Immunization Update

Washington State Immunization Summit 2023

JoEllen Wolicki, BSN, RN
Nurse Educator
Immunization Services Division
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
Disclosures

- JoEllen Wolicki is a federal government employee with no financial interest in or conflict with the manufacturer of any product named in this presentation.
- I will not discuss any off-label uses for vaccines.
- The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.
- The findings and conclusions in this presentation are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention or ATSDR.
Disclosures

- The recommendations to be discussed are primarily those of the Advisory Committee on Immunization Practices (ACIP).
  - Composed of 15 experts in clinical medicine and public health
  - Provides guidance on use of vaccines and other biologic products to DHHS, CDC, and the U.S. Public Health Service

Next ACIP Meeting June 21–22, 2023
Thank You!
Immunization Schedules: Overview

- Published annually in February
  - Represents current, approved ACIP policy
  - Designed for implementation of ACIP policy

- Two separate schedules
  - Child and adolescent schedule (age birth through 18 years)
  - Adult schedule (age 19 years or older)
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/acip-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 (IV4)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV4, cIV4, 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 (ccIV4, Horsfall* Quadrivalent)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) to any cIV4 of any valency or to any component of cIV4</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 IV4, cIV4, or LAIV of any valency. If using cIV4, 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 (IV4), Fluzone Quadrivalent</td>
<td>Severe allergic reaction (e.g., anaphylaxis) to any RV of any valency, or to any component of IV4</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 IV4, cIV4, or LAIV of any valency. If using IV4, 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 ILAV, FluMist QUAD</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IV4, cIV4, or LAIV of any valency)</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 hypotension), hepatic, neurologic, hematologic, or metabolic disorders including diabetes mellitus. Moderate or severe acute illness with or without fever.</td>
</tr>
</tbody>
</table>

1. When a contraindication is present, a vaccine should NOT be administered. Kroger A, Bailey L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-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, Bailey L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-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.
CDC Interim COVID-19 Immunization Schedule for Persons 6 Months of Age and Older

Tables 1 A – C
For Most People

COVID-19 Vaccine Interim COVID-19 Immunization Schedule for 6 Months of Age and Older (cdc.gov)
Return of Vaccine-Preventable Diseases

Morbidity and Mortality Weekly Report

Wastewater Testing and Detection of Poliovirus Type 2 Genetically Linked to Virus Isolated from a Paralytic Polio Case — New York, March 9–October 11, 2022

A. Blythe Bonson, PhD1,2; Daniel Lang, MS1; Mohamed A. Alzawi, BSc2; Milagros Nava, MS1; Dustin T. Hill, PhD1; Kirsten St. George, PhD1,2; Meghan Frashiero, MS1; Emily Lutchtih, MD1; Bryon Badsonen, MS2; Samuel Ball1; Patricia Schnabel Bappuru, DO3; Jacqueline Lawko, MPH3; Nancy McGraw, MTF1; Andrew Rauch, DO3; Lyria Gharan, DFMF3; Jace B. Zadzuk, MD4,5; Emma Omorogie, PhD4; Sarah Nold, MD4; David E. Sugarman, MD4; Jeanne Jorin, PhD1; Nancy Gehoff, PhD1; Kory Fu, FSCN, PhD1; Adriana Lopez, MPH5; Nina B. Curose, PhD3; Jessica Leung, MPH5; Cara C. Demas, PhD1; Janel Ruhk, MD1; Stephanie R. Baldi, MD1; M. Sierra Olivera, PhD1; Eli S. Rosenberg, PhD1,11; 2022 U.S. Polio/Enteric Virus Response Team

‘Silent’ spread of polio in New York drives CDC to consider additional vaccinations for some people

Measles Exposure at a Large Gathering in Kentucky, February 2023 and Global Measles Outbreaks

Summary
The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory to notify clinicians and public health officials about a confirmed measles case at a large gathering. On February 24, 2023, the Kentucky Department for Public Health (KDPH) identified a confirmed case of measles in an unvaccinated individual with a history of recent international travel.
Decline in Vaccination Coverage Among Kindergarteners During the Pandemic

