Last revised 27 November 2024

Immunization TOOL KIT

NINTH EDITION 2019

Adult, Military and Childhood Immunizations

Defense Health Agency
Immunization Healthcare Division

Immunization Tool Kit
Adult, Military, and Childhood Immunizations
Ninth Edition

Welcome to the Ninth Edition of the Immunization Tool Kit (ITK). The ITK provides a practical reference which facilitates and enhances the global delivery of quality immunization healthcare to Department of Defense (DoD) beneficiaries and employees. The Defense Health Agency Immunization Healthcare Division (DHA-IHD) publishes the ITK based on national recommendations, evidenced-based, peer-reviewed published medical literature, and clinical practice guidelines.

The ITK is an implementation adjunct to published DoD policy and guidance from the Centers for Disease Control and Prevention (CDC) and Food and Drug Administration (FDA). However, as these documents may intermittently be updated, the ITK should always be used in conjunction with current:

- FDA-approved manufacturer package inserts
- CDC Vaccine Information Statements (VIS) and recommendations
- Advisory Committee on Immunization Practices (ACIP) guidelines
- Screening for individual patient health risk factors and medical problems
- Healthcare provider's orders
- DoD directives, instructions, policies, and procedures. (Note: Where DoD guidance varies from CDC/FDA, DoD guidance takes precedence).

Assessment of individual vaccine benefits and risks is the responsibility of a licensed, credentialed healthcare provider. If standing orders are used, the screening process (e.g., standardized health risk assessment questionnaire) assists with identifying individuals recommended to receive a provider-expanded evaluation prior to immunization.

DHA-IHD clinical staff are immunization subject matter experts, providing timely consultative support to healthcare workers, Service members, and beneficiaries on vaccine effectiveness, safety, and acceptability. Furthermore, this team clinically supports those with concerns of adverse vaccine reactions and works with the Vaccine Adverse Events Reporting System (VAERS) registry to provide long-term clinical case management and medical exemption tracking to military beneficiaries.

Defense Health Agency
Immunization Healthcare Division
Project Development and Review Team 2019

North Atlantic Region Vaccine Safety Hub
South Atlantic Region Vaccine Safety Hub
Central Region Vaccine Safety Hub
Pacific Region Vaccine Safety Hub
Policy and Program Management
Quality and Compliance
Communications Synchronization
Vaccine Safety and Evaluation

Every attempt was made by the project clinical working group to assure accuracy of content. It is important for users of this resource to understand that full review of the vaccine package insert and relevant alerts at www.health.mil/vaccines is required by clinical staff responsible for vaccine administration.

For more information, go to: https://www.health.mil/Imm_Toolkit

DHA-IHD Contact Information

DHA-IHD main website: www.health.mil/vaccines

DHA Immunization Healthcare Support Center: 1-(877) GET-VACC (438-8222) or DSN 761-4245.

- 24/7 Clinical Support Center (Option 1)
- Storage and Handling Questions (Option 2)
- General information or technical concerns (Option 3)

Non-clinical immunization-related questions – DoDVaccines@mail.mil

Headquarters: 7700 Arlington Boulevard, Falls Church, VA 22042

Use of ISBN Prefix

This is the Official U.S. Government edition of this publication and is herein identified to certify its authenticity. Use of the 0-16 ISBN prefix is for U.S. Government Printing Office Official Editions only. The Superintendent of Documents of the U.S. Government Printing Office requests that any reprinted edition clearly be labeled as a copy of the authentic work with a new ISBN.

DHA-IHD Region Vaccine Safety Hubs (RVSH)

Vaccine Safety Hub	Supported Combatant Commands	Contact Information
North Atlantic Region	USEUCOM USAFRICOM USFF	***Walter Reed National Military Medical Center*** Bldg. 19, 4th Floor 4954 North Palmer Road Bethesda, MD 20889-5630 Phone: 301-319-2904 DSN: 295-2904 Fax: 301-319-8299 ***Naval Medical Center Portsmouth*** Richard E. Shope Regional DHA-IHD 620 John Paul Jones Circle Bldg. 1, Room C-107 Portsmouth, VA 23708-2197 Phone: 757-953-9150 DSN: 377-9150 Fax: 757-953-5887
South Atlantic Region	FORSCOM Joint Expeditionary Forces JSOC USCENTCOM USSOCOM USSOUTHCOM	4861 Logistics St. Fort Liberty, NC 28310 Phone: 910-432-4015 DSN: 312-239-4015 Fax: 910-396-4932
Central Region	USSTRATCOM AMEDD Center & School/METC USNORTHCOM USTRANSCOM	59 MDSP/SGMA-IHB 1100 Wilford Hall Loop, Bldg. 4554 Lackland AFB, TX 78236 Phone: 210-292-0478 DSN: 554-0478
Pacific Region	USINDOPACOM USFK USFJ	Naval Medical Center San Diego Building 6, Room 4V-7C1 San Diego, CA 92134 Phone: 619-532-7664 DSN: 533-7664 Fax: 619-532-7023

A Message from the IHD Chief

The Military Health System (MHS) is dedicated to providing timely and quality healthcare delivery to 9.4 million beneficiaries. As a component of the Assistant Director, Combat Support, DHA-IHD consults on immunization policy, authors implementation guidance, and develops educational materials for Combatant Commands, Services, and immunization sites, in addition to beneficiaries receiving immunization care within the MHS. Critical to this responsibility is developing scientifically-based, readily-available, practical resources which are beneficial to those whom manage and administer immunizations – you. We therefore hope the ITK, in addition to a wealth of educational material you may find on the on the DHA-IHD website https://health.mil/vaccines, serve as go-to references to supplement conversations on vaccine efficacy, safety, and acceptability. Additional resources to advance immunization knowledge include 24/7 online educational activities and on-site training conducted by our IHD team.

It is imperative to be mindful that vaccines are prescription drugs. The ITK is neither a substitute for pre-vaccination screening nor provider assessment and should be used as an adjunct to DoD policy, manufacturer package inserts, CDC recommendations, and FDA publications.

DHA-IHD is appreciative of your dedication towards preventative medicine and public health efforts towards a medically ready and ready medical force. We look forward to serving you!

Chief, Immunization Healthcare Division

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STORAGE AND HANDLING INSTRUCTIONS

Additional Resources

https://health.mil/vaccines

The official website for military vaccines. This site provides access to current immunization program information for DoD and the Military Services. Because DoD immunization programs are built on the foundation of national standards of immunization practice, this site provides links to other government and non-government sites dedicated to vaccines, immunization practices, and vaccine safety.

Centers for Disease Control and Prevention (CDC)
National Center for Immunization and Respiratory Diseases

www.cdc.gov/vaccines

Epidemiology and Prevention of Vaccine-Preventable Diseases (The Pink Book): http://www.cdc.gov/vaccines/pubs/pinkbook/index.html

CDC Health Information for International Travel (The Yellow Book): http://wwwnc.cdc.gov/travel/page/yellowbook-home

National Immunization Hotline
1-800-232-4636 (English); 1-888-232-6348 (TTY)

Vaccine Adverse Event Reporting System (VAERS)

http://vaers.hhs.gov

Call toll-free VAERS information line at 1-800-822-7967.

National Vaccine Injury Compensation Program (VICP)

http://www.hrsa.gov/vaccinecompensation

A federal program that provides compensation for people who have been injured through rare but serious adverse events linked to certain vaccines. For further information, contact the VICP at:
5600 Fishers Lane
Rockville, MD 20857
1-800-338-2382

Countermeasures Injury Compensation Program (CICP)

www.hrsa.gov/cicp

The Public Readiness and Emergency Preparedness (PREP) Act provides compensation to people for serious injuries or deaths from pandemic, epidemic, or security countermeasures. The Countermeasures Injury Compensation Program (CICP) manages this compensation program. Vaccines such as anthrax, smallpox, and the 2009 novel A (H1N1) are eligible countermeasures under this program. The filing deadline to request compensation benefits is one year from the date the vaccine or other covered countermeasure was administered.

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Additional Resources (*continued*)

Joint Knowledge Online

https://jkosupport.jten.mil

Learning Content Management System for Immunization Training.

Immunization and Chemoprophylaxis for the Prevention of Infectious Diseases:

Dated 7 October 2013

http://www.health.mil/JointImmRegulation

Deployment Health

www.pdhealth.mil

PDHealth.mil was developed by the Deployment Health Clinical Center as a resource for clinicians, veterans, and their families.

Immunization Action Coalition

www.immunize.org

Download Vaccine Information Statements, ACIP recommendations, and other vaccine-related handouts or educational materials for health professional or for the public.

Risk Communication Approach to Explain Immunizations

1. Listen, and identify the concern(s). Take to a private area when possible to devote complete attention to the patient/advocate/parent.
2. Acknowledge and validate concerns. Remember, the concern is very important to the patient/advocate/parent so give him/her the opportunity to explain his/her perspective followed by repeating his/her concern for closed loop communication.
3. Educate on disease risk, and risk/benefit of the immunization recommendation.
4. Address misinformation. This is likely the most sensitive step in your conversation. The patient-healthcare system relationship is built upon trust. Do not minimize his/her concern or be adversarial.
5. Provide balanced information: what we know as well as acknowledge what we do not know. Consider having references available.
6. Allow for the option of a second opinion. This is not uncommon and does NOT reflect on your knowledge or capability as an immunizer. Suggestions for second opinions may include:
    - Patient discussions with his/her provider
    - DHA Immunization Healthcare Support Center: 1-877-438-8222 or DSN 761-4245, Option 1.

Standards for Military Immunizations

Standard 1: Immunization Availability

a. Ensure immunizations are available, when required, to minimize disruption of deployment or training schedules.

b. Ensure immunizations are available at convenient times without unnecessary barriers and are available on a walk-in basis, as staffing permits. As clinically appropriate, administer any vaccine doses required simultaneously to avoid missed **immunization** opportunities.

c. Ensure immunization services are responsive to the needs of beneficiaries.

d. Review the vaccination status of all beneficiaries at every health care visit to determine which vaccines are indicated.

e. Implement standing orders if written orders are unavailable. Standing orders must address vaccine dosage and administration, contraindications and precautions, and documentation procedures. Ensure standing orders are signed annually by the privileged physician who has medical oversight of the clinic.

Standard 2: Vaccine Information and Vaccinee Education

a. Educate beneficiaries about the benefits and risks of vaccination in a culturally appropriate manner and at an appropriate education level.

b. Prior to vaccination, provide all parents/guardians and vaccinees the most current Vaccine Information Statements (VISs) for each vaccine as mandated by Federal law (42 USC 300aa-26). Allow sufficient time to discuss any concerns or questions as noted by the vaccinee. Ensure VISs are accessible and visible in the patient waiting area of the clinic or activity that provides immunizations.

c. Prior to each vaccination, provide all potential vaccinees the opportunity to read the current DoD and/or FDA mandated vaccine information brochure. Additional education requirements may be required as outlined in vaccination policy.

d. Ensure immunization personnel are readily available to accurately answer patients' immunization questions and concerns about vaccines. Ensure personnel have ready access to immunization information resources.

Standard 3: Vaccine Storage and Handling

a. Ensure staff members adhere to cold-chain management principles during administration, transportation, and storage. Ensure up-to-date, written cold-chain management protocols are accessible at all locations where vaccines are stored.

b. Implement temperature monitoring processes at any clinic or activity that administers immunizations. All vaccine storage devices should have a calibrated thermometer and alarm systems that are visually monitored at a minimum of twice a day.

c. The CDC's National Center for Immunization and Respiratory Disease strongly recommends that providers draw vaccine only at the time of administration to ensure that the cold chain is maintained and that vaccine is not inappropriately exposed to light. Do not pre-draw doses; draw them when they are needed.

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Standard 4: Indications and Contraindications

a. Screen each patient for allergies, health status, recent vaccinations, and previous adverse events before immunization. Provide each patient an opportunity to ask questions about potential contraindications. Refer patients for appropriate medical evaluation, as needed.

b. Screen each patient's immunization record to determine vaccine needs and requirements.

c. Ensure staff members document any contraindication to an immunization in the health record and ITS. Screen all women for pregnancy status.

Standard 5: Immunization Recordkeeping

a. Record immunizations accurately in a DoD-and USCG-approved electronic ITS according to Service-specific policy at the time of immunization, or no later than 24 hours after administration of immunization. Transcribe all historical immunizations into the immunization tracking system.

b. Recommend any clinic or activity that administers immunizations has one or more mechanisms for notifying patients when the next dose of an immunization series is needed (a reminder system) or when doses are overdue (recall system). Reminder and recall systems may be automated or manual and may include mail, email, or telephone messages.

c. Record all military personnel immunization information in an electronic ITS record. All Services must record military immunization data into an electronic database that communicates with a centralized DoD registry.

Standard 6: Training

a. Ensure all persons who administer vaccines, including immunization augmentees, are appropriately trained and work within their appropriate scope of practice as determined by Service policies.

b. Immunization training must meet a standard acceptable to the MTF commander, command surgeon, or other appropriate medical authority. Training will include vaccine storage and handling; vaccine characteristics; recommended vaccine schedules; patient screening; contraindications; vaccine administration techniques; and treatment and reporting of adverse events to include anaphylaxis; vaccine benefit and risk communication; and documentation and management.

c. Ensure personnel who administer vaccines complete a comprehensive immunization orientation and annual continuing education that addresses training standards and competency of vaccine related topics based on an individual's role in administering and/or handling vaccines. Individuals who routinely administer vaccines should complete at least 8 hours of training annually. Training resources include resident courses, self-paced online training programs, and video training.

d. Ensure persons who administer vaccines have ready access to information resources regarding current recommendations for childhood, general adult, travel, and military-specific immunizations.

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Standards for Military Immunizations (*continued)*

Standard 7: Adverse Events After Immunization

a. Epinephrine (such as auto-injectable epinephrine) must be properly stored and readily available at all vaccination locations along with other supplies determined locally to manage adverse events. Ensure all immunization personnel are trained to administer epinephrine.

b. Provide easy access to telephones or radios to persons who administer vaccines for summoning emergency medical personnel. Medical providers must document adverse events in the health record at the time of the event or as soon as possible thereafter.

c. Report all clinically significant adverse events after vaccination to VAERS. Provide staff members with ready access to reporting options for VAERS.

d. Develop a quality improvement process to assure adverse events are reported to VAERS promptly.

Standard 8: Vaccine Advocacy to Protect the Military Family

a. Develop a mechanism at the MTF level to determine the extent of influenza and pneumococcal immunization coverage among its high-risk patients. Develop a plan to optimize vaccination uptake and coverage.

b. Implement a plan to optimize immunization rates among cardiac, pulmonary, diabetic, asplenic, and other patient groups at elevated risk of complications from vaccine-preventable infectious diseases.

c. Conduct a quality improvement program to optimize the performance in immunizing children, adolescents, and adults against the preventable infections that most threaten them.

d. Ensure commanders use immunization databases to identify and resolve the vulnerabilities of their units.

e. All healthcare providers (not just those in any clinic or activity that administers immunizations) should routinely determine the immunization status of their patients, offer vaccines to those for whom they are indicated, and maintain complete immunization records.

Quality and clinical standards derived from:

1. National Vaccine Advisory Committee (NVAC). Adult Immunization Programs in Nontraditional Settings: Quality Standards and Guidance for Program Evaluation: http://www.cdc.gov/mmwr/PDF/RR/RR4901.PDF
2. Standards for Immunization Practice. National Coalition for Adult Immunization
3. Quality Standards for Immunization. Guidelines from the Infectious Diseases Society of America
4. The Joint Commission (TJC) Standards for Accreditation
5. Immunizations and Chemoprophylaxis for the Prevention of Infectious Diseases: www.health.mil/JointImmRegulation

Training tools supporting the 8 Standards for Military Immunization may be found at www.health.mil/cqiip

Vaccines and Their Untrue Contraindications And Precautions

(*adapted from CDC*)

TABLE 4-2. Conditions incorrectly perceived as contraindications or precautions to vaccination (i.e., vaccines may be given under these conditions)

Vaccine(s)	Conditions commonly misperceived as contraindications or precautions (Vaccine can be administered)
General for all vaccines, including DTaP, pediatric DT, adult Td, adolescent-adult Tdap, IPV, MMR, Hib, hepatitis A, hepatitis B, varicella, rotavirus, PCV13, IIV, LAIV, PPSV23, MenACWY, MPSV4, HPV, and herpes zoster	• Current antimicrobial therapy [(a)] • Convalescent phase of illness • Premature birth (hepatitis B vaccine is an exception in certain circumstances) [(b)] • Recent exposure to an infectious disease • History of penicillin allergy, other nonvaccine allergies, relatives with allergies, or receiving allergen extract immunotherapy • History of GBS[(c)]
DTaP	• Collapse or shock-like state (e.g., hypotonic hyporesponsive episode) within 48 hours after receiving a previous dose of DTP/DTaP • Seizure ≤ 3 days after receiving a previous dose of DTP/DTaP • Persistent, inconsolable crying lasting ≥3 hours within 48 hours after receiving a previous dose of DTP/DTaP • Family history of seizures • Family history of sudden infant death syndrome • Family history of adverse event after DTP or DTaP administration • Stable neurological conditions (e.g., cerebral palsy, well-controlled seizures, or developmental delay)
Hepatitis B	• Pregnancy • Autoimmune disease (e.g., systemic lupus erythematosus or rheumatoid arthritis)
HPV	• Immunosuppression • Previous equivocal or abnormal Papanicolaou test • Known HPV infection • Breastfeeding • History of genital warts
IIV	• Nonsevere (e.g., contact) allergy to latex, thimerosal, or egg • Concurrent administration of Coumadin (generic: warfarin) or aminophylline
IPV	• Previous receipt of ≥1 dose of oral polio vaccine
LAIV	• Health-care providers that see patients with chronic diseases or altered immunocompetence (an exception is providers for severely immunocompromised patients requiring care in a protected environment • Breastfeeding • Contacts of persons with chronic disease or altered immunocompetence (an exception is contacts of severely immunocompromised patients requiring care in a protected environment)

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Vaccines and Their Untrue Contraindications And Precautions
(Continued)

