without fever |
| Influenza, live attenuated (LAIV4, Flumist® Quadrivalent) | - Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV, IIV, RIV, or LAIV of any valency)  
- Severe allergic reaction (e.g., anaphylaxis) to any vaccine component (excluding egg)  
- Anatomic or functional asplenia  
- Immunocompromised due to any cause including, but not limited to, medications and HIV infection  
- Close contacts or caregivers of severely immunosuppressed persons who require a protected environment  
- Pregnancy  
- Cochlear implant  
- Active communication between the cerebrospinal fluid (CSF) and the oropharynx, nasopharynx, nose, ear, or any other cranial CSF leak  
- Received influenza antiviral medications oseltamivir or zanamivir within the previous 48 hours, permethrin within the previous 5 days, or baloxavir within the previous 17 days. | - Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine  
- Asthma in persons aged 5 years old or older  
- Persons with underlying medical conditions, other than those listed under contraindications, that might predispose to complications after wild-type influenza virus infection (e.g., chronic pulmonary, cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus))  
- Moderate or severe acute illness with or without fever |
<table>
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<th>Contraindicated or Not Recommended¹</th>
<th>Precautions²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza, egg-based, inactivated injectable ([IV4])</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV, cdlV, or LAIV of any valency)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Severe allergic reaction (e.g., anaphylaxis) to any vaccine component (excluding egg)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine</td>
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<tr>
<td></td>
<td>- Moderate or severe acute illness with or without fever</td>
<td></td>
</tr>
<tr>
<td>Influenza, cell culture-based inactivated injectable (ccIV4, FluMavix® Quadivalent)</td>
<td>- Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, cdlV, or LAIV of any valency. If using ccIV4, administer in medical setting under supervision of health-care provider who can recognize and manage severe allergic reactions. May consult an allergist.</td>
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<tr>
<td>Influenza, recombinant injectable ([RIV4, Flublok® Quadivalent])</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component of RIV4</td>
<td></td>
</tr>
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<td>- Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine</td>
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<td>- Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IV, cdlV, or LAIV of any valency. If using RIV4, administer in medical setting under supervision of health-care provider who can recognize and manage severe allergic reactions. May consult an allergist.</td>
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<td>Influenza, live attenuated ([LAIV, Flumist® Quadivalent])</td>
<td>- Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV, cdlV, RIV, or LAIV of any valency)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>- Moderate or severe acute illness with or without fever</td>
<td></td>
</tr>
</tbody>
</table>
Precautions

- Removed having an “egg allergy” from the precautions column
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Contraindicated or Precautions</th>
</tr>
</thead>
</table>
| Haemophilus influenzae type b   | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component  
• For Hib and Hepatitis B vaccine: 4-hr history of severe allergic reaction to dry natural latex  
• Moderate or severe acute illness with or without fever |
| Hepatitis B (HepB)              | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Hepatitis A (HepA)              | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Influenza A (H1N1)              | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Influenza B (H3N2)              | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Human papillomavirus (HPV)      | • Severe allergic reactions (e.g., anaphylaxis) after a previous dose or to a vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Measles, mumps, rubella (MMR)   | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component  
• Severe immunodeficiency, recent receipt of chemotherapy, congenital immunodeficiency, long-term corticosteroid therapy or patients with HIV infection who are severely immunocompromised  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Meningococcal A (MenA)          | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Meningococcal ACWY (MenACWY)    | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Pneumococcal vaccine (PCV13, PCV23) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to the vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Pneumococcal polysaccharide (PPS23) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to the vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Tetanus, diphtheria, and pertussis (Tdap) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to the vaccine component  
• For Tetanus only: Esophagopharyngeal (e.g., corn, crêpe) diet, nasogastric suction, ssuculent stimulants, not attributable to another identifiable cause, within 7 days of administration of previous dose of DTaP, TdTP, or Tdap  
• For other doses: moderate/severe acute illness with or without fever |
| Varicella (VAR)                 | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to the vaccine component  
• Severe immunodeficiency (e.g., hematologic and solid tumors, rare or chronic disease, congenital immunodeficiency, long-term corticosteroid therapy or patients with HIV infection who are severely immunocompromised)  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |
| Zoster recombinate vaccine (RZV) | • Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to the vaccine component  
• Pregnancy  
• For other doses: moderate/severe acute illness with or without fever |