<table>
<thead>
<tr>
<th>Kindergarten Coverage</th>
<th>2019-20 (pre-pandemic)</th>
<th>2020-21 (pandemic)</th>
<th>2021-22 (pandemic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMR</td>
<td>95.2%</td>
<td>93.9%</td>
<td>93.5%</td>
</tr>
<tr>
<td>DTaP</td>
<td>94.9%</td>
<td>93.6%</td>
<td>93.1%</td>
</tr>
<tr>
<td>Polio</td>
<td>95.0%</td>
<td>93.9%</td>
<td>93.5%</td>
</tr>
<tr>
<td>Varicella (UTD)</td>
<td>94.8%</td>
<td>93.6%</td>
<td>92.6%</td>
</tr>
</tbody>
</table>

2% drop in kindergarten vaccination coverage since the start of the pandemic

275,000 children, who entered kindergarten during the pandemic, are susceptible to vaccine preventable disease

Ensure Everyone is Caught Up!
Evidence-Based Strategies

- Use a reminder/recall system to let patients/parents know vaccines are due.
- Give a strong recommendation when talking about vaccines.
- Use provider prompts (computer or handwritten) to remind staff when vaccines are due.
- Assess for needed vaccines at every clinical visit.
- Use standing orders.
- Consider “vaccine-only” visits.
Influenza Update
Time to Prepare for Next Flu Season!
2022–2023 ACIP Recommendations: Influenza

- Annual influenza vaccination is recommended for persons 6 months of age and older without contraindications or precautions.
- Note: Influenza vaccine products vary with different age-indications contraindications, and recommendations.
2022–2023 ACIP Recommendations: Influenza

Ages 6 months–64 years
No preferential recommendation. Administer any licensed, recommended, and age-appropriate vaccine.

Ages 65 years and older
ACIP recommends any high dose or adjuvanted influenza vaccine.

Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2022–23 Influenza Season | MMWR (cdc.gov)
65 Years Old and Older: Higher Dose and Adjuvanted Vaccines

- ACIP recommends preferential use of higher dose or adjuvanted influenza vaccines for persons 65 years old or older
- Includes these vaccines:
  - Higher dose: High-dose influenza vaccine (Fluzone High-Dose), Recombinant Influenza Vaccine (Flublok)
  - Adjuvanted: Adjuvanted influenza vaccine (Fluad)
  - No preference between these three
- If none of the three are available, vaccinate with another age-appropriate influenza vaccine

Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2022–23 Influenza Season | MMWR (cdc.gov)
BIVALENT COVID-19 Vaccination
Persons Who Are Not Immunocompromised
Bivalent COVID-19 Vaccination Coverage Rates Are Low

16.7% of the total U.S. population have received a bivalent COVID-19 vaccine.

20.2% of U.S. adults ages 18 years or older have received a bivalent COVID-19 vaccine.

COVID-19 Data Tracker, last updated April 13, 2023, [CDC COVID Data Tracker: Vaccinations in the US](https://covid.cdc.gov/covid-data-tracker/)
New Recommendations for Persons* 6 Years of Age or Older Who HAVE NOT Received Bivalent Vaccine

One dose of bivalent mRNA vaccine

*Without immunocompromise
New Recommendations for Persons* 6 Years of Age or Older Who HAVE NOT Received Bivalent Vaccine

- No COVID-19 vaccine doses
- \( \geq 1 \) monovalent Moderna dose
- \( \geq 1 \) monovalent Pfizer-BioNTech dose
- \( \geq 1 \) monovalent Novavax dose
- \( \geq 1 \) monovalent Janssen dose

One dose of bivalent mRNA vaccine

At least 2 months after the previous dose

*Without immunocompromise
New Recommendations for Persons* 6 Years of Age and Older Who HAVE Received Bivalent Vaccine

One dose of bivalent mRNA vaccine

Vaccination is complete. No additional doses are indicated at this time.