Vaccine(s)	Conditions commonly misperceived as contraindications or precautions (Vaccine can be administered)
MMR[(d),(e)]	• Positive tuberculin skin test • Simultaneous tuberculin skin or interferon-gamma release assay (IGRA) testing[(f)] • Breastfeeding • Pregnancy of recipient's mother or other close or household contact • Recipient is female of child-bearing age • Immunodeficient family member or household contact • Asymptomatic or mildly symptomatic HIV infection • Allergy to eggs
$PPSV_{23}$	• History of invasive pneumococcal disease or pneumonia
Rotavirus	• Prematurity • Immunosuppressed household contacts • Pregnant household contacts
Tdap	• History of fever of ≥40.5°C (≥105°F) for <48 hours after vaccination with a previous dose of DTP or DTaP • History of collapse or shock-like state (i.e., hypotonic hyporesponsive episode) within 48 hours after receiving a previous dose of DTP/DTaP • History of seizure <3 days after receiving a previous dose of DTP/DTaP • History of persistent, inconsolable crying lasting >3 hours within 48 hours after receiving a previous dose of DTP/DTaP • History of extensive limb swelling after DTP/DTaP/Td that is not an Arthus-type reaction • History of stable neurologic disorder • History of brachial neuritis • Latex allergy that is not anaphylactic • Breastfeeding • Immunosuppression
Varicella	• Pregnancy of recipient's mother or other close or household contact • Immunodeficient family member or household contact[(g)] • Asymptomatic or mildly symptomatic HIV infection • Humoral immunodeficiency (e.g., agammaglobulinemia)
Zoster	• Therapy with low-dose methotrexate (≤0.4 mg/kg/week), azathioprine (≤3.0 mg/kg/day), or 6-mercaptopurine (≤1.5 mg/kg/day) for treatment of rheumatoid arthritis, psoriasis, polymyositis, sarcoidosis, inflammatory bowel disease, or other conditions • Health-care providers of patients with chronic disease or altered immunocompetence • Contacts of patients with chronic diseases or altered immunocompetence • Unknown or uncertain history of varicella in a U.S.-born person

(a) Antibacterial drugs might interfere with Ty21a oral typhoid vaccine, and certain antiviral drugs might interfere with varicella-containing vaccines and LAIV4. (b) Hepatitis B vaccination should be deferred for infants weighing <2,000 g if the mother is documented to be HBsAg negative. Vaccination should commence at chronological age 1 month or at hospital discharge. For infants born to HBsAg-positive women, hepatitis B immune globulin and hepatitis B vaccine should be administered within 12 hours after birth, regardless of weight. (c) An exception is Guillain-Barré syndrome within 6 weeks of a dose of influenza vaccine or tetanus-toxoid–containing vaccine, which are precautions for influenza vaccines and tetanus-toxoid containing vaccines, respectively. (d) MMR and varicella vaccines can be administered on the same day. If not administered on the same day, these vaccines should be separated by at least 28 days. (e) HIV-infected children should receive immune globulin after exposure to measles. HIV-infected children can receive varicella and measles vaccine if CD4+ T-lymphocyte count is >15%. (54). (f) Measles vaccination might suppress tuberculin reactivity temporarily. Measles-containing vaccine can be administered on the same day as tuberculin skin or IGRA testing. If testing cannot be performed until after the day of MMR vaccination, the test should be postponed for at least 4 weeks after the vaccination. If an urgent need exists to skin test or IGRA, do so with the understanding that reactivity might be reduced by the vaccine. (g) If a vaccinee experiences a presumed vaccine-related rash 7-25 days after vaccination, the person should avoid direct contact with immunocompromised persons for the duration of the rash.

Vaccination of Persons with Primary and Secondary Immune Deficiencies

PRIMARY				
Category	**Specific Immunodeficiency**	**Contraindicated Vaccines[a]**	**Risk-Specific Recommended Vaccines[a]**	**Effectiveness & Comments**
B-lymphocyte (humoral)	Severe antibody deficiencies (e.g., X-linked agammaglobulinemia and common variable immunodeficiency)	OPV[b] Smallpox[c] LAIV BCG Ty21a (live typhoid) Yellow fever MMR MMRV	Pneumococcal Hib (children 12-59 months of age)[d]	The effectiveness of any vaccine is uncertain if it depends only on the humoral response (e.g., PPSV23 or MPSV4). IGIV interferes with the immune response to measles vaccine and possibly varicella vaccine.
	Less severe antibody deficiencies (e.g., selective IgA deficiency and IgG subclass deficiency)	OPV[b] BCG Yellow fever[e] Other live vaccines appear to be safe.	Pneumococcal Hib (children 12-59 months of age)[d]	All vaccines likely effective. Immune response might be attenuated.
T-lymphocyte (cell-mediated and humoral)	Complete defects (e.g., SCID disease, complete DiGeorge syndrome)	All live vaccines[f],[g],[h]	Pneumococcal Hib (children 12-59 months of age)[d]	Vaccines likely to be effective.
	Partial defects (e.g., most patients with DiGeorge syndrome, Wiskott-Aldrich syndrome, ataxia-telangiectasia)	All live vaccines[f],[g],[h	Pneumococcal Meningococcal Hib (children 12-59 months of age)[d]	Effectiveness of any vaccine depends on degree of immune suppression.
	Interferon-gamma/Interleukin 12 axis deficiencies	All live bacterial vaccines (All live vaccines contraindicated in Interferon-gamma or interferon-alpha deficiencies.)	None	
Complement	Persistent complement, properdin, or factor B deficiency	None	Pneumococcal Meningococcal Hib (children 12-59 months of age)[d]	All routine vaccines likely effective.
	Taking eculizumab (Soliris)	None	Meningococcal	
Phagocytic function	Chronic granulomatous disease	Live bacterial vaccines[f]	None	Live viral vaccines likely safe and effective.
	Phagocytic deficiencies that are undefined or accompanied by defects in T-cell and NK cell dysfunction (such as Chediak-Higashi syndrome, Leukocyte Adhesion Deficiency [LAD], and myeloperoxidase deficiency).	Live viral and bacterial vaccines[f],[g]	Pneumococcal	All inactivated vaccines safe and likely effective.

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Vaccination of Persons with Primary and Secondary Immune Deficiencies

SECONDARY			
Specific Immunodeficiency	**Contraindicated Vaccines[a]**	**Risk-Specific Recommended Vaccines[a]**	**Effectiveness & Comments**
HIV/AIDS	OPV[b] Smallpox BCG LAIV MMRV Withhold MMR, varicella, and zoster in severely immunocompromised persons. Yellow fever vaccine might have a contraindication or a precaution depending on clinical parameters of immune function.[i]	Pneumococcal Hib[d],[j] HepB	MMR and Varicella vaccine in those with mild immunosuppression, rotavirus, and all inactivated vaccines, including inactivated influenza as per routine vaccination schedule, might be effective.[k]
Generalized malignant neoplasm, transplantation, immunosuppressive or radiation therapy	Live viral and bacterial, depending on immune status.[f],[g],[l]	Pneumococcal Hib[m]	Effectiveness of any vaccine depends on degree of immune suppression.
Asplenia	LAIV	Pneumococcal Meningococcal Hib[d],[n]	All routine vaccines likely effective.
Chronic renal disease	LAIV	Pneumococcal HepB[o]	All routine vaccines likely effective.

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ABBREVIATIONS: AIDS = acquired immunodeficiency syndrome; **BCG** = bacille Calmette-Guérin; **HepB** = hepatitis B; **Hib** = *Haemophilus influenzae* type b; **HIV** = human immunodeficiency virus; **IG** = immunoglobulin; **IGIV** = immune globulin intravenous; **IgA** = immune globulin A; **IgG** = immune globulin G; **LAIV** = live, attenuated influenza vaccine; **MMR** = measles, mumps, and rubella; **MMRV** = measles, mumps, rubella, and varicella; **MPSV4** = quadrivalent meningococcal polysaccharide vaccine; **OPV** = oral poliovirus vaccine (live); **PPSV23** = pneumococcal polysaccharide vaccine; **SCID** = severe combined immunodeficiency; **Ty21a** = live oral typhoid vaccine.

NOTES

(a) Other vaccines that are universally or routinely recommended should be given if not contraindicated. An exception is patients with B-cell deficiencies receiving immunoglobulins, who should not receive either live or inactivated vaccines, due to safety (live vaccines) and efficacy (live and inactivated vaccines) concerns.

(b) OPV is no longer available in the United States.

(c) This table refers to contraindications for nonemergency vaccination (i.e., the ACIP recommendations); emergency response recommendations are addressed in the clinical guidance for smallpox vaccine use in an emergency.

(d) Children 12-59 months: if unimmunized or received zero or only 1 dose, and that dose was administered before 12 months of age, should receive 2 Hib doses, 8 weeks apart; if received 2 or more doses before age 12 months, and none after 12 months, should receive 1 Hib dose 8 weeks after the last dose; if completed a primary series and received a booster dose at age 12 months or older, no additional Hib doses are recommended.

(e) There are no data to support IgA deficiency as a contraindication for yellow fever vaccine.

(f) Live bacterial vaccines: BCG, adenovirus, and oral Ty21a *Salmonella Typhi* vaccine.

(g) Live viral vaccines: MMR, MMRV, OPV, LAIV, yellow fever, zoster, rotavirus, varicella, and vaccinia (smallpox). Nonemergency smallpox vaccination is not recommended for children younger than 18 years or the general public.

(h) Regarding T-lymphocyte immunodeficiency as a contraindication for rotavirus vaccine, data exist only for SCID.

(i) Symptomatic HIV infection or CD4+ T-lymphocyte count of <200/mm3 or <15% of total lymphocytes for children aged <6 years is a contraindication to yellow fever vaccine administration. Asymptomatic HIV infection with CD4+ T-lymphocyte count of 200-499/mm3 for persons aged ≥6 years or 15%-24% of total lymphocytes for children aged <6 years is a precaution for yellow fever vaccine administration. Details of yellow fever vaccine recommendations are available from CDC (https://www.cdc.gov/mmwr/pdf/rr/rr5907.pdf)

(j) Patients 5-18 years of age who have not received a Hib primary series and a booster dose or at least one Hib dose after 14 months of age.

(k) HIV-infected children should be considered for varicella vaccine if CD4+ T-lymphocyte count is ≥15% and should receive MMR vaccine if they are aged ≥12 months and do not have 1) evidence of current severe immunosuppression (i.e., individuals aged ≤5 years must have CD4+T lymphocyte [CD4] percentages ≥15% for ≥6 months; and individuals aged >5 years must have CD4+percentages ≥15% and CD4+≥200 lymphocytes/mm3 for ≥6 months) and 2) other current evidence of measles, rubella, and mumps immunity. In cases when only CD4+cell counts or only CD4+percentages are available for those older than age 5 years, the assessment of severe immunosuppression can be based on the CD4+values (count or percentage) that are available. In cases when CD4+percentages are not available for those aged ≤5 years, the assessment of severe immunosuppression can be based on age-specific CD4+counts at the time CD4+counts were measured; i.e., absence of severe immunosuppression is defined as ≥6 months above age-specific CD4+count criteria: CD4+count >750 lymphocytes/mm3 while aged ≤12 months and CD4+count ≥500 lymphocytes/mm3 while aged 1 through 5 years (https://www.cdc.gov/mmwr/pdf/rr/rr6204.pdf).

(l) Withholding inactivated vaccines also is recommended with some forms of immunosuppressive therapy, like anti-CD20 antibodies, induction or consolidation chemotherapy, or patients with major antibody deficiencies receiving immunoglobulins. Inactivated influenza vaccine is an exception, but consideration should be given to repeating doses of any inactivated vaccine administered during these therapies.

(m) Persons younger than 60 months undergoing chemotherapy or radiation therapy who have not received a Hib primary series and a booster dose or at least one Hib dose after 14 months of age; HCT patients of any ages, regardless of Hib vaccine history.

(n) Persons older than 59 months who are asplenic and persons 15 months or older who are undergoing elective splenectomy who have not received a Hib primary series and a booster dose or at least one Hib dose after 14 months of age.

(o) Indicated based on the risk from dialysis-based bloodborne transmission.

(continued)

Vaccine Excipient & Media Summary

Excipients Included in U.S. Vaccines, by Vaccine

In addition to weakened or killed disease antigens (such as weakened, killed, or parts of viruses or bacteria), vaccines contain very small amounts of other ingredients – excipients.
Some excipients are added to a vaccine for a specific purpose. These include:

- **Preservatives**, to prevent contamination. For example, thimerosal.
- **Adjuvants**, to help stimulate a stronger immune response. For example, aluminum salts.
- **Stabilizers**, to keep the vaccine potent during transportation and storage. For example, sugars or gelatin.

Others are residual trace amounts of materials that were used during the manufacturing process and removed. These can include:

- **Cell culture materials**, used to grow the vaccine antigens. For example, egg protein, various culture media.
- **Inactivating ingredients**, used to kill viruses or inactivate toxins. For example, formaldehyde.
- **Antibiotics**, used to prevent contamination by bacteria. For example, neomycin.

The following table lists substances, other than active ingredients (i.e., antigens), shown in the manufacturers' package insert (PI) as being contained in the final formulation of each vaccine. Each PI, which can be found on the FDA's website (see below) contains a description of that vaccine's manufacturing process, including the amount and purpose of each substance. In most PIs, this information is found in Section 11: "Description." Please refer to the PI for a complete list of ingredients or excipients.

All information was extracted from manufacturers' package inserts.
If in doubt about whether a PI has been updated since this table was prepared, check the FDA's website at:
http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm093833.htm

Vaccine	Contains
Adenovirus	monosodium glutamate, sucrose, D-mannose, D-fructose, dextrose, human serum albumin, potassium phosphate, plasdone C, anhydrous lactose, microcrystalline cellulose, polacrilin potassium, magnesium stearate, cellulose acetate phthalate, alcohol, acetone, castor oil, FD&C Yellow #6 aluminum lake dye
Anthrax (Biothrax)	aluminum hydroxide, sodium chloride, benzethonium chloride, formaldehyde
BCG (Tice)	glycerin, asparagine, citric acid, potassium phosphate, magnesium sulfate, iron ammonium citrate, lactose
Cholera (Vaxchora)	ascorbic acid, hydrolyzed casein, sodium chloride, sucrose, dried lactose, sodium bicarbonate, sodium carbonate
Dengue (Dengvaxia)	sodium chloride, essential amino acids (including L-phenylalanine), non-essential amino acids, L-arginine hydrochloride, sucrose, D-trehalose dihydrate, D-sorbitol, trometamol, urea
DT (Sanofi)	aluminum phosphate, isotonic sodium chloride, formaldehyde
DTaP (Daptacel)	aluminum phosphate, formaldehyde, glutaraldehyde, 2-phenoxyethanol

Continued on Next Page

Vaccine Excipient & Media Summary

Excipients Included in U.S. Vaccines, by Vaccine (continued)

Vaccine	Contains
DTaP (Infanrix)	formaldehyde, aluminum hydroxide, sodium chloride, polysorbate 80 (Tween 80)
DTaP-IPV (Kinrix)	formaldehyde, aluminum hydroxide, sodium chloride, polysorbate 80 (Tween 80), neomycin sulfate, polymyxin B
DTaP-IPV (Quadracel)	formaldehyde, aluminum phosphate, 2-phenoxyethanol, polysorbate 80, glutaraldehyde, neomycin, polymyxin B sulfate, bovine serum albumin
DTaP-HepB-IPV (Pediarix)	formaldehyde, aluminum hydroxide, aluminum phosphate, sodium chloride, polysorbate 80 (Tween 80), neomycin sulfate, polymyxin B, yeast protein
DTaP-IPV/Hib (Pentacel)	aluminum phosphate, polysorbate 80, sucrose, formaldehyde, glutaraldehyde, bovine serum albumin, 2-phenoxyethanol, neomycin, polymyxin B sulfate
DTaP-IPV-Hib-HepB (Vaxelis)	polysorbate 80, formaldehyde, glutaraldehyde, bovine serum albumin, neomycin, streptomycin sulfate, polymyxin B sulfate, ammonium thiocyanate, yeast protein, aluminum
Ebola Zaire (ERVEBO)	Tromethamine, rice-derived recombinant human serum albumin, host cell DNA, benzonase, rice protein
Hib (ActHIB)	sodium chloride, formaldehyde, sucrose
Hib (Hiberix)	formaldehyde, sodium chloride, lactose
Hib (PedvaxHIB)	amorphous aluminum hydroxyphosphate sulfate, sodium chloride
Hep A (Havrix)	MRC-5 cellular proteins, formalin, aluminum hydroxide, amino acid supplement, phosphate-buffered saline solution, polysorbate 20, neomycin sulfate, aminoglycoside antibiotic
Hep A (Vaqta)	amorphous aluminum hydroxyphosphate sulfate, non-viral protein, DNA, bovine albumin, formaldehyde, neomycin, sodium borate, sodium chloride, other process chemical residuals
Hep B (Engerix-B)	aluminum hydroxide, yeast protein, sodium chloride, disodium phosphate dihydrate, sodium dihydrogen phosphate dihydrate
Hep B (Recombivax)	formaldehyde, potassium aluminum sulfate, amorphous aluminum hydroxyphosphate sulfate, yeast protein
Hep B (Heplisav-B)	yeast protein, yeast DNA, deoxycholate, phosphorothioate linked oligodeoxynucleotide, sodium phosphate, dibasic dodecahydrate, sodium chloride, monobasic dehydrate, polysorbate 80

Continued on Next Page

Vaccine Excipient & Media Summary

Excipients Included in U.S. Vaccines, by Vaccine (continued)