1. When a contraindication is present, a vaccine should NOT be administered. Kruger A, Baha L, Hunter P. ACP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acf-recs/general-recs/contraindications.html
2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kruger A, Baha L, Hunter P. ACP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acf-recs/general-recs/contraindications.html
3. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. Package inserts for U.S.-licensed vaccines are available at www.fda.gov/vaccines-blood-biologics/approved-products/vaccines-licensed-use-united-states
4. For information on the pregnancy exposure registry for persons who were inadvertently vaccinated with Hepatitis B or Pneumococcal vaccine while pregnant, please visit healthsgov즈/immunizationregistry or www.prebioticsafety.org
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<td>• For Hiberix, ActHib, and PedvaxHIB only: History of severe allergic reaction to dry natural latex</td>
<td></td>
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<td>Hepatitis A (HepA)</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component² including neomycin</td>
<td>• Moderate or severe acute illness with or without fever</td>
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<tr>
<td>Hepatitis B (HepB)</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component² including yeast</td>
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<td>• Pregnancy: Heplisav-B and PreHevbio are not recommended due to lack of safety data in pregnant persons. Use other hepatitis B vaccines if HepB is indicated</td>
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<td>Hepatitis A- Hepatitis B vaccine [HepA-HepB, (Twinrix)]</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component² including neomycin and yeast</td>
<td>• Moderate or severe acute illness with or without fever</td>
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<tr>
<td><em>Haemophilus influenzae</em> type b (Hib)</td>
<td>• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component including neomycin&lt;br&gt;&lt;br&gt;- For Hibrix, ActHib, and PedvaxHib only: History of severe allergic reaction to dry natural latex</td>
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1. When a contraindication is present, a vaccine should NOT be administered. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html)
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Vaccination resources for healthcare providers
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- Pneumococcal Vaccination App
- Pneumococcal Vaccine Timing for Adults
- Adult Vaccine Assessment Tool
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Adult Immunization Schedule by Age

Recommendations for Ages 19 Years or Older, United States, 2023

Using the schedule
To make vaccination recommendations, healthcare providers should:
1. Determine needed vaccines based on age (Table 1)
2. Assess for medical conditions and other indications (Table 2)
3. Review special situations (Vaccination Notes)
4. Review contraindications and precautions to vaccination (Appendix)

The Immunization Schedule

Table 1. By age
Vaccination notes

Table 2. By indications
Appendix

Download the Schedule
Printable schedule, color
Printable schedule, black & white

More Schedule Resources
Compliant version of the schedule
Schedule changes and guidance

Vaccines You May Need
Recommended vaccines for adults
Get personalized recommendations

Get email updates

Download the mobile schedule app
Download “CDC Vaccine Schedules” free for iOS and Android devices.

Product Specs
Version: 10.0.1

Requirements: Requires iOS 11.0 or later and Android 5.1 or later; optimized for tablets and useful on smartphones.

Updates: Changes in the app are released through app updates.

Download app free for iOS

Download app free for Android
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PneumoRecs VaxAdvisor Mobile App for Vaccine Providers

The PneumoRecs VaxAdvisor mobile app was updated on February 9, 2022, to reflect CDC's new adult pneumococcal vaccination recommendations.

The PneumoRecs VaxAdvisor mobile app helps vaccination providers quickly and easily determine which pneumococcal vaccines a patient needs and when. The app incorporates recommendations for all ages so internists, family physicians, pediatricians, and pharmacists alike will find the tool beneficial.

Users simply:

- Enter a patient's age.
- Note if the patient has specific underlying medical conditions.
- Answer questions about the patient's pneumococcal vaccination history.

Then the app provides patient-specific guidance consistent with the immunization schedule recommended by the U.S. Advisory Committee on Immunization Practices (ACIP).

Download the App Today

PneumoRecs VaxAdvisor is available for download on iOS and Android mobile devices.

Download PneumoRecs VaxAdvisor for free:
- iOS devices
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- Clinical Considerations for Use of COVID-19 Vaccines
# Pneumococcal Vaccine Timing for Adults

Make sure your patients are up to date with pneumococcal vaccination.

## Adults ≥65 years old

### Complete pneumococcal vaccine schedules

<table>
<thead>
<tr>
<th>Prior vaccines</th>
<th>Option A</th>
<th>Option B</th>
</tr>
</thead>
<tbody>
<tr>
<td>None*</td>
<td>PCV20</td>
<td>PCV15 ≥1 year → PPSV23</td>
</tr>
<tr>
<td>PPSV23 only at any age</td>
<td>≥1 year → PCV20</td>
<td>≥1 year → PCV15</td>
</tr>
<tr>
<td>PCV13 only at any age</td>
<td>≥1 year → PCV20</td>
<td>≥1 year → PPSV23</td>
</tr>
<tr>
<td>PCV13 at any age &amp; PPSV23 at &lt;65 yrs</td>
<td>≥5 years → PCV20</td>
<td>≥5 years → PPSV23</td>
</tr>
</tbody>
</table>