*Without immunocompromise
New Recommendations for Those at Higher Risk of Severe Disease: People 65 Years of Age or Older

People 65 years and older who have NOT received a bivalent mRNA dose

- One bivalent mRNA dose
- Optional additional bivalent mRNA dose
- At least 4 months

People 65 years and older who have already received a bivalent mRNA dose

- One bivalent mRNA dose
- Optional additional bivalent mRNA dose
- At least 4 months
Children 6 Months Through 5 Years of Age

- Schedule varies based on vaccination status
  1. Unvaccinated: No previous doses of any COVID-19 vaccine
  2. Vaccinated: Children whose immunization history includes dose(s) of monovalent vaccine

- Vaccine products have different age indications
  - Pfizer-BioNTech: 6 months through 4 years of age
  - Moderna: 6 months through 5 years of age
    - Different presentations based on recipient’s vaccination history and health status
Unvaccinated Children* 6 Months Through 5 Years of Age: Moderna COVID-19 Vaccine

Separate doses by 4–8 weeks†

Use the blue capped vial with the gray labeled border

*Not immunocompromised.

†An 8-week interval between doses 1 and 2 may be optimal for some people ages 6 months–64 years, especially for males ages 12–39 years, as it may reduce the small risk of myocarditis and pericarditis associated with these vaccines.
Unvaccinated Children* 6 Months Through 4 Years of Age: Pfizer-BioNTech COVID-19 Vaccine

Separate doses by 3–8 weeks†

Separate doses by at least 8 weeks

*Not immunocompromised.

†An 8-week interval between doses 1 and 2 may be optimal for some people ages 6 months–64 years, especially for males ages 12–39 years, as it may reduce the small risk of myocarditis and pericarditis associated with these vaccines
Children* 6 Months Through 4 Years of Age: Previously Vaccinated with Moderna Monovalent Vaccine

<table>
<thead>
<tr>
<th>Vaccination</th>
<th>Administer</th>
<th>Schedule</th>
<th>Vial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 dose of monovalent Moderna vaccine</td>
<td>Moderna</td>
<td>1 dose 4–8 weeks after the previous dose</td>
<td>Blue cap</td>
</tr>
<tr>
<td>2 doses of monovalent Moderna vaccine</td>
<td>Moderna</td>
<td>1 dose 8 weeks after the previous dose</td>
<td>Pink cap</td>
</tr>
<tr>
<td>1 dose of monovalent AND bivalent Moderna Vaccine</td>
<td><strong>No dose! Previously received bivalent vaccine</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Children* 6 Months Through 4 Years of Age: Previously Vaccinated with Pfizer-BioNTech Monovalent Vaccine**

<table>
<thead>
<tr>
<th>Vaccination</th>
<th>Administer</th>
<th>Schedule</th>
<th>Vial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 dose of monovalent Pfizer-BioNTech vaccine</td>
<td>Pfizer-BioNTech</td>
<td>2 doses. Dose 2: 3–8 weeks after monovalent dose 1. Separate Dose 2 and Dose 3 by at least 8 weeks.</td>
<td>Maroon cap</td>
</tr>
<tr>
<td>2 doses of monovalent Pfizer-BioNTech</td>
<td>Pfizer-BioNTech</td>
<td>1 dose at least 8 weeks after monovalent Dose 2.</td>
<td>Maroon cap</td>
</tr>
<tr>
<td>3 doses of monovalent Pfizer-BioNTech</td>
<td>Pfizer-BioNTech</td>
<td>1 dose at least 8 weeks after monovalent Dose 3.</td>
<td>Maroon cap</td>
</tr>
<tr>
<td>2 doses monovalent Pfizer-BioNTech and 1 dose bivalent Pfizer-BioNTech</td>
<td><strong>No dose! Previously received bivalent vaccine</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*without immunocompromise