Vaccine	Contains
Hep A/Hep B (Twinrix)	MRC-5 cellular proteins, formalin, aluminum phosphate, aluminum hydroxide, amino acids, sodium chloride, phosphate buffer, polysorbate 20, neomycin sulfate, yeast protein
HPV (Gardasil 9)	amorphous aluminum hydroxyphosphate sulfate, sodium chloride, L-histidine, polysorbate 80, sodium borate, yeast protein
Influenza (Afluria) Trivalent	sodium chloride, monobasic sodium phosphate, dibasic sodium phosphate, monobasic potassium phosphate, potassium chloride, calcium chloride, sodium taurodeoxycholate, ovalbumin, sucrose, neomycin sulfate, polymyxin B, beta- propiolactone, hydrocortisone, thimerosal (multi-dose vials)
Influenza (Fluad) Trivalent	squalene, polysorbate 80, sorbitan trioleate, sodium citrate dihydrate, citric acid monohydrate, neomycin, kanamycin, hydrocortisone, egg protein, formaldehyde
Influenza (Fluarix) Trivalent	octoxynol-10 (TRITON X-100), α-tocopheryl hydrogen succinate, polysorbate 80 (Tween 80), hydrocortisone, gentamicin sulfate, ovalbumin, formaldehyde, sodium deoxycholate, sodium phosphate-buffered isotonic sodium chloride
Influenza (Flublok) Trivalent	sodium chloride, monobasic sodium phosphate, dibasic sodium phosphate, polysorbate 20 (Tween 20), baculovirus and Spodoptera frugiperda cell proteins, baculovirus and cellular DNA, Triton X-100
Influenza (Flucelvax) Trivalent	Madin Darby Canine Kidney (MDCK) cell protein, phosphate buffered saline, protein other than HA, MDCK cell DNA, polysorbate 80, cetyltrimethlyammonium bromide, and β-propiolactone, thimerosal (multi-dose vials)
Influenza (Flulaval) Trivalent	ovalbumin, formaldehyde, sodium deoxycholate, α-tocopheryl hydrogen succinate, polysorbate 80, phosphate-buffered saline solution
Influenza (Fluzone) Trivalent	formaldehyde, egg protein, octylphenol ethoxylate (Triton X-100), sodium phosphate-buffered isotonic sodium chloride solution, thimerosal (multi-dose vials)
Influenza (Fluzone) High Dose	egg protein, octylphenol ethoxylate (Triton X-100), sodium phosphate-buffered isotonic sodium chloride solution, formaldehyde
Influenza (FluMist) Trivalent	monosodium glutamate, hydrolyzed porcine gelatin, arginine, sucrose, dibasic potassium phosphate, monobasic potassium phosphate, ovalbumin, gentamicin sulfate, ethylenediaminetetraacetic acid (EDTA)
IPV (Ipol)	calf bovine serum albumin, 2-phenoxyethanol, formaldehyde, neomycin, streptomycin, polymyxin B, M-199 medium
Japanese Encephalitis (Ixiaro)	aluminum hydroxide, protamine sulfate, formaldehyde, bovine serum albumin, host cell DNA, sodium metabisulphite, host cell protein

Continued on Next Page

Vaccine Excipient & Media Summary

Excipients Included in U.S. Vaccines, by Vaccine (continued)

Vaccine	Contains
MenACWY (Menactra)	sodium phosphate buffered isotonic sodium chloride solution, formaldehyde, diphtheria toxoid protein carrier
MenACWY (MenQuadfi)	sodium chloride, sodium acetate, formaldehyde
MenACWY (Menveo)	formaldehyde, CRM_{197} protein
MenB (Bexsero)	aluminum hydroxide, sodium chloride, histidine, sucrose, kanamycin
MenB (Trumenba)	polysorbate 80, aluminum phosphate, histidine buffered saline
MMR (MMR-II)	sorbitol, sucrose, hydrolyzed gelatin, recombinant human albumin, neomycin, fetal bovine serum, WI-38 human diploid lung fibroblasts
MMRV (ProQuad) (Frozen: Recombinant Albumin)	MRC-5 cells including DNA and protein, sucrose, hydrolyzed gelatin, sodium chloride, sorbitol, monosodium L-glutamate, sodium phosphate dibasic, recombinant human albumin, sodium bicarbonate, potassium phosphate monobasic, potassium chloride, potassium phosphate dibasic, neomycin, bovine calf serum, other buffer and media ingredients
PCV13 (Prevnar 13)	CRM_{197} carrier protein, polysorbate 80, succinate buffer, aluminum phosphate
PPSV-23 (Pneumovax)	isotonic saline solution, phenol
Rabies (Imovax)	human albumin, neomycin sulfate, phenol red, beta-propiolactone
Rabies (RabAvert)	chicken protein, polygeline (processed bovine gelatin), human serum albumin, potassium glutamate, sodium EDTA, ovalbumin, neomycin, chlortetracycline, amphotericin B
Rotavirus (RotaTeq)	sucrose, sodium citrate, sodium phosphate monobasic monohydrate, sodium hydroxide, polysorbate 80, cell culture media, fetal bovine serum
Rotavirus (Rotarix) (Vial and Oral Dosing Applicator)	Vero cells, amino acids, dextran, Dulbecco's Modified Eagle Medium (sodium chloride, potassium chloride, magnesium sulfate, ferric (III) nitrate, sodium dihydrogen phosphate, sodium pyruvate, D-glucose, concentrated vitamin solution, L-cystine, L-tyrosine, amino acids solution, L-glutamine, calcium chloride, and sodium hydrogenocarbonate) and phenol red), sorbitol, sucrose, calcium carbonate, sterile water, xanthan [Porcine circovirus type 1 (PCV-1) is present in Rotarix. PCV-1 is not known to cause disease in humans.]
Rotavirus (Rotarix) (Oral Dosing Applicator Only)	Vero cells, disodium adipate, Dulbecco's Modified Eagle Medium (sodium chloride, potassium chloride, magnesium sulfate, ferric (III) nitrate, sodium dihydrogen phosphate, sodium pyruvate, D-glucose, concentrated vitamin solution, L-cystine, L-tyrosine, amino acids solution, L-glutamine, calcium chloride, and sodium hydrogenocarbonate) and disodium adipate.

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Vaccine Excipient & Media Summary

Excipients Included in U.S. Vaccines, by Vaccine (continued)

Vaccine	Contains
Smallpox (Vaccinia) (ACAM2000)	HEPES, 2% human serum albumin, 0.5 - 0.7% sodium chloride USP, 5% Mannitol USP, neomycin, polymyxin B, 50% Glycerin USP, 0.25% phenol USP
Td (Tenivac)	aluminum phosphate, formaldehyde, sodium chloride
Td (TDVAX)	aluminum phosphate, formaldehyde, thimerosal
Tdap (Adacel)	aluminum phosphate, formaldehyde, 2-phenoxyethanol, glutaraldehyde
Tdap (Boostrix)	formaldehyde, aluminum hydroxide, sodium chloride, polysorbate 80
Typhoid (Typhim Vi)	formaldehyde, phenol, polydimethylsiloxane, disodium phosphate, monosodium phosphate, sodium chloride
Typhoid (Vivotif Ty21a)	sucrose, ascorbic acid, amino acids, lactose, magnesium stearate, gelatin
Varicella (Varivax) Frozen	sucrose, hydrolyzed gelatin, sodium chloride, monosodium L-glutamate, sodium phosphate dibasic, potassium phosphate monobasic, potassium chloride, MRC-5 human diploid cells including DNA & protein, sodium phosphate monobasic, EDTA, neomycin, fetal bovine serum
Yellow Fever (YF-Vax)	sorbitol, gelatin, sodium chloride
Zoster (Shingles) (Shingrix)	sucrose, sodium chloride, dioleoyl phosphatidylcholine (DOPC), 3-O-desacl-4'monophosphoryl lipid A (MPL), QS-21 (a saponin purified from plant extract Quillaja saponaria Molina), potassium dihydrogen phosphate, cholesterol, sodium dihydrogen phosphate dihydrate, disodium phosphate anhydrous, dipotassium phosphate, polysorbate 80, host cell protein and DNA

Abbreviations: DT = diphtheria and tetanus toxoids; DTaP = diphtheria and tetanus toxoids and acellular pertussis; Hep A = Hepatitis A; Hep B = Hepatitis B; Hib = Haemophilus infuenzae type b; HPV = human papillomavirus; IPV = inactivated poliovirus; LAIV = live, attenuated infuenza vaccine; MenACWY = quadrivalent meningococcal conjugate vaccine; MenB = serogroup B meningococcal vaccine; MMR = measles, mumps, and rubella; MMRV = measles, mumps, rubella, varicella; PCV13 = pneumococcal conjugate vaccine; PPSV23= pneumococcal polysaccharide vaccine; Td = tetanus and diphtheria toxoids; Tdap = tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis.

Vaccines Licensed for Use in the United States

Vaccine	Trade Name
Adenovirus	Adenovirus Type 4 & Type 7
Anthrax	BioThrax®
Cholera	Vaxchora™
DTaP	Daptacel®
	Infanrix™
DT	N/A (Generic)
***Haemophilus influenzae type b* (Hib)**	ActHIB®
	Hiberix™
	PedvaxHIB®
Hepatitis A	Havrix™
	Vaqta®
Hepatitis B	Engerix-B™
	Recombivax HB®
	Heplisav-B®
Herpes Zoster (Shingles)	Shingrix™
Human Papillomavirus (HPV)	Gardasil® 9
Influenza	Afluria Trivalent®
	Fluad® Trivalent
	Fluarix™ Trivalent
	Flublok® Trivalent
	Flucelvax® Trivalent
	FluLaval™ Trivalent
	FluMist® Trivalent
	Fluzone® Trivalent
	Fluzone® High-Dose Trivalent

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Vaccines Licensed for Use in the United States
(Continued)

Vaccine	Trade Name
Japanese encephalitis	Ixiaro®
Measles, Mumps, Rubella	M-M-R® II
Meningococcal (serogroups A, C, W, and Y)	Menactra®
	Menquadfi™
	Menveo™
Meningococcal (serogroup B)	Trumenba®
	Bexsero™
Pneumococcal	Pneumovax® 23
	Prevnar 13®
Polio	Ipol®
Rabies	Imovax®
	RabAvert®
Rotavirus	RotaTeq®
	Rotarix™
Tetanus, (reduced) Diphtheria	Tenivac®
	TdVax™
Tetanus, (reduced) Diphtheria, (reduced) Pertussis	Boostrix™
	Adacel®
Typhoid	Typhim Vi®
	Vivotif®
Varicella	Varivax®
Smallpox (Vaccinia)	ACAM2000®
Smallpox and Mpox	JYNNEOS®
Yellow Fever	YF-Vax®

Continued on Next Page

Vaccines Licensed for Use in the United States
(Continued)

United States Combination Vaccines	
Vaccine	**Trade Name**
DTaP, Polio	Kinrix™
	Quadracel®
DTaP, hepatitis B, Polio	Pediarix™
DTaP, Polio, *Haemophilus influenzae type b*	Pentacel®
DTaP, Polio, *Haemophilus influenzae type b*, hepatitis B	Vaxelis™
Hepatitis A, Hepatitis B	Twinrix™
Measles, Mumps, Rubella, Varicella	ProQuad®

Source: CDC, Epidemiology and Prevention of Vaccine Preventable Diseases, 14th Edition, August 2021

Administration by the Intramuscular (IM) Route

Administer by IM route only

- COVID-19
- Dengue
- Diphtheria-tetanus-pertussis (DTaP, Tdap)
- Diphtheria-tetanus (DT, Td)
- *Haemophilus influenzae* type b (Hib)
- Hepatitis A (HepA)
- Hepatitis B (HepB)
- Human papillomavirus (HPV)
- Inactivated influenza vaccine (IIV)
- Meningococcal serogroups A,C,W, Y (MenACWY)
- Meningococcal serogroup B (MenB)
- Pneumococcal conjugate (PCV)
- Zoster (RZV)

Administer by IM or Subcutaneous (Subcut) route

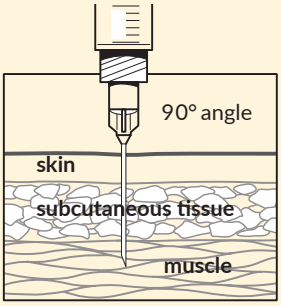
- Inactivated polio vaccine (IPV)
- Measles, mumps, and rubella (MMR II [Merck] only)
- Pneumococcal polysaccharide (PPSV23)
- Varicella (VAR)

PATIENT AGE	INJECTION SITE	NEEDLE SIZE
Newborn (0–28 days)	Anterolateral thigh muscle	⅝"* (22–25 gauge)
Infant (1–12 mos)	Anterolateral thigh muscle	1" (22–25 gauge)
Toddler (1–2 years)	Anterolateral thigh muscle	1–1¼" (22–25 gauge)
	Alternate site: Deltoid muscle of arm if muscle mass is adequate	⅝*–1" (22–25 gauge)
Children (3–10 years)	Deltoid muscle (upper arm)	⅝*–1" (22–25 gauge)
	Alternate site: Anterolateral thigh muscle	1–1¼" (22–25 gauge)
Children and adults (11 years and older)	Deltoid muscle (upper arm)	⅝†–1" (22–25 gauge)
	Alternate site: Anterolateral thigh muscle‡	1‡–1½" (22–25 gauge)

* A ⅝" needle usually is adequate for neonates (first 28 days of life), preterm infants, and children ages 1 through 18 years if the skin is stretched flat between the thumb and forefinger and the needle is inserted at a 90° angle to the skin.

† A ⅝" needle may be used in patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin is stretched tightly and subcutaneous tissues are not bunched; a 1" needle is sufficient in patients weighing 130–152 lbs (60–70 kg); a 1–1½" needle is recommended in women weighing 153–200 lbs (70–90 kg) and men weighing 153–260 lbs (70–118 kg); a 1½" needle is recommended in women weighing more than 200 lbs (91 kg) or men weighing more than 260 lbs (118 kg).

‡ A 1" needle may be used for an IM injection in the anterolateral thigh muscle of an adult of any weight if the skin is stretched tightly and subcutaneous tissues are not bunched. For more information on how to administer an IM injection in the anterolateral thigh of an adult, see www.immunize.org/catg.d/p2030.pdf.



Needle insertion

Use a needle long enough to reach deep into the muscle.

Insert needle at a 90° angle to the skin with a quick thrust.

(Before administering an injection of vaccine, it is not necessary to aspirate, i.e., to pull back on the syringe plunger after needle insertion.)

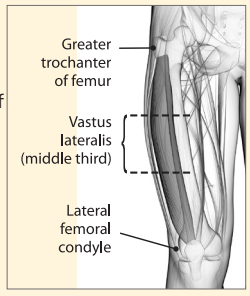
Multiple injections given in the same extremity should be separated by a minimum of 1", if possible.

Reference: CDC. *Epidemiology and Prevention of Vaccine-Preventable Diseases.* Hall E., Wodi A.P., Hamborsky J., et al., eds. 14th ed. Washington, D.C., Public Health Foundation, 2021. "Vaccine Administration" at www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html

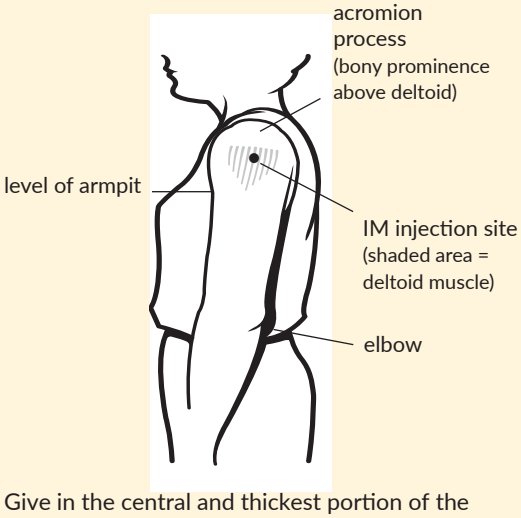
Intramuscular (IM) injection site for infants and toddlers

Insert needle at a 90° angle into the anterolateral thigh muscle.

Alternate injection site for adults (outer portion of middle third of thigh)



Intramuscular (IM) injection site for children and adults



Give in the central and thickest portion of the deltoid muscle – above the level of the armpit and approximately 2–3 fingerbreadths (~2") below the acromion process. See the diagram. To avoid causing an injury, do not inject too high (near the acromion process) or too low.

▶

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Item #P2020 (4/6/2023)

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Administration by the Subcutaneous (Subcut) Route

Administer by Subcut route only

- Dengue
- MMR (Priorix [GSK])

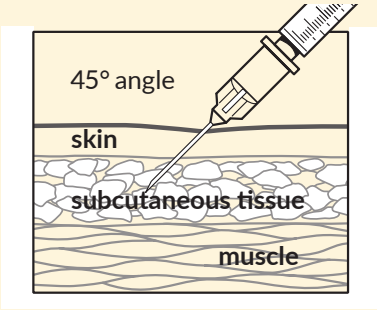
Administer by Subcut or IM route

- Inactivated polio vaccine (IPV)
- MMR (MMR II [Merck])
- Pneumococcal polysaccharide (PPSV23)
- Varicella (VAR)

Administer by Subcut or intradermal (ID) route

- Monkeypox vaccine (Jynneos)
  Note: *Subcut is indicated on the package insert. ID administration to adults (18+ years) is permitted under FDA emergency use authorization (see www.fda.gov/media/160774/download).*

PATIENT AGE	INJECTION SITE	NEEDLE SIZE
Birth to 12 months	Fatty tissue overlying the anterolateral thigh muscle	⅝" (23–25 gauge)
12 months and older	Fatty tissue overlying the anterolateral thigh muscle or fatty tissue over triceps	⅝" (23–25 gauge)



Needle insertion

Pinch up on subcutaneous tissue to prevent injection into muscle.

Insert needle at 45° angle to the skin.

(Before administering an injection of vaccine, it is not necessary to aspirate, i.e., to pull back on the syringe plunger after needle insertion.)

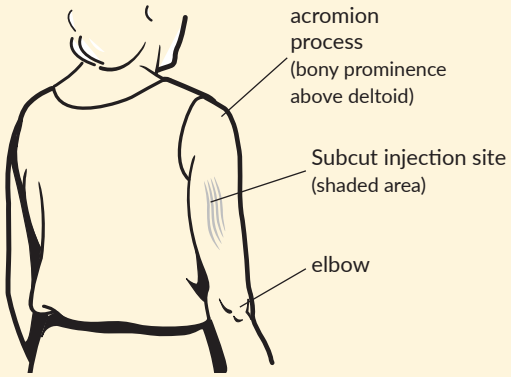
Multiple injections given in the same extremity should be separated by a minimum of 1".

Subcutaneous (Subcut) injection site for infants

Subcut injection site
(shaded area)

Insert needle at a 45° angle into fatty tissue of the anterolateral thigh. Make sure you pinch up on subcutaneous tissue to prevent injection into the muscle.

Subcutaneous (Subcut) injection site for children (after the 1st birthday) and adults



Insert needle at a 45° angle into the fatty tissue overlying the triceps muscle. Make sure you pinch up on the subcutaneous tissue to prevent injection into the muscle.

Routine Immunization Screening Form: Pediatric

AUTHORITY: 10 U.S.C. 1071-1085, Medical and Dental Care; Army Regulation 40-562, Immunizations and Chemoprophylaxis for the Prevention of Infectious Disease; DoDM 6025.18, Implementation of the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule in DoD Health Care Programs.