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines

1. Consider minimum interval (8 weeks) for adults with an immunocompromising condition, cochlear implant, or cerebrospinal fluid leak (CSF) leak

2. For adults with an immunocompromising condition, cochlear implant, or CSF leak, the minimum interval for PPSV23 is ≥8 weeks since last PCV13 dose and ≥5 years since last PPSV23 dose; for others, the minimum interval for PPSV23 is ≥1 year since last PCV13 dose and ≥5 years since last PPSV23 dose

---

### Shared clinical decision-making for those who already completed the series with PCV13 and PPSV23

<table>
<thead>
<tr>
<th>Prior vaccines</th>
<th>Shared clinical decision-making option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete series: PCV13 at any age &amp; PPSV23 at ≥65 yrs</td>
<td>≥5 years → PCV20 Together, with the patient, vaccine providers may choose to administer PCV20 to adults ≥65 years old who have already received PCV13 (but not PCV15 or PCV20) at any age and PPSV23 at or after the age of 65 years old.</td>
</tr>
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</table>
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The Adult Vaccine Assessment Tool

What Vaccines do You need?

Adults need vaccines too! Answer a few quick questions to find out which vaccines you may need.

Vaccines are recommended for adults based on age, health conditions, job, and other factors. No personal information will be retained by CDC. *This vaccine assessment tool applies to adults 19 years or older.

COVID-19 Vaccination

- Everyone 5 years and older is now eligible to [get a free COVID-19 vaccination](https://www.cdc.gov/vaccines/hcp/vaccines-for-public.html).
- COVID-19 vaccines are [safe and effective](https://www.cdc.gov/vaccines/hcp/professionals/safety.html).
- To find COVID-19 vaccine locations near you, search [vaccines.gov](https://www.vaccines.gov) or text your zip code to 438829, or call 1-800-232-0233.
Instructions:

1. Answer the questions below.
2. Get a list of vaccines you may need based on your answers.
   (This list may include vaccines you've already had).
3. Discuss the list with your doctor or health care professional.

Questions:

1. Are you
   - Male
   - Female

2. What year were you born? (some vaccines are age-related)
   - 2004

3. Have you ever had the chickenpox vaccine?
   OR
   Has a healthcare provider diagnosed you with chickenpox ever in your life, or do you have laboratory results showing that you had chickenpox sometime in your life?
   - Yes
   - No
   - Not Sure

4. Will you be traveling outside the U.S. in the near future?
   - Yes
   - No

5. Are you a first-year college student who lives in a college dormitory or a new military recruit?
   - Yes
   - No
Instructions:

1. Answer the questions below.
2. Get a list of vaccines you may need based on your answers. (This list may include vaccines you've already had).
3. Discuss the list with your doctor or health care professional.

Questions:

1. Are you Male [ ] Female [ ]

2. What year were you born? (some vaccines are age-related) [2004]

3. Have you ever had the chickenpox vaccine? OR Has a healthcare provider diagnosed you with chickenpox ever in your life, or do you have laboratory results showing that you had chickenpox sometime in your life?
   - Yes [ ]
   - No [ ]
   - Not Sure [ ]

4. Will you be traveling outside the U.S. in the near future?
   - Yes [ ]
   - No [ ]

5. Are you a first-year college student who lives in a college dormitory or a new military recruit?
   - Yes [ ]
   - No [ ]
Your Vaccine Assessment Results

Your answers to the Adult Vaccine Assessment suggest that you may need the following vaccines if you have not had them before or are not already immune.

Suggested Vaccines

- MMR
- Hepatitis B
- Influenza
- Meningococcal
- Tdap, Td
- HPV

The table below provides more information on each of the vaccines you may need. Click on the vaccine name for more details. The links at the bottom of the page will allow you to print these results and take them to your next medical appointments.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Suggested because</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMR - Measles-mumps-rubella</td>
<td>Your age indicates that you might need the MMR vaccine.</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Your age indicates that you might need hepatitis B vaccine.</td>
</tr>
<tr>
<td>Seasonal Flu (Influenza)</td>
<td>People 6 months of age or older should get the flu vaccine.</td>
</tr>
<tr>
<td>Meningococcal</td>
<td>Your age indicates that you might need meningococcal vaccine.</td>
</tr>
<tr>
<td>Tdap, Td - Tetanus, Diphtheria, and Pertussis</td>
<td>You might need 1 dose of tetanus, diphtheria, and pertussis vaccine (Tdap). Tdap may be given regardless of when you last received a tetanus and diphtheria vaccine (Td). After you receive your Tdap, you will need a Td booster every 10 years.</td>
</tr>
</tbody>
</table>
HPV - Human Papillomavirus

Your age indicates that you might need HPV vaccine.