# Children* 5 Years of Age: Previously Vaccinated with Monovalent Vaccine

<table>
<thead>
<tr>
<th>Vaccination</th>
<th>Administer</th>
<th>Schedule</th>
<th>Vial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unvaccinated</td>
<td>Moderna OR Pfizer-BioNTech</td>
<td>2 doses separated by 4–8 weeks</td>
<td>Blue cap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 dose</td>
<td>Orange cap</td>
</tr>
<tr>
<td>1 dose of monovalent Moderna vaccine</td>
<td>Moderna OR Pfizer-BioNTech</td>
<td>1 dose 4–8 weeks after the previous dose</td>
<td>Blue cap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 dose at least 8 weeks after the previous dose</td>
<td>Orange cap</td>
</tr>
<tr>
<td>2 doses of monovalent Moderna vaccine</td>
<td>Moderna OR Pfizer-BioNTech</td>
<td>1 dose 8 weeks after the previous dose</td>
<td>Pink cap</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Orange cap</td>
</tr>
<tr>
<td>1 or more doses of monovalent Pfizer-BioNTech</td>
<td>Pfizer-BioNTech</td>
<td>1 dose at least 8 weeks after the previous dose</td>
<td>Orange cap</td>
</tr>
<tr>
<td>At least 1 dose bivalent of Pfizer-BioNTech (regardless of monovalent vaccine history)</td>
<td><strong>No dose! Previously received bivalent vaccine</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*without immunocompromise

Clinical Guidance for COVID-19 Vaccination | CDC
Fewer COVID-19 Vaccine Products in Your Storage Unit

**Manufacturer**

- Moderna
- Pfizer-BioNTech
- Novavax
- Janssen

**Products Previously in Use**

- Moderna: Bivalent, Bivalent, Bivalent
- Pfizer-BioNTech: Bivalent, Bivalent, Bivalent, Bivalent
- Novavax: Bivalent, Bivalent
- Janssen: Bivalent

**Products Now in Use**

- Moderna: Bivalent, Bivalent
- Pfizer-BioNTech: Bivalent, Bivalent, Bivalent
- Novavax: Bivalent
- Janssen: Bivalent

*All remaining Janssen vaccine doses expire by May 6th 2023*
Clinical Considerations for Moderna Bivalent Vaccine Vial with the Blue Cap and Gray-Bordered Label

- Ages: 6 months and older
- Dosage: Varies by age
  - 6 months through 11 years: 0.25 mL/25 µg
  - 12 years and older: 0.5 mL/50 µg
- Use for persons never vaccinated with bivalent vaccine, including:
  - 6 months and older: Unvaccinated
  - 6 months through 5 years previously vaccinated with only 1 dose of monovalent vaccine
  - 6 years and older vaccinated with 1 or more doses of monovalent vaccine

“Booster Doses Only” no longer applies
Clinical Considerations for Moderna Bivalent Vaccine Vial with the Dark Pink Cap and Yellow Box Label

- Ages: 6 months through 5 years
- Dosage: 0.2 mL/10µg
- Route: Intramuscular injection
- Multidose vial = 2 doses
- Use for children who were previously vaccinated with 2 doses of monovalent vaccine

“Booster Doses Only” does not apply
Clinical Considerations for Pfizer-BioNTech Bivalent Vaccine

- Ages 6 months through 4 years
  - 0.2 mL/3 µg
  - Mix with diluent
  - Unvaccinated and previously vaccinated persons

- Ages 5 through 11 years
  - 0.2 mL/10 µg
  - Mix with diluent

- Ages 12 years and older
  - 0.3 mL/30 µg
  - Do NOT mix with diluent
  - Unvaccinated and previously vaccinated persons
Interim Clinical Considerations for Use of COVID-19 Vaccines | CDC
U.S. COVID-19 Vaccine Product Information | CDC
### Pfizer-BioNTech COVID-19 Vaccine At-A-Glance

**Guidance below summarizes basic storage, preparation, scheduling, and administration for ALL Pfizer-BioNTech COVID-19 Vaccine products.**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Vaccine Type</th>
<th>Initial Dose</th>
<th>Booster Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 12+</td>
<td>BIValent</td>
<td>2 doses</td>
<td>2 doses</td>
</tr>
<tr>
<td>Ages 5-11</td>
<td>BIValent</td>
<td>2 doses</td>
<td>2 doses</td>
</tr>
<tr>
<td>Ages 4-6</td>
<td>BIValent</td>
<td>2 doses</td>
<td>2 doses</td>
</tr>
</tbody>
</table>