PURPOSE: To determine whether your child can safely receive a routine immunization.

ROUTINE USES: Use and disclosure of your child's records outside of DoD may occur in accordance with the Privacy Act of 1974, as amended (5 U.S.C. 552a(b)). Collected information may be shared with entities including the Departments of Health and Human Services, Veterans Affairs, and other Federal, State, local, or foreign government agencies, or authorized private business entities. To appropriate agencies, entities, and persons when (1) the DoD suspects or has confirmed that there has been a breach of the system of records; (2) the DoD has determined that as a result of the suspected or confirmed breach there is a risk of harm to individuals, the DoD (including its information systems, programs, and operations), the Federal Government, or national security; and (3) the disclosure made to such agencies, entities, and persons is reasonably necessary to assist in connection with the DoD's efforts to respond to the suspected or confirmed breach or to prevent, minimize, or remedy such harm.

APPLICABLE SORN: EDHA 07, Military Health Information System (November 18, 2013, 78 FR 69076) https://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570672/edha-07/

DISCLOSURE: Voluntary. If you choose not to provide the requested information, no penalty may be imposed; however, failure to provide the information may result in delays in assessing contraindications for receiving vaccinations.

Patient name:	DOB *(YYYYMMDD)*:

Screening Checklist for Contraindications to Vaccines for Children and Teens

For parents/guardians: The following questions will help us determine which vaccines your child may be given today. If you answer "yes" to any question, it does not necessarily mean your child should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your healthcare provider to explain it.

		Yes	No	Don't Know
1.	Is the child sick today?	☐	☐	☐
2.	Has the child had a serious reaction after receiving a vaccination?	☐	☐	☐
3.	Does the child have allergies to medication, food, a vaccine component, or latex?	☐	☐	☐
4.	Has the child, a sibling, or a parent had a seizure; has the child had brain or other nervous system problems?	☐	☐	☐
5.	Has the child had a health problem involving heart, lung (e.g. asthma), kidney, or metabolic disease (e.g., diabetes), anemia, or other blood disorder? Is he/she on long-term aspirin therapy?	☐	☐	☐
6.	Does the child have cancer, leukemia, HIV/AIDS, or does the child or family members (parents or siblings) have an immune system problem?	☐	☐	☐
7.	In the past 3 months, has the child taken medications that weaken his/her immune system, such as prednisone or other steroids; anticancer drugs; biologic drugs for autoimmune diseases such as rheumatoid arthritis, Crohn's disease, or psoriasis; or had radiation treatments?	☐	☐	☐
8.	In the past year, has the child received a transfusion of blood or blood products, or been given immune (gamma) globulin or an antiviral drug?	☐	☐	☐
9.	If your child is a baby, have you ever been told he/she has a malformation of the gastrointestinal tract (such as Meckel's diverticulum) that would predispose the infant for intussusception?	☐	☐	☐
10.	If the child to be vaccinated is 2 through 4 years of age, has a healthcare provider told you that the child had wheezing or asthma in the past 12 months?	☐	☐	☐
11.	Has the child had (or is a candidate for) his/her spleen removed, or do they have sickle cell anemia?	☐	☐	☐
12.	Has the child ever passed out (had vasovagal syncope) during or after a previous immunization or blood draw?	☐	☐	☐
13.	Has the child received any vaccinations in the past 4 weeks?	☐	☐	☐
14.	Is the child/teen pregnant or is there a chance she could become pregnant during the next month? Not Applicable ☐	☐	☐	☐

Please list any medications the child is currently taking:

Form completed by:	Date *(YYYYMMDD)*:
Form reviewed by:	Date *(YYYYMMDD)*:

Did you bring your immunization record/card with you? **Yes** ☐ **No** ☐

It is important for you to have a personal record of your vaccinations. If you don't have a personal record, ask your healthcare provider to give you one. Keep this record in a safe place and bring it with you every time you seek medical care. Make sure your healthcare provider records all your vaccinations on it. For questions or concerns regarding immunizations, providers, nurses and patients may call the DHA Immunization Healthcare Support Center 24/7 at 1-877-438-8222, Option 1.

(**NOTE:** The form above is an example. The fillable, signable forms are available for individual download at the Official DoD Website for DoD Forms.)

Information for Healthcare Professionals about the Screening Checklist for Contraindications (Children and Teens)

Each screening question is explained in more detail below. For more information, please consult the sources referenced at the end.

1. Is the child sick today? [*all vaccines*]

There is no evidence that acute illness reduces vaccine efficacy or increases vaccine adverse events.[1,2] However, as a precaution with moderate or severe acute illness, all vaccines should be delayed until the illness has improved. Mild illnesses (such as otitis media, upper respiratory infections, and diarrhea) are NOT contraindications to vaccination. Do not withhold vaccination if a person is taking antibiotics.

2. Has the child ever had a serious reaction after receiving a vaccination? [*all vaccines*]

History of anaphylactic reaction (see question 3) to a previous dose of vaccine or vaccine component is a contraindication for subsequent doses.[1] History of encephalopathy within 7 days following DTP/DTaP is a contraindication for further doses of pertussis-containing vaccine.There are other adverse events that might have occurred following vaccination that constitute contraindications or precautions to future doses. Under normal circumstances, vaccines are deferred when a precaution is present. However, situations may arise when the benefit outweighs the risk (e.g., during a community pertussis outbreak).

3. Does the child have allergies to medications, food, a vaccine component, or latex? [*all vaccines*]

An anaphylactic reaction to latex is a contraindication to vaccines that contain latex as a component or as part of the packaging (e.g., vial stoppers, prefilled syringe plungers or caps). If a person has anaphylaxis after eating gelatin, do not administer vaccines containing gelatin. For patients with known Alpha-gal syndrome (red meat allergy) caution should be exercised with gelatin-containing vaccines (i.e. MMR, VAR, YF-Vax), as some of these patients have demonstrated anaphylaxis with these vaccines. A local reaction to a prior vaccine dose or vaccine component, including latex, is not a contraindication to a subsequent dose or vaccine containing that component.[3,4] People with egg allergy of any severity can receive any recommended influenza vaccine (i.e., any IIV or RIV) that is otherwise appropriate for the patient's age. For people with a history of severe allergic reaction to egg involving any symptom other than hives (e.g., angioedema, respiratory distress), or who required epinephrine or another emergency medical intervention, the vaccine should be administered in a medical setting, such as a clinic, health department, or physician office. Vaccine administration should be supervised by a healthcare provider who is able to recognize and manage severe allergic conditions.[5]

4. Has the child, a sibling, or a parent had a seizure; has the child had brain or other nervous system problems? [*DTaP, Td, Tdap, IIV, LAIV, MMRV*]

DTaP and Tdap are contraindicated in children who have a history of encephalopathy within 7 days following DTP/DTaP. An unstable, progressive neurologic condition is a precaution to the use of DTaP and Tdap. For children with stable neurologic disorders (including seizures) unrelated to vaccination, or for children with a family history of seizures, vaccinate as usual (exception: children with a personal or family [i.e., parent or sibling] history of seizures generally should not be vaccinated with MMRV; they should receive separate MMR and VAR vaccines). A history of Guillain-Barre syndrome (GBS) is a precaution for the following:

1) Td/Tdap: if GBS has occurred within 6 weeks of a tetanus-containing vaccine and the decision is made to continue vaccination, if no history of prior Tdap, give Tdap instead of Td;

2) Influenza vaccine (IIV or LAIV): if GBS has occurred within 6 weeks of a prior influenza vaccination, vaccinate with IIV if at high risk for severe influenza complications.

5. Has the child had a health problem involving heart, lung (e.g. asthma), kidney, or metabolic disease (e.g. diabetes), anemia, or other blood disorder? Is he/she on long- term aspirin therapy? [*MMR, MMRV, LAIV*]

A history of thrombocytopenia or thrombocytopenic purpura is a precaution to MMR and MMRV vaccines. The safety of LAIV in pediatric patients with these conditions has not been established. These conditions, including asthma in children 5 years of age and older, are considered precautions for LAIV use. Patients on long-term aspirin therapy should not receive LAIV: they should receive IIV instead.

6. Does the child or a family member have cancer, leukemia, HIV/AIDS, or any other immune system problem? [*LAIV, MMR, MMRV, RV, Ty21a, VAR, YF-Vax*]

Live virus vaccines are usually contraindicated in immunocompromised patients; however, there are exceptions. MMR is recommended for asymptomatic HIV-infected children who do not have evidence of severe immunosuppression. VAR should be considered for HIV-infected children with age-specific CD4+ T-lymphocyte percentage at 15% or greater, or for children 6-18 years of age with CD4+ T-lymphocyte counts of greater than or equal to 200 cell/μL. MMR and VAR vaccines should not be given to a patient with a family history of congenital or hereditary immunodeficiency in first-degree relatives (i.e., parents, siblings) unless the immune competence of that patient has been clinically substantiated or verified by a laboratory. Immunosuppressed children should not receive LAIV. Infants who have been diagnosed with severe combined immunodeficiency (SCID) should not be given a live virus vaccine, including RV. Other forms of immunosuppression are a precaution, not a contraindication, to RV. For details, consult current ACIP recommendations.[1,6,7,8]

7. In the past 3 months, has the child taken medications that weaken his/her immune system, such as prednisone or other steroids; anticancer drugs; biologic drugs for autoimmune diseases such as rheumatoid arthritis, Crohn's disease, or psoriasis; or had radiation treatments? [*Adenovirus, MMR, MMRV, Ty21a, VAR, YF-Vax*]

Live virus vaccines should be postponed until after chemotherapy or long-term high- dose steroid therapy has ended. For details and length of time to postpone, consult the current ACIP statement [1] Some immune mediator and immune modulator drugs (especially the antitumor necrosis factor agents adalimumab, infliximab, and etanercept) may be immunosuppressive. The use of live vaccines should be avoided in persons taking these drugs.[1] Specific vaccination schedules for stem cell transplant (bone marrow transplant) patients can be found on the NIH website.[9] LAIV, when recommended, can be given only to healthy, non-pregnant people ages 2 through 49 years.

8. In the past year, has the child received a transfusion of blood or blood products, or been given immune (gamma) globulin or an antiviral drug? [*MMR, MMRV, VAR*]

Certain live virus vaccines may need to be deferred, depending on several variables. Consult the most current ACIP recommendations or the current Red Book for information on intervals between receipt of antiviral drugs, immune globulin or blood products, and live virus vaccines.[1,2]

9. If your child is a baby, have you ever been told he/she has had intussusception? [*RV*]

Infants who have a congenital malformation of the gastrointestinal tract (such as Meckle's Diveriticulum) or have a history of intussusception (i.e., the telescoping of one portion of the intestine into another) should not be given RV.

10. If the child to be vaccinated is 2 through 4 years of age, has a healthcare provider told you that the child had wheezing or asthma in the past 12 months? [*LAIV*]

Children ages 2 through 4 years who have had a wheezing episode within the past 12 months should not be given LAIV. Instead, these children should be given IIV.

11. Has the child had (or is a candidate for) his/her spleen removed, or do they have sickle cell anemia? [*Hib, LAIV, PCV13, PPSV23, MCV4, MenB*]

Patients with anatomic or functional asplenia (i.e. sickle-cell disease) are at an increased risk of certain vaccine preventable diseases, including *Haemophilus influenzae* type b, meningococcal, and pneumococcal disease. LAIV is not recommended for people with anatomic or functional asplenia. Hib, PCV13, MCV4, and MenB vaccine should be given 14 days before splenectomy, if possible. Doses given during the 14 days prior to surgery can be counted as valid. Doses that cannot be given prior to surgery should be given as soon as the patient's condition has stabilized after surgery. For patients 2 years of age and up: the first dose of PPSV23 should be administered 8 weeks after the last dose of PCV13. A second dose of PPSV23 should be administered 5 years after the first dose.

12. Has the child ever passed out (had vasovagal syncope) during or after a previous immunization or blood draw? [*all vaccines*]

Providers should be aware of the potential for syncope (fainting) associated with vaccination, particularly among adolescents. Appropriate measures should be taken to prevent syncope, and to readily respond to the patient who feels faint. Observe all patients for 15 minutes after vaccination for signs and symptoms that precede syncope, such as weakness, dizziness, sweatiness, and pallor. For patients prone to syncope, make sure they are either seated or lying down at the time of vaccination. (If the patient is seated during vaccination, the immunizer should be seated as well, to minimize the risk of SIRVA). If a patient becomes pre-syncopal, have them lie flat or sit with head between knees for several minutes; loosen any tight clothing and maintain an open airway; apply cool, damp cloths to the patient's face and neck. Observe the patient until symptoms completely resolve.

13. Has the child received any vaccinations in the past 4 weeks? *[LAIV, MMR, MMRV,VAR, YF-Vax]*

Patients who were given either LAIV or an injectable live virus vaccine should wait 28 days before receiving another live vaccine. Inactivated vaccines may be given at the same time or at any spacing interval.

14. Is the child/teen pregnant, or is there a chance she could become pregnant during the next month? [*Adenovirus, HPV, IPV, MMR, MMRV, LAIV, VAR, Ty21a, possibly YF-Vax*]

Live virus vaccines are contraindicated one month before and during pregnancy because of the theoretical risk of virus transmission to the fetus. Sexually active young women who receive a live virus vaccine should be instructed to practice careful contraception for one month following receipt.[7,10] On theoretical grounds, HPV and IPV should not be given during pregnancy; however, IPV may be given if risk of exposure is imminent (e.g., travel to endemic areas). Inactivated influenza vaccine and Tdap are both recommended during pregnancy.

1. ACIP General Best Practice Guidelines for Immunization: www.cdc.gov/vaccines/hcp/acip-recs/general-recs/downloads/general-recs.pdf.

2. AAP Red Book Report of the Committee on Infectious Diseases: www.aapredbook.org.

3. Latex in Vaccine Packaging: www.cdc.gov/vaccines/ pubs/pinkbook/downloads/appendices/B/latextable.pdf.

4. Table of Vaccine Components: www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf.

5. Prevention and control of seasonal influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practices. www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/flu.html.

6. Measles, mumps, and rubella-vaccine use and strategies for elimination of measles, rubella, and congenital rubella syndrome and control of mumps. MMWR 1998, 47(RR-8).

7. Prevention of varicella: Recommendations of the Advisory Committee on Immunization Practices. MMWR 2007, 56(RR-4).

8. Rubin L.G., Levin M.J., Ljungman P. (2014) IDSA Clinical practice guideline for vaccination of the immunocompromised host. *Clinical Infectious Diseases*, 58(3), 309-318.

9. Tomblyn M, Einsele H, et al. 2009. Guidelines for preventing infectious complications among hematopoietic stem cell transplant recipients: a global perspective. *Biology of Blood and Marrow Transplant 15*:1143-1238.

10. Revised ACIP recommendation for avoiding pregnancy after receiving a rubella-containing vaccine. MMWR 2001; 50 (49).

Vaccine Abbreviations:

- DTaP: diphtheria/tetanus toxoids, acellular pertussis
- DTP: diphtheria/tetanus toxoids, whole-cell pertussis
- Hib: *Haemophilus influenza* type b
- HPV: human papillomavirus
- IIV: inactivated influenza
- IPV: inactivated poliovirus
- LAIV: live attenuated influenza
- MCV4: meningococcal conjugate, quadrivalent, serogroups A, C, W, Y
- MenB: meningococcal serogroup B
- MMR: measles, mumps, rubella
- MMRV: measles, mumps, rubella, varicella
- PCV13: pneumococcal conjugate (13-valent)
- PPSV23: pneumococcal polysaccharide (23-valent)
- RIV: recombinant influenza
- RV: rotavirus
- SIRVA: shoulder injury related to vaccine administration
- Td: tetanus/diphtheria toxoids
- Tdap: tetanus toxoid, reduced diphtheria toxoid, acellular pertussis
- Ty21a: oral typhoid
- VAR: varicella
- YF-Vax: yellow fever

Routine Immunization Screening Form: Adult

NOTE: If cholera or smallpox vaccines are being considered, please complete their respective immunization screening forms.

AUTHORITY: 10 U.S.C. 1071-1085, Medical and Dental Care; Army Regulation 40-562, Immunizations and Chemoprophylaxis for the Prevention of Infectious Disease; DoDM 6025.18, Implementation of the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule in DoD Health Care Programs.

PURPOSE: To determine whether you can safely receive a routine immunization.

ROUTINE USES: Use and disclosure of your records outside of DoD may occur in accordance with the Privacy Act of 1974, as amended (5 U.S.C. 552a(b)). Collected information may be shared with entities including the Departments of Health and Human Services, Veterans Affairs, and other Federal, State, local, or foreign government agencies, or authorized private business entities.

To appropriate agencies, entities, and persons when (1) the DoD suspects or has confirmed that there has been a breach of the system of records; (2) the DoD has determined that as a result of the suspected or confirmed breach there is a risk of harm to individuals, the DoD (including its information systems, programs, and operations), the Federal Government, or national security; and (3) the disclosure made to such agencies, entities, and persons is reasonably necessary to assist in connection with the DoD's efforts to respond to the suspected or confirmed breach or to prevent, minimize, or remedy such harm.

APPLICABLE SORN: EDHA 07, Military Health Information System (November 18, 2013, 78 FR 69076) https://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570672/edha-07/

DISCLOSURE: Voluntary. If you choose not to provide the requested information, no penalty may be imposed; however, failure to provide the information may result in delays in assessing contraindications for receiving vaccinations.

Patient name:	DOB *(YYYYMMDD)*:

Screening Checklist for Contraindications to Vaccines for Adults

For patients: The following questions will help us determine which vaccines you may be given today. If you answer "yes" to any question, it does not necessarily mean you should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your healthcare provider to explain it.