Next Steps...
Share this information with your doctor or other health care professional, along with your vaccination record. If you do not have a vaccination record, now is a good time to start one.

Tell your doctor if you have already had any of these vaccines or diseases. To make sure you get the vaccines you need, your doctor will also need to know your allergies and history of disease.

More Information
Call CDC-INFO, in English or Spanish: 1-800-CDC-INFO or 1-800-232-4636

Related Pages

- Adults Need Vaccines Too
- Adult Immunization Schedule
- Adolescent and Adult Vaccine Quiz web buttons

Page last reviewed: February 18, 2022
Content source: National Center for Immunization and Respiratory Diseases
CDC vaccination resources for healthcare providers

- Schedules App
- Pneumococcal Vaccination App
- Pneumococcal Vaccine Timing for Adults
- Adult Vaccine Assessment Tool
- Storage and Handling Toolkit
- Clinical Considerations for Use of COVID-19 Vaccines
Vaccine Storage and Handling Toolkit

COVID-19 Vaccination Provider Requirements

The Vaccine Storage and Handling Toolkit has been updated with a COVID-19 Vaccine Addendum with information on Storage and Handling best practices for COVID-19 vaccines. All vaccination providers participating in the COVID-19 Vaccination Program must store and handle COVID-19 vaccines under proper conditions to maintain the cold chain as outlined in the toolkit and addendum.

This addendum will be updated with specific storage and handling information for each COVID-19 product. Please sign up for email alerts on this page to be notified when updates are made or check this website often.

For more information about COVID-19 vaccination provider requirements and resources on enrollment, ordering, and data in support of vaccination visit COVID-19 Vaccination Provider Requirements and Support | CDC

The 2021 Vaccine Storage and Handling Toolkit is a comprehensive guide that reflects best practices for vaccine storage and handling from Advisory Committee on Immunization Practices (ACIP) recommendations, product information from vaccine manufacturers, and scientific studies.

The toolkit has been updated for 2021 to clarify language including:

- Beyond use date (BUD)
- Routine maintenance for vaccine storage units
- New definition added to the glossary
- COVID-19 vaccine information
Vaccine Storage and Handling Toolkit

Updated with COVID-19 Vaccine Storage and Handling Information
Addendum added September 29, 2021
CDC vaccination resources for healthcare providers

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Use of COVID-19 Vaccines in the United States

Summary of recent changes (last updated January 27, 2023):
- As of January 26, 2023, EVUSHELD™ is not currently authorized for SARS-CoV-2 pre-exposure prophylaxis in the United States.

Reference Materials
- Summary Document for Interim Clinical Considerations (Updated 12/12/2022)
- Interim COVID-19 Immunization Schedule (Updated 12/12/2022)
- COVID-19 Vaccination Schedule Infographic
- COVID-19 Vaccination Schedule Infographic (Immune-compromised)
- Special Situations for COVID-19 Vaccination of Children and Adolescents, Age Transitions and Interchangeability (Updated 12/09/2022)
- FAQs for the Interim Clinical Considerations

COVID-19 Vaccines, Recommendations, and Schedules
- Overview of COVID-19 vaccination
- Guidance for people who are not immunocompromised
- Guidance for people who are immunocompromised
CDC vaccination resources for healthcare providers

- Schedules App
  - https://www.cdc.gov/vaccines/schedules/hcp/schedule-app.html

- Pneumococcal Vaccination App
  - https://www.cdc.gov/vaccines/vpd/pneumo/hcp/pneumoapp.html

- Pneumococcal Vaccine Timing for Adults

- Adult Vaccine Assessment Tool
  - https://www2.cdc.gov/nip/adultimmsched

- Storage and Handling Toolkit
  - https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/index.html

- Clinical Considerations for Use of COVID-19 Vaccines
CDC Contact Information

- Immunization call center
  - 1-800-232-4636 (1-800-CDC-INFO)
  - 8:00 am through 8:00 pm
  - English or Spanish
  - Questions about to immunization or vaccine-preventable diseases, to find vaccination locations, or to order single copies of immunization materials

- Email
  - nipinfo@cdc.gov
    - Health care providers can submit questions about to immunization or vaccine-preventable diseases.
    - Response usually within 24 hours
  - CISAeval@cdc.gov
    - U.S. health care providers can request consultation with CISA Project about complex vaccine safety questions for patients who reside in U.S.
    - Clinical Immunization Safety Assessment Project (CISA) needs access to medical records
Combined Immunization Schedule Work Group 2023

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Thank You!

Questions?

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.