**Storage and Handling Basics**

- Vaccine Storage and Handling Toolkit | Updated with COVID-19 Vaccine Storage and Handling Information
- Pfizer-BioNTech COVID-19 Vaccine | FDA
- Pfizer-BioNTech COVID-19 Vaccine | CDC.gov

<table>
<thead>
<tr>
<th>Vial Cap Color</th>
<th>Ages</th>
<th>Quantity</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIValent Black Cap</td>
<td>6-11 months</td>
<td>10 doses</td>
<td>Requires diluent</td>
</tr>
<tr>
<td>BIValent Orange Cap</td>
<td>5 years</td>
<td>10 doses</td>
<td>Requires diluent</td>
</tr>
<tr>
<td>BIValent Gray Cap</td>
<td>12 years +</td>
<td>4 doses</td>
<td>Requires diluent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage Temperature Before Puncture</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>-20°C to 25°C (−4°F to 77°F)</td>
<td>Requires diluent</td>
</tr>
</tbody>
</table>

**Storage Temperature After 1st Puncture**

- 2°C to 8°C (36°F to 46°F) for up to 12 hours.
- Discard vial if unopened vaccine after 12 hours.

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### Moderna COVID-19 Vaccine At-A-Glance

**Guidance below summarizes basic storage, preparation, scheduling, and administration for ALL Moderna COVID-19 Vaccine products.**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Vaccine Type</th>
<th>Initial Dose</th>
<th>Booster Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 6+</td>
<td>BIValent</td>
<td>2 doses</td>
<td>2 doses</td>
</tr>
<tr>
<td>Ages 6-11</td>
<td>BIValent</td>
<td>2 doses</td>
<td>2 doses</td>
</tr>
<tr>
<td>Ages 4-5</td>
<td>BIValent</td>
<td>2 doses</td>
<td>2 doses</td>
</tr>
</tbody>
</table>

**Storage and Handling Basics**

- Vaccine Storage and Handling Toolkit | Updated with COVID-19 Vaccine Storage and Handling Information
- Moderna COVID-19 Vaccine | FDA
- Moderna COVID-19 Vaccine | CDC.gov

<table>
<thead>
<tr>
<th>Vial Cap Color</th>
<th>Ages</th>
<th>Quantity</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIValent Pink Cap</td>
<td>6 months</td>
<td>2 doses</td>
<td>Requires diluent</td>
</tr>
<tr>
<td>BIValent Gray Cap</td>
<td>6 months</td>
<td>1 dose</td>
<td>Requires diluent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage Temperature Before Puncture</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2°C to 8°C (36°F to 46°F)</td>
<td>Requires diluent</td>
</tr>
</tbody>
</table>

**Storage Temperature After 1st Puncture**

- 2°C to 8°C (36°F to 46°F) for up to 12 hours.
- Discard vial if unopened vaccine after 12 hours.

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**Pfizer-BioNTech COVID-19 Vaccine At A Glance (cdc.gov)**

**Administration of Moderna COVID-19 Vaccines | CDC**
Other Vaccine Updates
## New Vaccine Products/Indications

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Product</th>
<th>What’s New</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMR</td>
<td>Priorix (GSK)</td>
<td>Can be used for any dose in MMR series; mixed product series is acceptable</td>
</tr>
<tr>
<td>MenACWY</td>
<td>Menveo (GSK)</td>
<td>Single-dose vial&lt;br&gt;Does NOT require reconstitution&lt;br&gt;&lt;strong&gt;NOTE:&lt;/strong&gt; Ages 10 through 55 years differ</td>
</tr>
<tr>
<td>PCV20</td>
<td>Prevnar20 (Pfizer)</td>
<td>FDA approved for children 6 weeks of age and older</td>
</tr>
<tr>
<td>RV5</td>
<td>Rotarix (GSK)</td>
<td>Does NOT require reconstitution</td>
</tr>
</tbody>
</table>
New Route: MMR II, Varivax, and ProQuad

Subcutaneous injection  OR  Intramuscular injection
Vaccination Resources for Healthcare Providers
Knowledgeable Staff Is Critical
CDC Vaccination Resources for Healthcare Providers