		Yes	No	Don't Know
1.	Are you sick today?	☐	☐	☐
2.	Have you ever had a serious reaction after receiving a vaccination?	☐	☐	☐
3.	Do you have allergies to medication, food, a vaccine component, or latex?	☐	☐	☐
4.	Have you had a seizure or a brain or other nervous system problem?	☐	☐	☐
5.	Have you had a health problem involving heart, lung (e.g., asthma), kidney, or metabolic disease (e.g., diabetes), anemia, or other blood disorder?	☐	☐	☐
6.	Do you have cancer, leukemia, HIV/AIDS, or any other immune system problem?	☐	☐	☐
7.	In the past 3 months, have you taken medications that weaken your immune system, such as prednisone or other steroids; anticancer drugs; biologic drugs for autoimmune diseases such as rheumatoid arthritis, Crohn's disease, or psoriasis; or had radiation treatments?	☐	☐	☐
8.	In the past year, have you received a transfusion of blood or blood products, or been given immune (gamma) globulin or an antiviral drug?	☐	☐	☐
9.	Have you had (or are you a candidate for) your spleen removed, or do you have sickle cell anemia?	☐	☐	☐
10.	Have you ever passed out (had vasovagal syncope) during or after a previous immunization or blood draw?	☐	☐	☐
11.	Have you received any vaccinations in the past 4 weeks?	☐	☐	☐
12.	Are you pregnant or is there a chance you could become pregnant during the next month? Not Applicable ☐	☐	☐	☐

Please list any medications you are currently taking:

Form completed by:	Date *(YYYYMMDD)*:
Form reviewed by:	Date *(YYYYMMDD)*:

Did you bring your immunization record/card with you? **Yes** ☐ **No** ☐

It is important for you to have a personal record of your vaccinations. If you don't have a personal record, ask your healthcare provider to give you one. Keep this record in a safe place and bring it with you every time you seek medical care. Make sure your healthcare provider records all your vaccinations on it. For questions or concerns regarding immunizations, providers, nurses and patients may call the DHA Immunization Healthcare Support Center 24/7 at 1-877-438-8222, Option 1.

Controlled by: DHA
CUI Category: PRVCY, HLTH
Distribution/Dissemination Control: FEDCON
POC: dha.ncr.bus-ops.mbx.dha-formsmanagement@health.mil

(**NOTE:** The form above is an example. The fillable, signable forms are available for individual download at the Official DoD Website for DoD Forms.)

Information for Healthcare Professionals about the Screening Checklist for Contraindications (Adult)

Each screening question is explained in more detail below. For more information, please consult the sources referenced at the end.

1. Are you sick today? *[all vaccines]*

There is no evidence that acute illness reduces vaccine efficacy or increases vaccine adverse events.[1] However, as a precaution with moderate or severe acute illness, all vaccines should be delayed until the illness has improved. Mild illnesses (such as otitis media, upper respiratory infections, and diarrhea) are NOT contraindications to vaccination. Do not withhold vaccination if a person is taking antibiotics.

2. Have you ever had a serious reaction after receiving a vaccination? *[all vaccines]*

History of anaphylactic reaction (see question 3) to a previous dose of vaccine or vaccine component is a contraindication for subsequent doses.[1] History of encephalopathy within 7 days following DTP/DTaP is a contraindication for further doses of pertussis-containing vaccine.There are other adverse events that may occur following vaccination that constitute contraindications or precautions to future doses. Under normal circumstances, vaccines are deferred when a precaution is present. However, situations may arise when the benefit outweighs the risk (e.g., during a community pertussis outbreak).

3. Do you have allergies to medications, food, a vaccine component, or latex? *[all vaccines]*

An anaphylactic reaction to latex is a contraindication to vaccines that contain latex as a component or as part of the packaging (e.g., vial stoppers, prefilled syringe plungers or caps). If a person has anaphylaxis after eating gelatin, do not administer vaccines containing gelatin. For patients with known Alpha-gal syndrome (red meat allergy), caution should be exercised with gelatin-containing vaccines (i.e. MMR, VAR, YF-Vax), as some of these patients have demonstrated anaphylaxis with these vaccines. A local reaction to a prior vaccine dose or vaccine component, including latex, is not a contraindication to a subsequent dose or vaccine containing that component.[2,3] People with egg allergy of any severity can receive any recommended influenza vaccine (i.e., any IIV or RIV) that is otherwise appropriate for the patient's age. Vaccine administration should be supervised by a healthcare provider who is able to recognize and manage severe allergic conditions.[4]

4. Have you had a seizure, or had brain or other nervous system problems? *[IIV, LAIV, Td, Tdap]*

Tdap is contraindicated in patients who have a history of encephalopathy within 7 days following DTP/DTaP given as a child. An unstable, progressive neurologic condition is a precaution to the use of Tdap. For patients with stable neurologic disorders (including seizures) unrelated to vaccination, or for patients with a family history of seizures, vaccinate as usual. A history of Guillain-Barre syndrome (GBS) is a precaution for the following: 1) Td/Tdap: if GBS occurred within 6 weeks of a tetanus-containing vaccine and the decision is made to continue vaccination, if no history of prior Tdap, give Tdap instead of Td; 2) Influenza vaccine (IIV or LAIV): if GBS occurred within 6 weeks of a prior influenza vaccination, vaccinate with IIV if at high risk for severe influenza complications.

5. Have you had a health problem involving heart, lung (e.g., asthma), kidney, or metabolic disease (e.g., diabetes), anemia, or other blood disorder? *[MMR, LAIV]*

A history of thrombocytopenia or thrombocytopenic purpura is a precaution to MMR vaccine. The safety of LAIV in patients with these conditions has not been established. These conditions, including asthma in adults, should be considered precautions for LAIV use.

6. Do you have cancer, leukemia, HIV/AIDS, or any other immune system problem? *[Adenovirus, CVD 103-HgR, LAIV, MMR, Ty21a, VAR, YF vaccine]*

Live virus vaccines are usually contraindicated in immunocompromised patients; however, there are exceptions. MMR is recommended and varicella should be considered for adults with CD4+ T-lymphocyte counts of greater than or equal to 200cell/µL. Immunosuppressed patients should not receive LAIV. For details, consult current ACIP recommendations.[1,6,7,8]

7. **In the past 3 months, have you taken medications that weaken your immune system, such as prednisone or other steroids; anticancer drugs; biologic drugs for autoimmune diseases such as rheumatoid arthritis, Crohn's disease, or psoriasis; or had radiation treatments?** [*Adenovirus, CVD 103-HgR, MMR, Ty21a, VAR, YF vaccine*]

Live virus vaccines should be postponed until after chemotherapy or long-term,high-dose steroid therapy has ended. For details and length of time to postpone, consult the current ACIP statement.[1] Some immune mediator and immune modulator drugs (especially the antitumor necrosis factor agents adalimumab, infliximab, and etanercept) may be immunosuppressive.The use of live vaccines should be avoided in persons taking these drugs.[1] Specific vaccination schedules for stem cell transplant (bone marrow transplant) patients can be found on the NIH website.[8] LAIV, when recommended, can be given only to healthy, non-pregnant people ages 2 through 49 years.

8. In the past year, have you received a transfusion of blood or blood products, or been given immune (gamma) globulin or an antiviral drug?

[*MMR, VAR*]

Certain live virus vaccines may need to be deferred, depending on several variables. Consult the most current ACIP recommendations for information on intervals between receipt of antiviral drugs, immune globulin or blood products, and live virus vaccines.[1,7]

9. Have you had (or are you a candidate for) your spleen removed, or do you have sickle cell anemia? [*Hib, LAIV, PCV13, PPSV23, MenACWY, MenB*]

Patients with anatomic or functional asplenia (i.e. sickle-cell disease) are at an increased risk of certain vaccine preventable diseases to include Haemophilus influenzae type b , meningococcal, and pneumococcal disease. LAIV is not recommended for people with anatomic or functional asplenia. Hib, PCV13, MCV4, and MenB vaccine should be given 14 days before splenectomy, if possible. Doses given during the 14 days prior to surgery can be counted as valid. Doses that cannot be given prior to surgery should be given as soon as the patient's condition has stabilized after surgery. For patients 2 years of age and up: the first dose of PPSV23 should be administered 8 weeks after the last dose of PCV13. A second dose of PPSV23 should be administered 5 years after the first dose. A third, final dose of PPSV23 should be administered after age 65 years, if both previous doses were before the age of 65.

10. Have you ever passed out (had vasovagal syncope) during or after a previous immunization or blood draw? [*all vaccines*]

Providers should be aware of the potential for syncope (fainting) associated with vaccination, particularly among adolescents. Appropriate measures should be taken to prevent syncope, and to readily respond to the patient who feels faint. Observe all patients for 15 minutes after vaccination for signs and symptoms that precede syncope, such as weakness, dizziness, sweatiness, and pallor. For patients prone to syncope, make sure they are either seated or lying down at the time of vaccination. (If the patient is seated during vaccination, the immunizer should be seated as well, to minimize the risk of SIRVA). If a patient becomes pre-syncopal, have them lie flat or sit with head between knees for several minutes; loosen any tight clothing and maintain an open airway; apply cool, damp cloths to the patient's face and neck. Observe the patient until symptoms completely resolve.

11. Have you received any vaccinations in the past 4 weeks? [*LAIV, MMR, VAR, YF vaccine, MVA-BN, COVID-19 vaccines*]

Patients who were given either LAIV or an injectable live virus vaccine should wait 28 days before receiving another live vaccine. Inactivated vaccines may be given at the same time or at any spacing interval. There is no minimum interval between receiving any COVID-19 vaccine and MVA-BN (Jynneos), regardless of which vaccine is administered first. However, people, particularly adolescent and young adult males, who are recommended to receive both vaccines might consider waiting 4 weeks between COVID-19 and MVA-BN (Jynneos) vaccines.

12. Are you pregnant, or is there a chance you could become pregnant during the next month? *[Adenovirus, AVA, CHIKV vaccine, CVD 103-HgR, HPV, MMR, MVA-BN, LAIV, VAR, Ty21a, YF vaccine]*

If giving a vaccine under a standing order during pregnancy (i.e., IIV, Tdap, or RSVpreF), refer to standing order. Live-replicating vaccines (Adenovirus, CHIKV vaccine, CVD 103-HgR, LAIV, MMR, VAR, Ty21a, YF vaccine) and HPV are generally contraindicated during pregnancy.6,9 Pregnant individuals are exempt from AVA and MVA-BN until completion of pregnancy. Other vaccines maybe considered during pregnancy with a specific provider order. Persons who could become pregnant and plan to receive a live-replicating virus vaccine (e.g., MMR, VAR, YF vaccine) should be instructed to avoid pregnancy for 1 month after vaccination.

1. ACIP General Best Practice Guidelines for Immunization: www.cdc.gov/vaccines/hcp/acip-recs/general-recs/ downloads/general-recs.pdf.
2. Latex in Vaccine Packaging: www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/latextable.pdf.
3.Table of Vaccine Components: www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf.
4. Prevention and control of seasonal influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practices. www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/flu.html.
5. Measles, mumps, and rubella-vaccine use and strategies for elimination of measles, rubella, and congenital rubella syndrome and control of mumps. MMWR 1998, 47(RR-8).
6. Prevention of varicella: Recommendations of the Advisory Committee on Immunization Practices. MMWR 2007, 56(RR-4).
7. Rubin L.G., Levin M.J., Ljungman P. (2014) IDSA Clinical practice guideline for vaccination of the immunocompromised host. *Clinical Infectious Diseases*, 58(3), 309–318
8. Tomblyn M, Einsele H, et al. 2009. Guidelines for preventing infectious complications among hematopoietic stem cell transplant recipients: a global perspective. *Biology of Blood and Marrow Transplant 15*:1143-1238.
9. CDC. Guidelines for Vaccinating Pregnant Women, https://www.cdc.gov/vaccines/pregnancy/hcp-toolkit/guidelines.html

Vaccine Abbreviations:

- AVA: Anthrax vaccine (Biothrax)
- CHIKV vaccine: Chikungunya vaccine (Ixchiq)
- CVD 103-HgR: Cholera vaccine (Vaxchora)
- -Hib: *Haemophilus influenza* type b
- HPV: human papillomavirus
- IIV: inactivated influenza
- IPV: inactivated poliovirus
- LAIV: live attenuated influenza
- MenACWY: meningococcal conjugate, quadrivalent, serogroups A, C, W, Y
- MenB: meningococcal serogroup B
- MMR: measles, mumps, rubella
- MVA-BN: Smallpox/mpox vaccine (Jynneos)
- PPSV23: pneumococcal polysaccharide (23-valent)
- RSVpreF: RSV vaccine (Abrysvo)
- RIV: recombinant influenza
- SIRVA: shoulder injury related to vaccine administration
- Td: tetanus/diphtheria toxoids
- Tdap: tetanus toxoid, reduced diphtheria toxoid, acellular pertussis
- Ty21a: oral typhoid
- VAR: varicella
- YF vaccine: yellow fever

Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
6 in 1	Diphtheria, tetanus, pertussis, polio, Hib, hepatitis B	GSK, Ireland
ADC-M (AДC-M)	Td	Russia
A.D.T.	Diphtheria, tetanus (adsorbed)	Commonwealth, Australia
A.K.D.S.	Diphtheria, tetanus, pertussis	UK
ACVax	Meningococcal (polysaccharide A & C)	GSK, UK
ACWYVax	Meningococcal (polysaccharide A, C, Y, W135)	GSK, UK
Acelluvax	Pertussis (acellular)	Chiron, Italy
ACTAcel	Diphtheria, tetanus, pertussis, Hib	Sanofi Pasteur, Argentina
Adifteper	Diphtheria, tetanus, pertussis	Ism, Italy
Adinvira A+B	Influenza (whole virus)	Imuna
Adiugrip	Influenza	Sanofi Pasteur
Admun	Influenza (whole virus)	Duncan
Admune GP	Influenza (whole virus)	Duncan
Agrippal	Influenza	Novartis
AH	HepatitisB	(Romania)
Aimmugen	Hepatitis A (inactivated)	Chemo-Sero-Therapeutic Resh Inst. Japan
Aldiana	Diphtheria (adsorbed)	Sevac, Czech Republic
Alditeana	Diphtheria, tetanus (adsorbed)	Sevac, Czech Republic
Alditerpera	Diphtheria, tetanus (adsorbed), pertussis	Sevac, Czech Republic
Almevax	Rubella	Evans
Alorbat	Influenza (whole virus)	Asta Pharma
Alteana Sevac	Tetanus	Institute of Sera and Vaccines
AM-BC	Meningococcal B & C	Cuba

Continued on Next Page

Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Amaril	Yellow Fever	Sanofi Pasteur, France
AmBirix	Hepatitis A, Hepatitis B	GSK, Europe
AMC	Hib (polysaccharide)	Cuba
Anadifterall	Diphtheria (adsorbed)	Chiron, Italy
Anatetall	Tetanus (adsorbed)	Chiron, Italy
Anatoxal Di Te	Diphtheria, tetanus	Berna Biotech, Europe
Anatoxal Di Te per	Diphtheria, tetanus, pertussis	Berna Biotech, Europe
AP	Polio	(Romania)
AS	Measles	Cuba
Arilvax	Yellow fever	MEDI, UK
ATPA	Tetanus toxoid	(Romania)
AVAC-1, AVA	Anthrax	(for U.S. military use)
AVAXIM	Hepatitis A	Aventis Pasteur, France
B-Hepavac II	Hepatitis B	Merck, Singapore
Begrivac	Influenza (split virus)	Novartis
Betagen	Hepatitis B	Sanofi Pasteur
Biaflu Zonale	Influenza (whole virus)	Farmabiagini, Italy
Biken-HB	Hepatitis B	Biken, Japan
Bilive	Hepatitis A/Hepatitis B (recombinant)	Sinovac, China
Bimmugen	Hepatitis B (recombinant, adsorbed, yeast derived)	Chemo-Sero-Therapeutic Resh Inst., Japan
Biviraten Berna	Measles, mumps (live)	Berna Biotech, Switzerland
Buccopol Berna	Polio (oral)	Berna Biotech, Europe
BVAC	Botulinum antitoxin	(for U.S. military use)
B-Vaxin	HepatitisB	Laboratorios Pablo Cassara, Argentina

Continued on Next Page

Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
C.D.T.	Diphtheria, tetanus (pediatric, adsorbed)	Commonwealth, Australia
CEF	Measles (Schwarz strain)	Chiron, Italy
Cacar	Smallpox	Indonesia
Campak Kerig	Measles	Pasteur Institute, Indonesia
Celluvax	Pertussis (acellular)	Chiron, Italy
Chiromas	Influenza (same as Fluad)	Novartis, Spain
Cinquerix	Diphtheria, tetanus, pertussis, Hib, polio	GSK, Europe
Cocquelucheau	Pertussis (adsorbed)	Sanoti Pasteur, France
Cuadruple	Diphtheria, tetanus, pertussis, Hib	Mexico
D-Immun	Diphtheria	Osterreichisches Institut, Austria
D.S.D.P.T.	Diphtheria, tetanus, pertussis (adsorbed)	Dong Shin Pharm, Korea
D.T. Bis Rudivax	Diphtheria, tetanus, rubella	Sanofi Pasteur, France
Di Anatoxal	Diphtheria	Berna Biotech, Europe
Di Te Per Pol Impfstoff	Diphtheria, tetanus, pertussis, polio	Berna Biotech, Switzerland
Di-Te-Pol SSI	Diphtheria, tetanus, polio	Statens Seruminstitut, Denmark
Dif-Tet-All	Diphtheria, tetanus	Chiron, Italy
Diftavax	Diphtheria, tetanus	Sanofi Pasteur
Ditanrix	Diphtheria, tetanus	GSK, Europe
DiTe Anatoxal	Diphtheria, tetanus (adsorbed)	Berna Biotech, Switzerland
Ditoxim	Diphtheria, tetanus (adsorbed)	Dong Shin Pharm, Korea
Double Anigen B.I.	Diphtheria, tetanus	Bengal Immunity Co., India
DT Adulte	Diphtheria, tetanus (adult)	Sanofi Pasteur, France
DT Bis	Diphtheria, tetanus (booster)	Sanofi Pasteur, France
DT Coq	Diphtheria, tetanus, pertussis	Sanofi Pasteur, France