- Schedules App
- Pneumococcal Vaccination App
- Pneumococcal Vaccine Timing for Adults
- Vaccine Catch-up guidance
### Vaccine Education and Training for Healthcare Professionals

#### You Call The Shots
Series of modules that explain the latest recommendations for vaccine use that include self-practice questions

#### Current Issues in Immunization
Webcasts, and self-study education and training programs for healthcare personnel

#### CE Credit for Immunization Courses
A guide and video show how to obtain continuing education credit or print a certificate of attendance

#### Pink Book Webinar Series
1-hour webinars that explore the chapters of the *Vaccine Preventable Diseases* book

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#### Related Link
- Vaccines & Immunizations
- NIS
- ACIP Recommendations
- Schedules

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#### Quality Improvement Projects
Resources for providers seeking quality improvement projects that may be required for maintenance of certification

#### Workforce Improvement Projects
Resources and curriculum materials for health professionals faculty and institutions
Vaccine Storage and Handling Toolkit

Updated with COVID-19 Vaccine Storage and Handling Information
Addendum added September 29, 2021
Vaccine Administration Resource Library | CDC

Web-based Training Courses

You Call the Shots

An interactive, web-based immunization training course that includes
practice.

Videos

Title: Comfort and Restraint Techniques
Short Description: This training demonstrates comfort and restraint techniques. Determine the best position for the patient based on comfort, age, activity level, administration site, and safety. Instruct the parent on how to help the infant or child stay still so you can administer the vaccine safely.

Title: Assemble a Manufacturer-Filled Syringe
Short Description: This training addresses how to assemble a manufacturer-filled syringe, available for a variety of vaccines. CDC recommends that providers only prepare vaccines just prior to administration. Always prepare vaccines in a designated area that is not near any area where potentially contaminated items are placed.

Title: Skin and Gown Wear
Short Description: This training addresses how to prepare vaccine from a single-dose vial. A single-dose vial contains one dose and should be administered one dose to one patient. CDC recommends that providers only prepare and draw up any vaccine just prior to administration.

Title: Injection Site
Short Description: This training addresses how to determine when a vaccine or diluent expires—a critical step in vaccine preparation. All vaccines and diluents have an expiration date that indicates the date by which the product must be used. Vaccines and diluents may be used up to and including the expiration date unless the manufacturer indicates otherwise.

Title: Manufacture site history
Short Description: This training addresses how to prepare vaccine from a multidose vial (MDV), which contains more than one dose of vaccine. CDC recommends that providers only prepare and draw up any vaccine just prior to administration.

To ensure vaccines are safe and effective, it’s important to prepare and administer them correctly:

1. Use the correct syringe and needle.
   - Follow the manufacturer’s instructions for selecting a syringe and needle.

2. Identify the injection site.
   - Administer the vaccine contralateral to the site of injection.
   - Use anatomical landmarks to determine the injection site.
   - Use aseptic technique to prepare the injection site.

3. Administer the vaccine correctly.
   - Inject the vaccine into the muscular component of the muscle.
   - Ensure that the needle is completely inserted into the muscular component.
   - Avoid injecting the vaccine into the subcutaneous tissue.

4. Record the administration.
   - Document the date, time, and route of administration.
   - Document any adverse reactions that occur.

5. Dispose of materials properly.
   - Dispose of used syringes and needles in a puncture-resistant container.
   - Dispose of sharps in a puncture-resistant container.

For more information, visit the CDC’s Immunization Safety Toolkit: https://www.cdc.gov/vaccines/safety/
Email Services and Websites

- Questions? Email CDC [nipinfo@cdc.gov or CDC INFO | CDC](https://www.cdc.gov)
- Vaccines and Immunizations website [Vaccines and Immunizations | CDC](https://www.cdc.gov)
- HCP education [Vaccines and Immunizations | CDC](https://www.cdc.gov)
- Vaccinate with Confidence [COVID-19 Vaccine Confidence | CDC](https://www.cdc.gov)
- Influenza [Influenza (Flu) | CDC](https://www.cdc.gov)
- Vaccine safety [Vaccine Information and Safety Studies | Vaccine Safety | CDC](https://www.cdc.gov)