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
DT Polio	Diphtheria, tetanus, polio	Sanofi Pasteur, France
DT TAB	Diphtheria, tetanus *Salmonella typhi, Paratyphi* A & B	Sanofi Pasteur, France
DT Vax	Diphtheria, tetanus (pediatric)	Sanofi Pasteur, France
DT Wellcovax	Diphtheria, tetanus (pediatric)	Chiron, UK
Dual Antigen Sii	Diphtheria, tetanus (adsorbed)	Serum Institute of India (Sii)
Dupla	Diphtheria, tetanus	Instituto Butantan, Brazil
Duplex	Diphtheria, tetanus	Sweden
Easyfive	DTwP-Hib-HepB	India
Ecolarix	Measles, rubella (Schwarz & RA 27/3)	GSK, Europe
Elvarix	Influenza (split virus)	VEB, Sachsesches Serumwerk Dresden
EMAV	Meningococcal serogroupA	China
Encepur	Tick-borne encephalitis	Chiron, Europe
Enivac-HB	Hepatitis B (recombinant DNA)	Centro de Ingenieria Genetica Y Biotecnologia, Cuba
Enterovaccino	Typhoid (IM)	Isi
Enzira	Influenza	CSL
Eolarix	Measles, rubella (Schwartz & RA 27/3)	GSK, Europe
Epaxal Berna	Hepatitis A – virosomal vaccine	Berna Biotech, Switzerland
Ervax	Rubella (live)	GSK, Mexico
Ervevax RA 27/3	Rubella (live)	GSK, Belgium
Esavalenti	(Hexavalent) Diphtheria, tetanus, pertussis, polio, Hib, hepatitis B	Italy
Euvax-B	Hepatitis B (recombinant DNA)	LG Chemical, South Korea
Fendrix	Hepatitis B (dialysis formulation)	GSK, Europe

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Fluad	Influenza (adults >65)	Novartis, Europe, Asia, NZ
Flubron	Influenza (whole virus)	Pfizer
Flugen	Influenza	UK
Fluvax	Influenza	CSL, Australia
Fluvirine	Influenza	CellTech Pharma SA
FOH-M	Polio (inactivated)	Russia
FrocuoOke	Polio (inactivated)	Russia
FSME-IMMUNE	Tick-borne encephalitis	Baxter, Austria
FSPD	Measles	Russia
Funed-CEME	Diphtheria, tetanus, pertussis	Belo Horizonte, Brazil
Gen H-B-Vax	Hepatitis B	Merck-Behringwerke
GenHevac B Pasteur	Hepatitis B	Sanofi Pasteur
Gene Vac-B	Hepatitis B	Serum Institute of India (Sii)
Gripax	Influenza (whole virus)	Hebrew University
Gripe	Influenza (whole virus)	Spain
Gripguard	Influenza (same as Fluad)	Novartis, France
Gripovax	Influenza (whole virus)	GSK
Gunevax	Rubella	Chiron, Italy
H-Adiftal	Diphtheria	Ism, Italy
H-Adiftetal	Diphtheria, tetanus	Ism, Italy
H-Atetal	Tetanus	Ism, Italy
HarPaBreHnr B CtauOHAP	Rubella	Russia
HAVPur	Hepatitis A	Chiron, Germany
HB Vax Pro	Hepatitis B	SP
HBY	Hepatitis B (recombinant)	KGC, Japan

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
HDCV	Human Diploid Cell Rabies Vaccine	
Heberbiovac HB	Hepatitis B	Heberbiotec, Cuba
Hepabest	Hepatitis A	Sanofi Pasteur, Mexico
Hepacare	Hepatitis B (recombinant)	Chiron, Europe
Hepaccine-B	Hepatitis B (plasma derived)	Chiel Jedang, South Korea
Hepagene	Hepatitis B	Chiron, Europe
Hepativax	Hepatitis B	Sanofi Pasteur, Mexico
Hepatyrix	Hepatitis A, typhoid	GSK
Hepavax-B	Hepatitis B (plasma derived)	Korea Green Cross, South Korea
Hepavax-Gene	Hepatitis B (recombinant DNA)	Korea Green Cross, South Korea
Hepcare	Hepatitis B	Chiron, Europe
Heprecomb	Hepatitis B (yeast derived)	Berna Biotech, Switzerland
Hevac B	Hepatitis B (plasma derived)	Sanofi Pasteur, France
Hexamune	Diphtheria, Tetanus, (acellular) Pertussis, Hib, hepatitis B, polio	Aventis, Latin America
Hexavac (Hexavax)	Diphtheria, tetanus, pertussis, polio, hepatitis B, Hib	Sanofi Pasteur, Europe or Mexico
Hiberix	Hib conjugate	GSK
HIBest	Hib	Sanofi Pasteur
Hinkuys karokoe	Pertussis (adsorbed)	Natl. Public Health Institute, Finland
HIS	Influenza	Serbian Institute, Yugoslavia
IBV	Polio (inactivated)	Statens Seruminstitut, Denmark
Immravax	Measles, mumps, rubella	Sanofi Pasteur, Europe
Immugrip	Influenza	Pierre Fabre Médicament
Immunil	Pneumococcal (polysaccharide)	Batavia Biosciences
Imovax Parotiditis	Mumps	Sanofi Pasteur, Europe

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Imovax Polio	Polio	Sanofi Pasteur, Europe
Imovax Sarampion	Measles	Sanofi Pasteur, Europe
Imovas D.T.	Diphtheria, tetanus (adult)	Sanofi Pasteur, Europe
Imovas Gripe	Influenza	Sanofi Pasteur, Europe
Imovax D.P.T.	Diphtheria, tetanus, pertussis	Sanofi Pasteur Mexico
Imovax R.O.R.	Measles, rubella, mumps (live)	Sanofi Pasteur, Europe
Imovax Rubeola	Measles	Sanofi Pasteur, Europe
Imovax Mumps	Mumps	Sanofi Pasteur, Europe
Imovax Oreillons	Mumps	Sanofi Pasteur, Europe
Imovax Rage	Rabies	Sanofi Pasteur, Europe
Imovax Tetano	Tetanus	Sanofi Pasteur, Europe
Infanrix Hexa	Diphtheria, tetanus, pertussis, polio, Hib, hepatitis B	GSK, France
Infanrix Penta	Diphtheria, tetanus, pertussis, hepatitis B, polio	GSK, Europe
Infanrix Quinta	Diphtheria, tetanus, pertussis, polio, Hib	GSK, Europe
Infanrix Tetra	Diphtheria, tetanus, pertussis, polio	GSK, Europe
Inflexal	Influenza	Swiss Serum and Vaccine Institute
Influmix	Influenza (whole virus)	Schiapparelli
Influpozzi Zonale	Influenza (whole virus)	Ivp
Influsplit SSW	Influenza (split virus)	VEB Sachsecsches Serumwerk Dresden
Influvac	Influenza	Solvay-Pharma
Influvirus	Influenza	Ism, Italy
Invirin	Influenza (whole virus)	GSK
Ipad TP	Tetanus, polio	Sanofi Pasteur, France

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
IPV-Virelon	Polio (inactivated)	Chiron, Europe
Isiflu Zonale	Influenza (whole virus)	Isi, Italy
Istivac	Influenza	Sanofi Pasteur, Europe
Kaksoisrokote Dubbelvaccin	Diphtheria, tetanus (pediatric)	Natl. Public Health Institute, Finland
Kikhoste-Vaksine	Pertussis	Statens Institutt for Folkehelse, Norway
Koplivac	Measles (Edmonston strain)	Philips-Duphar, Australia
Kotipa	Cholera, typhoid, paratyphoid	Perum Bio Farma, Indonesia
Krztuscowi	Pertussis	Poland
Ksztu	Pertussis	Poland
Lancy Vaxina	Smallpox	Swiss Serum and Vaccine Institute, Switzerland
Lavantuu Tirokote	Typhoid	Central Pub Health La, Finland
Liomorbillo	Measles	
Liovaxs	Smallpox	Chiron, Italy
Lirugen	Measles	Sanofi Pasteur
LM – 3 RIT	Measles, mumps, rubella (live)	Dong Shin Pharm, Korea
LM – 2 RIT	Measles, mumps (live)	Dong Shin Pharm, Korea
Lteanas Imuna	Tetanus (adsorbed)	Imuna sp., Slovakia
Lyssavac N	Rabies	Berna Biotech, Europe
M-M-Rvax	Measles, mumps, rubella	Chiron, Europe
M-M-Vax	Measles, mumps	Merck, Europe
M-Vac	Measles (live)	Serum Institute of India (Sii)
Massern-Impfstoff SSW	Measles (live)	Chiron, Germany
Massling	Measles	Sweden
MDPH-PA	Anthrax	

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Measavac	Measles (Edmonston strain)	Pfizer, UK
MenAfriVac	Meningococcal A Conjugate	Africa
Mencevax A	Meningococcal Group A (polysaccharide)	SmithKline/RIT, Belgium
Mencevax ACWY	Meningococcal quadravalent	GSK
Mengivax A/C	Meningococcal Groups A & C (conjugate)	Sanofi Pasteur, Europe
Meningitec	Meningococcal Group C (conjugate)	Wyeth, UK, Australia
Meningtec	Meningococcal Group C (conjugate)	Wyeth, Canada
Meninvact	Meningococcal Group C (conjugate)	Sanofi Pasteur
Menjugate	Meningococcal Group C (conjugate)	Novartis
Menpovax 4	Meningococcal Groups A, C, Y & W135 (polysaccharide)	Chiron, Europe
Menpovax A+C	Meningococcal Groups A & C	Chiron, Italy
MeNZB	Meningococcal GroupB	Novartus, New Zealand
Mesavac	Measles (Edmonston strain)	Pfizer, UK
Mevilin-L	Measles (Schwarz strain)	Chiron, UK
MFV	Influenza (whole virus)	Servier, UK
MFV-Ject	Influenza (whole virus)	Sanofi Pasteur, Europe
Miniflu	Influenza	Schiapparelli, Italy
Mo-Ru Viraten	Measles, rubella	Berna Biotech, Canada
Moniarix	Pneumococcal 17-valent (polysaccharide)	GSK, Europe
Monovax / Monovac	BCG	Sanofi Pasteur, France
Mopavac	Measles, mumps (live)	Sevac, Czech Republic

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Morbilvax	Measles (live)	Chiron, Italy
Morubel	Measles, rubella (live)	Chiron, Italy
Moruman Berna	Measles immunoglobulin	Berna, Switzerland
Morupar	Measles, mumps, rubella (live)	Chiron, Italy
Movivac	Measles (live)	Sevac, Czech Republic
Mumaten	Mumps (live)	Berna Biotech, Switzerland
Munevan	Influenza (whole virus)	Medeva
Mutagrip	Influenza	Sanofi Pasteur, Germany
Nasoflu	Influenza	GSK, Europe
Neis Vac-C	Meningococcal Group C (conjugate)	Baxter, Europe & Canada
Neumo Imovax	Pneumococcal 23-valent (polysaccharide)	Sanofi Pasteur, Mexico
Neotyf	Typhoid (live, oral)	Chiron, Italy
Nilgrip	Influenza	CSL
Nivgrip	Influenza (whole virus)	Nicolau Institute of Virology, Romania
NorHOMHerHTA	Polio (inactivated)	Russia
Nothav	Hepatitis A	Chiron, Italy
Okavax	Varicella (live)	Biken / Sanofi Pasteur, Japan & Europe
Optaflu	Influenza (cell culture-based)	Novartis, Europe, Iceland, Norway
Oral Virelon	Polio (oral)	Chiron, Germany
Pariorix	Mumps (live)	GSK, Mexico & Europe
Pavivac	Mumps (live)	Sevac, Czech Republic
Pediacel	Diphtheria, tetanus, acellular pertussis, Hib, polio	Europe

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Penta	Diphtheria, tetanus, acellular pertussis, Hib, polio	Sanofi Pasteur, Europe
PENT-HIBest	Diphtheria, tetanus, pertussis, polio, Hib	Sanofi Pasteur
Pentacel	Diphtheria, tetanus, pertussis, polio, Hib	Sanofi Pasteur, Canada
Pentacoq	Diphtheria, tetanus, pertussis, polio, Hib	Sanofi Pasteur
PentAct-HIB	Diphtheria, tetanus, pertussis, polio, Hib	Sanofi Pasteur, Europe
Pentavac	Diphtheria, tetanus, pertussis, polio, Hib	Sanofi Pasteur
Pentavalente	Diphtheria, tetanus, pertussis, hepatitis B, Hib	Mexico (Prior to July 2007)
Pentavalente Acelular	Diphtheria, tetanus, pertussis, polio, Hib	Mexico (August 2007 to present)
Pentavalenti	Diphtheria, tetanus, pertussis, polio, Hib OR Diphtheria, tetanus, pertussis, polio, hepatitis B	Italy
Pentaxim	Diphtheria, tetanus, pertussis, polio, Hib	Aventis Pasteur, France
Pluserix	Measles, rubella	GSK, Mexico & Europe
Pneumopur	Pneumococcal 23-valent (polysaccharide)	Chiron, Europe
POLIAcel	Diphtheria, tetanus, pertussis, polio, Hib	Sanofi Pasteur, Argentina
Poliomyelite	Polio (inactivated)	France
Polioral	Polio (live, oral, trivalent)	Novartis
Polio Sabin	Polio (oral)	GSK, Europe
Poloral	Polio (oral)	Swiss Serum and Vaccine Institute
Prevenar	Pneumococcal 7-valent (conjugate)	Wyeth, France
Previgrip	Influenza	Chiron, France

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Primavax	Diphtheria, tetanus, hepatitis B	Sanofi Pasteur, Europe
Priorix	Measles, mumps, rubella (live)	GSK, Europe & Australia
Priorix-Tetra	Measles, mumps, rubella, varicella (live)	GSK, Europe
Probivac-B	Hepatitis B	Probiomed, Mexico
Procomvax	Hib, hepatitis B	Sanofi Pasteur, Europe
PRS	MMR	Cuba
PRV	Pentavalent Rotavirus Vaccine	Palau
Pulmovax	Pneumococcal 23-valent (polysaccharide)	Merck
Q-Vac	Diphtheria, tetanus, pertussis, hepatitis B	Serum Institute of India (Sii)
Quadracel	Diphtheria, tetanus, acellular pertussis, polio	Sanofi Pasteur, Mexico
QUADRAcel/Hibest	Diphtheria, tetanus, acellular pertussis, polio, Hib	Sanofi Pasteur, Argentina
Quadravax	Diphtheria, tetanus, pertussis, polio	GSK
Quadruple	Diphtheria, tetanus, pertussis, Hib	Mexico
Quatro-Virelon	Diphtheria, tetanus, pertussis, polio	Chiron, Europe
Quinivax-IN	Diphtheria, tetanus, pertussis, polio, Hib	Valda Laboratori, Europe
Quintuple	Diphtheria, tetanus, pertussis, polio, Hib	GSK, Mexico
Quinvaxem	Diphtheria, tetanus, pertussis, Hib, Hepatitis B	Novartis/Crucell
R-HB Vaccine	Hepatitis B (recombinant)	Mitsubishi Chem Corp, Japan
R-Vac	Rubella (live)	Serum Institute of India (Sii)
Rabdomune	Rabies	Impdfstofwerke, Germany
Rabipur	Rabies	Chiron, Germany

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Rabivac	Rabies	Chiron, Germany
Rasilvax	Rabies	Chiron, Italy
RDCV	“Rabies Diploid Cell Vaccine”	
Refortrix	Diphtheria, tetanus (adult)	GSK
Repevax	Diphtheria, tetanus, pertussis, polio	Sanofi Pasteur
Revaxis	Tetanus, diphtheria, polio (adult)	Sanofi Pasteur (Europe)
Rimevax	Measles (live, Schwarz strain)	GSK, Mexico & Europe
Rimparix	Measles, mumps (live)	GSK, Europe
RIT-LM-2	Measles, mumps (live)	Dong Shin Pharm, Korea
RIT-LM-3	Measles, mumps, rubella (live)	Dong Shin Pharm, Korea
Rorvax	Measles, mumps, rubella (live)	Sanofi Pasteur, Europe & Brazil
Rosovax	Rubella	Ism, Italy
Rouvax	Measles (live)	Sanofi Pasteur, Europe
Rubavax	Rubella (live)	Sanofi Pasteur, UK
Rubeaten	Rubella (live)	Berna Biotech, Europe
Rubellovac	Rubella (live)	Chiron, Germany
Rubilin	Rubella (live)	Chiron, UK
Rudi-Rouvax	Measles, rubella (live)	Sanofi Pasteur, France
Rudivax	Rubella (live)	Sanofi Pasteur, France
Sahia	Polio (live oral)	Multiple manufacturers
Sampar	Plague	Sanofi Pasteur, Indonesia
Sandovac	Influenza	Sandoz, Austria
Serap	Diphtheria, tetanus, pertussis	Perum Bio Farma, Indonesia
Shanvac-B	Hepatitis B	Shantha, India
SMBV	Rabies	Sanofi Pasteur, Europe

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Sii Rabivax	Rabies	Serum Institute of India (Sii)
Sii Triple Antigen	Diphtheria, tetanus, pertussis	Serum Institute of India (Sii)
Stamaril	Yellow fever (live)	Sanofi Pasteur, Europe
Streptopur	Pneumococcal 23-valent (polysaccharide)	Chiron, Europe
Subinvira	Influenza (split virus)	Imuna, Czech Republic
Synflorix	Pneumococcal (10-valent, conjugate)	GSK, Europe, Australia
T. Polio	Tetanus, polio	SP (Canada)
T.A.B.	Typhoid, paratyphoid (A & B)	-Institute Pasteur, Tunisia -Egypt -Pharmaceutical Industries Corp., Burma
T-Immun	Tetanus (adsorbed)	Baxter, Germany
T-Vaccinol	Tetanus	Roehm Pharma, Germany
T-Wellcovax	Tetanus	Wellcopharm, Germany
Tanrix	Tetanus	GSK, Europe
Td-Pur	Tetanus, diphtheria (adult)	Chiron, Europe
Td-Virelon	Tetanus, diphtheria, polio	Chiron, Europe
Te Anatoxal	Tetanus	Berna Biotech, Switzerland
Telvaclptap	Tetanus	Yugoslavia
Tet-Aktiv	Tetanus	Tropon-Cutter, Germany
Tet-Tox	Tetanus	CSL Limited, Australia
Tetagrip	Tetanus, influenza	SP, France
Tetamun SSW	Tetanus (fluid, nonadsorbed)	Veb Sachsisches Serumwerk, Germany
Tetamyn	Tetanus	Bioclon, Mexico
Tetano-difter	Tetanus, diphtheria	Celltech Pharma

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Tetanol	Tetanus (adsorbed)	Chiron, Sanofi Pasteur, Europe & Mexico
Tetanovac	Tetanus	Sanofi Pasteur, Mexico
Tetasorbat SSW	Tetanus (adsorbed)	Veb Sachsisches Serumwerk, Germany
Tetatox	Tetanus (adsorbed)	Berna Biotech, Italy
Tetavax	Tetanus (adsorbed)	Sanofi Pasteur, Europe
Tetracoq 05	Diphtheria, tetanus, pertussis, polio	Sanofi Pasteur, France
TetrAct-HIB	Diphtheria, tetanus, pertussis, Hib	Sanofi Pasteur, Europe
Tetravac Acellulaire	Diphtheria, tetanus, acellular pertussis, polio	Sanofi Pasteur, Europe
Tetravalenti	Diphtheria, tetanus, pertussis, hepatitis B	Italy
Tetraxim	Tetanus, diphtheria, pertussis, polio	Sanofi Pasteur, Europe
Theracys	BCG	Aventis Pasteur, Canada
Ticovac	Tick-borne encephalitis	Baxter SA
Tifovax	Typhoid (Vi polysaccharide)	Sanofi Pasteur, Mexico
Titifica	Typhoid and paratyphoid	Italy
TOPV	Polio (oral, trivalent)	Multiple manufacturers
Trenin DPT Behring	Diphtheria, tetanus, pertussis	Chiron Behring GmbH, Germany
Tresivac	Measles, mumps, rubella (live)	Serum Institute of India (Sii)
Triacel	Diphtheria, tetanus, acellular pertussis	Sanofi Pasteur, Europe & Mexico
Triacelluvax	Diphtheria, tetanus, acellular pertussis	Chiron, Europe
Trimovax	Measles, mumps, rubella (live)	Sanofi Pasteur
Tripacel	Diphtheria, tetanus, acellular pertussis	Sanofi Pasteur, Europe

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Triple antigen	Diphtheria, tetanus, pertussis	-Chowgule & Co., India -CSL Limited, Australia
Triple Sabin	Polio (live, oral)	Mexico
Triple	Diphtheria, tetanus, pertussis	Cuba, Mexico
Triple viral	Measles, mumps, rubella	-Mexico -Immunology Institute, Croatia
Triple Virica	Measles, mumps, rubella	Dominican Republic
Triplice (VT)	Diphtheria, tetanus, pertussis	Instituto Butantan, Brazil
Triplice Viral (VTV)	Measles, mumps, rubella	Instituto Butantan, Brazil
Triplovax	Measles, mumps, rubella	Sanofi Pasteur, Europe & Brazil
Tritanrix	Diphtheria, tetanus, whole-cell pertussis	GSK
Tritanrix-HB	Diphtheria, tetanus, whole-cell pertussis, hepatitis B	GSK, Mexico
Tritanrix-HB-Hib	Diphtheria, tetanus, whole-cell pertussis, hepatitis B, Hib	GSK
Trivacuna Leti	Diphtheria, tetanus (adsorbed), pertussis	Laboratory Leti, Spain
Trivax	Diphtheria, tetanus (plain), pertussis	Chiron, UK
Trivax-AD	Diphtheria, tetanus (adsorbed), pertussis	Chiron, UK
Trivax-Hib	Diphtheria, tetanus, pertussis, Hib	GSK, Europe
Trivb	Diphtheria, tetanus, pertussis	Brazil
Triviraten	Measles, mumps, rubella (live)	Berna Biotech, Switzerland
Trivivac	Measles, mumps, rubella (live)	Sevac, Czech Republic
Trivivax	Measles, mumps, rubella	Sanofi Pasteur, Mexico
Tussitrupin Forte	Pertussis	Staatliches Institut, Germany
Tuvax	BCG	Japan BCG Laboratory, Japan

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Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Tyne	BCG	Sweden
Typherix	Typhoid (Vi polysaccharide)	GSK, Europe & Australia
Typhopara-typhoidique	Typhoid and paratyphoid	France
Typhoral-L	Typhoid (Ty21a oral)	Berna Biotech, Germany
Typh-Vax	Typhoid	CSL Limited, Australia
VAA	Yellow fever (vaccine anti-amaril)	Democratic Republic of Congo
Va-Diftet	Diphtheria, tetanus	Finlay Vacunas y Sueros, Cuba
Va-Mengoc-BC	Meningococcal Groups B & C	Finlay Vacunas y Sueros, Cuba
Vac-DPT	Diphtheria, tetanus, pertussis	Bioclon, Mexico
Vaccin Difteric Adsorbit	Diphtheria (adsorbed)	Cantacuzino Institute, Romania
Vaccin Rabique Pasteur	Rabies	PasteurVaccins
Vaccin Combinat Diftero-Tetanic	Diphtheria, tetanus (adsorbed)	Cantacuzino Institute, Romania
Vaccin tuberculeux attenue lyophilize	BCG	Sanofi Pasteur, France
Vaccinum Morbillorum Vivum	Measles (live)	Moscow Research Institute, Russia
Vacina Dupla	Diphtheria, tetanus	Instituto Butantan, Brazil
Vacina Triplice	Diphtheria, tetanus, pertussis	Instituto Butantan, Brazil
Vacina Triplice Viral	Measles, mumps, rubella	Brazil
Vacuna Doble	Tetanus, diphtheria	Instituto Biologico Argentino
Vacunol	Tetanus	Temis-Lostato, Brazil
Vaksin Sampar	Plague	Perum Bio Farma, Indonesia
Vaksin Cacar	Smallpox	Indonesia
Vaksin Serap	Diphtheria, tetanus, pertussis	Perum Bio Farma, Indonesia
Vaksin Campak Kerig	Measles (live)	Perum Bio Farma, Indonesia
Vaksin Kotipa	Cholera, typhoid, paratyphoid A, B & C	Perum Bio Farma, Indonesia

Continued on Next Page

Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
Vamoavax	Measles, mumps (live)	Institute of Immunology, Croatia
Varicella-RIT	Varicella	GSK, Europe
Varicellon	Zaricella zoster immunoglobulin	Behringwerke Aktiengesellischaft, Germany
Varie	Smallpox (lyophilized)	Institute of sera and Vaccine, Czech Republic
Varilrix	Varicella (live, Oka strain)	GSK, Australia, New Zealand
Varirix	Varicella (live, Oka strain)	GSK, Europe & Mexico
VAT	Tetanus (vaccin anatoxine tetanique)	Francophone Africa
Vax-Tet	Tetanus	Finlay Vacunas & Sueros, Cuba
Vaxem-Hib	Hib (polysaccharide)	Chiron, Europe
Vaxicoq	Pertussis (adsorbed)	Sanofi Pasteur, France
Vaxigrip	Influenza	Sanofi Pasteur, Europe & Australia
Vaxihaler-Flu	Influenza (inhaler)	Riker, UK
Vaxipar	Mumps (live)	Chiron, Italy
VCDT	Diphtheria, tetanus (pediatric)	Cantacuzino Institute, Romania
VDA Vaccin Difteric Adsorbit	Diphtheria	Cantacuzino Institute, Romania
Verorab	Rabies (purified vero cell)	Sanofi Pasteur, France
ViATIM	Hepatitis A, typhoid	Sanofi Pasteur, UK
Vibriomune	Cholera	Duncan Flockhart, UK
Viralinte	Hepatitis B	Ivax Pharmaceuticals, Mexico
Virelon C	Polio (inactivated)	Chiron, Germany
Virelon T 20	Polio (live, oral trivalent)	Chiron, Germany
Virivac	Measles, mumps, rubella (live)	Merck, Finland
Virovac Massling, Perotid, Rubella	Measles, mumps, rubella	Sweden
Vopix	Polio (oral)	PT Biofarma, Indonesia

Continued on Next Page

Worldwide Names of Immunizations

Table 2. (Adopted from CDC foreign products table) (continued)

Trade Name/Abbreviation	Component(s)	Manufacturer, Country
VPH	Human Papillomavirus	Spanish
V T (Vacine Triplice)	Diphtheria, tetanus, pertussis	Instituto Butantan, Brazil
V T V (Vacina Triplice Viral)	Measles, mumps, rubella	Brazil
V V R	Measles (live)	Cantucuzino Institute, Romania
Welltrivax Trivalente	Diphtheria, tetanus, pertussis	Spain
X-Flu	Influenza	CSL
Zaantide	Diphtheria antitoxin	Imunoloski Zavod, Croatia
Zaantite	Tetanus antitoxin	Imunoloski Zavod, Croatia
Zaditeadvax	Diphtheria, tetanus	Imunoloski Zavod, Croatia
Zaditevax	Diphtheria, tetanus	Imunoloski Zavod, Croatia
Zamevax A+C	Meningococcal Groups A & C (polysaccharide)	Imunoloski Zavod, Croatia
Zamovax	Measles (live)	Imunoloski Zavod, Croatia
Zamruvax	Measles, rubella (live)	Imunoloski Zavod, Croatia
Zapavax	Mumps	Imunoloski Zavod, Croatia
Zaruvax	Rubella (live)	Imunoloski Zavod, Croatia
Zatetravax	Diphtheria, tetanus, pertussis, parapertussis	Imunoloski Zavod, Croatia
Zatevax	Tetanus	Imunoloski Zavod, Croatia
Zatribavax	Diphtheria, tetanus, pertussis	Imunoloski Zavod, Croatia
Zatrivax	Measles, mumps, rubella (live)	Imunoloski Zavod, Croatia

This table have been adapted from (among other sources) lists developed by the Minnesota Department of Health Immunization Program (now maintained by the Immunization Action Coalition) and Washington State Department of Health.

See also: http://www.immunize.org/izpractices/p5121.pdf

Source: https://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/b/vpd-multiple-languages.pdf

ANAPHYLAXIS: Signs and Symptoms

In the context of administering medications, immunizations, or allergen immunotherapy

Generalized hives	Shortness of breath
Angioedema	Wheezing
Pruritus	Dizziness
Hoarseness	Stridor
Tachycardia	Syncope
Abdominal cramps	Sense of impending doom
Chest tightness or cough	Shock

ANAPHYLAXIS: DIFFERENTIAL DIAGNOSIS

Anaphylaxis: A generalized allergic reaction affecting more than one organ system (e.g., skin [beyond local], respiratory, gastrointestinal, cardiovascular).

Syndromes that may present similar signs or symptoms include:

Vasovagal reaction: Usually secondary to anxiety or painful situations (but is NOT under voluntary control) and frequently in physically fit individuals with a history of fainting easily. The patient appears pale and may complain of nausea before syncope (fainting), but does not become pruritic (itchy), flushed (redness in face, neck), or cyanotic (blue discoloration). There may be a significant fall in blood pressure and/or slowed heart rate. Patients usually experience profuse diaphoresis (sweating). These patients usually improve spontaneously without medication. Rarely, a low heart rate causes blood pressure to fall, which may result in fainting. If fainting does occur, monitor the patient until symptoms resolve. If a patient is at risk for this type of reaction, administer shot in such a way as to reduce the risk of injury related to a fall (e.g., place patient in a reclining position with feet elevated).

Hyperventilation: May also cause breathlessness and collapse. Peripheral tingling sensations are experienced without any other associated signs or symptoms. Blood pressure and pulse are maintained, unless associated with a vasovagal reaction.

Hypoglycemic reaction: Usually secondary to a fall in blood sugar and may be related to not having had breakfast and prolonged standing or activity prior to the immunization. Symptoms may be mild or severe and may range from mild weakness or dizziness to symptoms that can be mistaken for a vasovagal reaction or a stroke (nervousness, sweating, intense hunger, trembling, weakness, palpitations, trouble speaking). Asking patients if they have eaten (particularly if they have diabetes or it is later in the morning) and if they have problems with this type of reaction may allow for prevention of a reaction after immunization by encouraging a snack or sugar-containing drink. In large immunization programs, it may be advisable to have some emergency snacks or drinks available.

Differential Diagnosis*

	Anaphylaxis	Vasovagal Reaction
Respiratory	Shortness of breath	Hyperventilation (rapid breathing)
	Hoarse, lump in throat, difficulty swallowing	
	Wheezing, chest tightness	
	Oxygen saturation: normal or ↓	Oxygen saturation: normal or ↑
	Nasal congestion, rhinorrhea	
Cardiovascular	Tachycardia	Normal or bradycardia
	Normotensive or Hypotensive Systolic ↑or ↓ Diastolic ↓	Normotensive or hypotensive
Skin	Flushing	Pallor
	Urticaria (hives), angioedema	Cool, clammy, sweating
CNS	Feeling of impending doom	Anxious, tense, fearful
GI	Nausea/vomiting	Nausea/vomiting
	Abdominal cramps/diarrhea	

**It is not always easy to discriminate between vasovagal and anaphylaxis reactions. Flushing (limited to the head and neck) and panic disorders, in the absence of other signs and symptoms, also may be confused with anaphylaxis.*

Principles of Anaphylaxis Management

Anaphylaxis may develop gradually over minutes or hours after exposure to a trigger. The first signs most commonly (around 80% of the time) involve the skin and may be a sensation of warmth or flushing, generalized pruritus (itching), urticaria (hives), with or without angioedema (deep tissue swelling often of the face). Additional symptoms may include nasal congestion and/or rhinorrhea (runny nose), conjunctival injection (red, prominent blood vessels in the whites of the eyes), and tearing. Voice change and/or stridor may indicate pharyngeal edema. Abdominal cramping may occur, and women may describe it as cramping associated with menstrual cycle. Shortness of breath, inability to speak, in full sentences, and wheezing may rapidly progress to respiratory or cardiovascular collapse.

There is no absolute contraindication for epinephrine use in anaphylaxis. Delay of epinephrine is the most common reason for poor outcome.

It is important to recognize that the initial presentation of anaphylaxis may be respiratory or cardiovascular collapse without any other symptoms. It is also important to be aware that symptoms may recur after proper anaphylaxis treatment. Therefore, patients should remain under 1:1 observation for at least 1 hour after the last dose of epinephrine and/or be transferred to a higher echelon of care for continued management.

Immediate intervention following diagnosis of anaphylaxis

Rapidly assess airway, breathing, circulation, and mental status

- Avoid patient movement, if possible. Walking may worsen reaction due to compromised circulation
- Place patient in a supine position and elevate legs, if clinical condition allows. With symptoms of asthma or laryngeal edema, place patient in position that facilitates breathing (not supine).

- For adults: Administer epinephrine (1:1000) 0.3 to 0.5 mg IM. The adult epinephrine IM auto-injector will deliver 0.3 mg of epinephrine and can go through clothing. Inject into the vastus lateralis (anterolateral thigh). Hold auto-injector in place for 10 seconds after injection.

- For children: Administer epinephrine (1:1000) 0.01 mg/kg body weight IM to a maximum of 0.3 mg OR use epinephrine auto-injector 0.15 mg for children weighing less than 66 pounds or epinephrine auto-injector adult dose 0.3 mg for children over 66 pounds. Auto-injectors can go through clothing. Inject into vastus lateralis (anterolateral thigh). Hold auto-injector in place for 10 seconds after injection.

- If symptoms and signs indicate progressive anaphylaxis, a healthcare provider may repeat doses of epinephrine. Under these circumstances, close cardiac monitoring and IV access are essential.

Guidelines for CPR & Emergency Cardiovascular Care (ECC):

- 2017 American Heart Association (AHA) Guidelines: (https://eccguidelines.heart.org/index.php/circulation/cpr-ecc-guidelines-2/)

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Principles of Anaphylaxis Management
(Continued)

Assess patient status continuously and ensure that adequate support personnel, including rapid response team are available. Consider transport to higher echelon of care.	
Important Components of Anaphylaxis Care	
Oxygen	6 to 8 L/min by Face Mask to keep saturation greater than 90%. Some patients, for example those with chronic obstructive lung disease (COPD) or congenital heart disease may require less oxygen to maintain baseline saturation.
Fluids	Administer 20mL/kg of normal saline intravenously. If the patient is severely hypotensive, rapidly infuse volume expanders (colloids) if available. If not available, anticipate the possible need for additional normal saline boluses.
H1 blocker	Administer diphenhydramine 25 to 50 mg or more in divided doses orally or intravenously, with maximum daily dose of 400 mg for adults and 300 mg (5 mg/kg) for children. Non-sedating antihistamines may be preferred.
Bronchodilator therapy for asthma	Nebulized albuterol 0.5 mL of 0.5% solution in 2.5 mL of saline, or levalbuterol (Xopenex) 0.63 to 1.25 mg unit dose, and repeat as necessary.
Systemic corticosteroids (such as methylprednisolone)	1 to 2 mg/kg per 24 hours for adults and 0.5 mg/kg per 24 hours for children, are usually not helpful acutely but might prevent prolonged reactions or relapses. Use may prevent delayed or biphasic anaphylaxis in patients with cardiopulmonary compromise.
H2 blockers	Dilute ranitidine 50 mg for adults and 12.5 to 50 mg (1 mg/kg) for children in 5% dextrose to a total volume of 20 mL and infused intravenously over 5 minutes.
Refractory hypotension and beta-blocker	Administer glucagon 1 to 5 mg (20 to 30 mcg/kg [maximum 1 mg] for children) intravenously over 5 minutes, followed by an infusion of 5 to 15 mcg/min. Observe aspiration precautions because glucagon may cause nausea and emesis.

Adverse Events Following Immunization

(Information for Responding to Patient Concerns)

What can I use to learn about the risks and benefits of the vaccines I am to receive?

The CDC provides fact sheets, called Vaccine Information Sheets (VIS), which describe the benefits and risks of the vaccines you'll receive. The Department of Defense provides brochures on anthrax and smallpox. It is highly encouraged that you review the VIS in detail and ask questions about the vaccines you are to receive *before* immunization. If you would like to discuss a vaccine concern with an immunization healthcare clinical specialist, please call the 24/7 DHA Immunization Healthcare Support Center at 1-877-438-8222 or DSN 761-4245 (option 1). We are happy to speak with providers, immunization administrators, beneficiaries, and those who receive military-specific vaccines.

Do vaccines have side effects?

Vaccines are prescription drugs. Like all drugs, vaccines can cause side effects. Examples of common side effects may include soreness, redness, or swelling at the injection site or mild fever. These may interfere with work or play for a few days, but are not considered serious. Although these mild symptoms don't need to be treated, you can reduce aches, pains, and fever with acetaminophen, ibuprofen, or aspirin-like medications unless you should avoid these drugs.

Severe side effects, although uncommon, may occur with any vaccine. These more serious side effects are also called adverse events following immunization (AEFI). If you are having an unexpected or serious side effect, you should immediately contact your healthcare provider. These should be documented by a healthcare provider to optimize clinical outcome and for medical exemption assessment.

How can I make sure that my side effect or AEFI is reported to people who monitor vaccine safety?

The CDC and FDA manage the Vaccine Adverse Events Reporting System (VAERS). VAERS identifies potential new safety concerns and to ensure that the benefits of vaccines continue to be far greater than the risks. VAERS reporting is voluntary except for some required side effects, examples of which include encephalopathy, anaphylaxis, or hospitalization following immunization. However, VAERS reporting is highly encouraged for prolonged or concerning symptoms. The DHA-IHD staff can help patients and healthcare workers to complete a detailed VAERS report.

It may not be possible to prove or disprove that a vaccination caused any individual problem. Rare side effects may not have recognized before a vaccine was licensed, as they may only occur a few times for every million persons vaccinated. For more information about VAERS, go to: http://vaers.hhs.gov. Your detailed reporting of adverse events helps to make the program better.

What if I am worried about getting the next dose in a vaccination series?

If you are due to receive another dose of a vaccine to which you had a previous reaction, tell your healthcare provider as soon as possible. Keep a written copy of your past medical evaluations and bring them to your healthcare provider's office. If, for some reason, you cannot be evaluated before the next vaccination is due, a temporary exemption can be placed in your medical/readiness records until a final determination has been made about your case. If you disagree with the decision, you have the right to request a referral to an immunization specialist.

Continued on Next Page

Adverse Events Following Immunization
(Continued)

What are vaccine exemptions?

There are two kinds of vaccine exemptions (reasons for not receiving a vaccine): Administrative and Medical. Descriptions of these exemptions are available at: https://www.health.mil/vaccineexemptions.

Medical Exemptions from Vaccination

Code	Meaning	Explanation of Example	Duration
MD	Medical, Declined	Declination of optional vaccine (not applicable to military required vaccinations)	Indefinite
MA	Medical, Assumed	Prior immunization, reasonably inferred from individual's past experiences, but documentation missing. Code used to avoid superflous immunization and can be reversed upon further review	Indefinite
MI	Medical, Immune	Evidence of immunity (for example, by serologic antibody test); documented previous infection (for example, chickenpox infection); natural infection presumed (for example, measles, if born before 1957)	Indefinite
MP	Medical, Permanent	HIV infection, prolonged or permanent immune suppression, upper age limit, ther contraindication determined by physician. Can be reversed in the condition changes. For tuberculosis, positive tuberculousis test	Indefinite
MR	Medical, Reactive	Permanent restriction from receiving additional doses of a specific vaccine. Use only after severe reaction after vaccination. Report reaction to VAERS. Code may be reversed if analternate form of prophylaxis is available. Do not code mild, transient reactions as MR, code events referred for medical consultation as MT.	Indefinite
MS	Medical, Supply	Exempt due to lack of vaccine supply	Up to 90 days
MT	Medical, Temporary	Pregnancy, hospitalization, events referred for medical consultation, temporary immune suppression, convalescent leave, pending medical evaluation board, any temporary contraindication to immunization	Up to 365 days

* Unless involves a vaccine for which there is a regular booster requirement in which case, when due, the booster should be administered.
Source: Immunizations and Chemoprophylaxis for the Prevention of Infectious Diseases, October 2013

Administrative Exemptions from Vaccination

Code	Meaning	Explanation of Example	Duration
AD	Administrative, Deceased	Individual is deceased	Indefinite
AL	Administrative, Emergency Leave	Individual is on emergency leave	up to 30 days
AM	Administrative, Missing	Missing in action, prisoner of war	Indefinite
AP	Administrative, PCS	Permanent change of station	Up to 90 days
AR	Administrative, Refusal	Personnel involved in actions under the Uniformed Code of Military Justice, religious waiver (Indefinite though can be revoked at any time*)	Indefinite
AS	Administrative, Separation	Pending discharge, separation (typically within 60 days), and retirement (typically within 180 days)	Up to 180 days
AT	Administrative, Temporary	Absent without leave, legal action pending (other than code AR)	Up to 90 days
NR	Not required	Individuals who received immunization while eligible, subsequently changed occupational category and now serves as civilian employee or contract wokrer not otherwise required to receive the immunization	Indefinite

Source: Immunizations and Chemoprophylaxis for the Prevention of Infectious Diseases, October 2013

Continued on Next Page

Adverse Events Following Immunization
(Continued)

What happens if I receive a vaccine and then find out that I had a contraindication to that vaccine?

Tell your healthcare provider as soon as possible to see whether you need treatment. In most cases, the vaccinated person does well and has no serious problems. The contraindication should be evaluated and documented. A medical exemption should be recorded in your official medical and readiness record, as applicable. Before each vaccination, you will be screened for contraindications. Be sure to provide information about your contraindication, other relevant medical conditions, and any past history of adverse events with vaccines, drugs, or foods.

For clinical consultation support for you, your family, or your healthcare provider, call the 24/7 DHA Immunization Healthcare Support Center at 1-877-438-8222 or DSN 761-4245 (option 1).

For more information about vaccine safety and adverse event guidelines, go to www.health.mil/vaccines and www.cdc.gov/vaccines.

National Vaccine Injury Compensation Program

Vaccines save lives by preventing disease.

In fact, the Centers for Disease Control and Prevention (CDC) named immunizations as one of the ten most important public health achievements of the 20th century.

Most people who get vaccines have no serious problems, but like any medicine, they can cause side effects-most of which are rare and mild. In very rare cases, a vaccine can cause a serious problem, such as a severe allergic reaction.

In those instances, the National Vaccine Injury Compensation Program (VICP) provides individuals with an opportunity to file a petition or claim for financial compensation.

The VICP is a no-fault alternative to the traditional legal system for resolving vaccine injury petitions.

The National Childhood Vaccine Injury Act of 1986 created the VICP, which began on October 1, 1988, after a series of lawsuits threatened to cause vaccine shortages and reduce U.S. vaccination rates.

The following three organizations have a role in the VICP.

- The VICP is administered through the Department of Health and Human Services (HHS).
- The Department of Justice (DOJ) represents HHS in Court.
- The U.S. Court of Federal Claims (the Court) makes the final decision regarding whether a petitioner should be compensated.

Any individual, of any age, who received a covered vaccine and believes he or she was injured as a result, can file a petition. Parents, legal guardians and legal representatives can file on behalf of children, disabled adults and individuals who are deceased.

Please note that, with limited exceptions, all petitions must be filed within 3 years after the first symptom of the alleged vaccine injury, or within 2 years of the death and 4 years after the first symptom of the alleged vaccine injury that resulted in death. For more information about additional requirements that must be met in order to pursue compensation, visit the VICP website, www.hrsa.gov/vaccinecompensation.

Continued on Next Page

Adverse Events Following Immunization
(Continued)

How the claims process works

- An individual files a petition with the Court. The Court sends a copy of the petition to DOJ and HHS.
- An HHS healthcare provider reviews the petition, determines if it meets the medical criteria for compensation and makes a preliminary recommendation to DOJ. The government's position is included in DOJ's report, which is submitted to the Court.
- The report is presented to a court-appointed special master, who decides whether the petitioner should be compensated.
- The special master's decision may be appealed.
- Petitioners who reject the decision of the Court (or those who withdraw their claims after certain timelines are met) may file a claim in civil court against the vaccine manufacturer and/or the healthcare provider who administered the vaccine.

An individual may contact the Court for more information about filing a petition, including the requirements that must be satisfied to pursue compensation. The petition does not have to be filed by a lawyer but most people use a lawyer. If certain requirements are met, the VICP generally will pay lawyer's fees and other legal costs related to the petition, whether or not the petitioner is paid for a vaccine injury or death. Visit the Court's website for a list of attorneys willing to file VICP petitions.

U.S. Court of Federal Claims
717 Madison Place, N.W.
Washington, DC 2005
202-357-6400
www.uscfc.uscourts.gov

Vaccines covered by the VICP

In order for a category of vaccines to be covered by VICP, the category of the vaccine must be recommended for routine administration to children by the Centers for Disease Control and Prevention and subject to an excise tax. There are no age restrictions on who may file a petition with the VICP. Petitions may be filed on behalf of infants, children and adolescents, or by adults receiving VICP-covered vaccines. The following vaccines are covered by the VICP:

- Diphtheria and Tetanus vaccines (e.g., DTaP, DTP, DT, Td, or TT)
- Pertussis vaccines (e.g., DTP, DTaP, P, Tdap, DTP-Hib)
- Measles, Mumps, and Rubella vaccines (e.g., MMR, MR, M, R)
- Polio vaccines (e.g., OPV or IPV)
- Hepatitis A vaccines (e.g., HAV)
- Hepatitis B vaccines (e.g., HBV)
- Haemophilus influenza type b polysaccharide conjugate vaccines (e.g., Hib)
- Varicella vaccines (e.g., VZV) [herpes zoster (shingles) vaccine is not covered]
- Rotavirus vaccines (e.g.,RV)
- Pneumococcal conjugate vaccines (e.g., PCV) [pneumococcal polysaccharide vaccine (PPSV, PPV) is not covered]
- Seasonal influenza vaccines (e.g., all seasonal influenza vaccines, including trivalent and quadrivalent)
- Human Papillomavirus vaccines (e.g., HPV)
- Meningococcal vaccines (e.g., MCV4, MPSV4, recombinant)

For more information about the VICP, visit the website: www.hrsa.gov/vaccinecompensation or call 1-800-338-2382

Source: https://www.hrsa.gov/vaccine-compensation/faq

Adult & Military Immunizations

Defense Health Agency
Immunization Healthcare Division
(DHA-IHD)

Based on the Recommendations of the Advisory Committee on Immunization Practices (ACIP), Centers for Disease Control and Prevention (CDC).

Refer to DoD vaccine guidance, manufacturer's package insert and ACIP guidelines for specific vaccine recommendations, contraindications, and precautions. Links to federally-approved VIS (Vaccine Information Statement) created by CDC are provided under each vaccine.

Recommended Adult Immunization Schedule
for ages 19 years or older

UNITED STATES
2025

Vaccines in the Adult Immunization Schedule*

Vaccine	Abbreviation(s)	Trade name(s)
COVID–19 vaccine	1vCOV–mRNA	Comirnaty/Pfizer–BioNTech COVID–19 Vaccine Spikevax/Moderna COVID–19 Vaccine
	1vCOV–aPS	Novavax COVID–19 Vaccine
Haemophilus influenzae type b vaccine	Hib	ActHIB, Hiberix, PedvaxHIB
Hepatitis A vaccine	HepA	Havrix, Vaqta
Hepatitis A and hepatitis B vaccine	HepA–HepB	Twinrix
Hepatitis B vaccine	HepB	Engerix–B, Heplisav–B, PreHevbrio, Recombivax HB
Human papillomavirus vaccine	HPV	Gardasil 9
Influenza vaccine (inactivated, egg-based)	IIV3	Multiple
	aIIV3	Fluad
	HD–IIV3	Fluzone High–Dose
Influenza vaccine (inactivated, cell–culture)	ccIIV3	Flucelvax
Influenza vaccine (recombinant)	RIV3	Flublok
Influenza vaccine (live, attenuated)	LAIV3	FluMist
Measles, mumps, and rubella vaccine	MMR	M–M–R II, Priorix
Meningococcal serogroups A, C, W, Y vaccine	MenACWY–CRM	Menveo
	MenACWY–TT	MenQuadfi
Meningococcal serogroup B vaccine	MenB–4C	Bexsero
	MenB–FHbp	Trumenba
Meningococcal serogroup A, B, C, W, Y vaccine	MenACWY–TT/ MenB–FHbp	Penbraya
Mpox vaccine	Mpox	Jynneos
Pneumococcal conjugate vaccine	PCV15	Vaxneuvance
	PCV20	Prevnar 20
	PCV21	Capvaxive
Pneumococcal polysaccharide vaccine	PPSV23	Pneumovax 23
Poliovirus vaccine (inactivated)	IPV	Ipol
Respiratory syncytial virus vaccine	RSV	Abrysvo, Arexvy, mResvia
Tetanus and diphtheria vaccine	Td	Tenivac
Tetanus, diphtheria, and acellular pertussis vaccine	Tdap	Adacel, Boostrix
Varicella vaccine	VAR	Varivax
Zoster vaccine, recombinant	RZV	Shingrix

*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.

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, dosing frequencies and intervals, and considerations for special situations **(Notes)**
4. Review contraindications and precautions for vaccine types **(Appendix)**
5. Review new or updated ACIP guidance **(Addendum)**

Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/acip) and approved by the Centers for Disease Control and Prevention (www.cdc.gov), American College of Physicians (www.acponline.org), American Academy of Family Physicians (www.aafp.org), American College of Obstetricians and Gynecologists (www.acog.org), American College of Nurse–Midwives (www.midwife.org), American Academy of Physician Associates (www.aapa.org), American Pharmacists Association (www.pharmacist.com), and Society for Healthcare Epidemiology of America (www.shea–online.org).

Report

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

Questions or comments

Contact www.cdc.gov/cdc–info 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/hcp/imz-schedules/app.html.

Helpful information

- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/acip-recs/hcp/vaccine-specific/
- ACIP Shared Clinical Decision–Making Recommendations: www.cdc.gov/acip/vaccine-recommendations/shared-clinical-decision-making.html
- *General Best Practice Guidelines for Immunization* www.cdc.gov/vaccines/hcp/acip–recs/general–recs/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/vis/index.html
- Manual for the Surveillance of Vaccine–Preventable Diseases (including case identification and outbreak response): www.cdc.gov/surv-manual/php/index.html

U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

Scan QR code for access to online schedule

CS310021–E

11/21/2024

Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2025

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
COVID–19	1 or more doses of 2024–2025 vaccine (See Notes)			2 or more doses of 2024-2025 vaccine (See Notes)
Influenza inactivated (IIV3, ccIIV3) **Influenza recombinant** (RIV3)	1 dose annually			1 dose annually (HD–IIV3, RIV3, or aIIV3 preferred)
Influenza inactivated (aIIV3; HD–IIV3) **Influenza recombinant** (RIV3)	Solid organ transplant (See Notes)			
Influenza live, attenuated (LAIV3)	1 dose annually			
Respiratory syncytial virus (RSV)	Seasonal administration during pregnancy (See Notes)		60 through 74 years (See Notes)	≥75 years
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (See Notes)			
	1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			For health care personnel (See Notes)
Varicella (VAR)	2 doses (if born in 1980 or later)		2 doses	
Zoster recombinant (RZV)	2 doses for immunocompromising conditions (See Notes)		2 doses	
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition	27 through 45 years		
Pneumococcal (PCV15, PCV20, PCV21, PPSV23)			See Notes	See Notes
Hepatitis A (HepA)	2, 3, or 4 doses depending on vaccine			
Hepatitis B (HepB)	2, 3, or 4 doses depending on vaccine or condition			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication (See Notes for booster recommendations)			
Meningococcal B (MenB)	19 through 23 years	2 or 3 doses depending on vaccine and indication (See Notes for booster recommendations)		
***Haemophilus influenzae* type b** (Hib)	1 or 3 doses depending on indication			
Mpox	2 doses			
Inactivated poliovirus (IPV)	Complete 3-dose series if incompletely vaccinated. Self–report of previous doses acceptable (See Notes)			

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of immunity

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

Recommended vaccination based on shared clinical decision–making

No Guidance/ Not Applicable

Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2025

Always use this table in conjunction with Table 1 and the Notes that follow. Medical conditions or indications are often not mutually exclusive. If multiple medical conditions or indications are present, refer to guidance in all relevant columns. See Notes for medical conditions or indications not listed.

VACCINE	Pregnancy	Immunocompromised (excluding HIV infection)	HIV infection CD4 percentage and count		Men who have sex with men	Asplenia, complement deficiency	Heart or lung disease	Kidney failure, End–stage renal disease or on dialysis	Chronic liver disease; alcoholism[a]	Diabetes	Health care Personnel[b]
			<15% or <200mm³	≥15% and ≥200mm³							
COVID–19		See Notes									
Influenza inactivated Influenza recombinant		Solid organ transplant (See Notes)	1 dose annually								
LAIV3					1 dose annually if age 19–49 years		1 dose annually if age 19–49 years				
RSV	Seasonal administration (See Notes)	See Notes				See Notes			Liver disease (See Notes)	See Notes	
Tdap or Td	Tdap: 1 dose each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years									
MMR	*										
VAR	*		See Notes								
RZV		See Notes									
HPV	*	3-dose series if indicated									
Pneumococcal											
HepA											
Hep B	See Notes									Age ≥ 60 years	
MenACWY											
MenB											
Hib		HSCT: 3 doses[c]				Asplenia: 1 dose					
Mpox	See Notes				See Notes						See Notes
IPV		Complete 3-dose series if incompletely vaccinated. Self–report of previous doses acceptable (See Notes)									

- Recommended for all adults who lack documentation of vaccination, **OR** lack evidence of immunity
- Not recommended for all adults, but recommended for some adults based on either age **OR** increased risk for or severe outcomes from disease
- Recommended vaccination based on shared clinical decision–making
- Recommended for all adults, and additional doses may be necessary based on medical condition or other indications. See Notes.
- Precaution: Might be indicated if benefit of protection outweighs risk of adverse reaction
- Contraindicated or not recommended *Vaccinate after pregnancy, if indicated
- No Guidance/ Not Applicable

a. Precaution for LAIV3 does not apply to alcoholism.

b. See Notes for influenza; hepatitis B; measles, mumps, and rubella; and varicella vaccinations.

c. Hematopoietic stem cell transplant.

Notes

Recommended Adult Immunization Schedule for Ages 19 Years or Older, United States, 2025

For vaccination recommendations for persons ages 18 years or younger, see the Recommended Child and Adolescent Immunization Schedule, 2025: www.cdc.gov/vaccines/hcp/imz-schedules/child-adolescent-age.html

Additional Information

- For calculating intervals between doses, 4 weeks = 28 days. Intervals of ≥4 months are determined by calendar months.
- Within a number range (e.g., 12–18), a dash (–) should be read as "through."
- Vaccine doses administered ≤4 days before the minimum age or interval are considered valid. Doses of any vaccine administered ≥5 days earlier than the minimum age or minimum interval should not be counted as valid and should be repeated. **The repeat dose should be spaced after the invalid dose by the recommended minimum interval.** For further details, see Table 3–2, Recommended and minimum ages and intervals between vaccine doses, in *General Best Practice Guidelines for Immunization* at www.cdc.gov/vaccines/hcp/acip–recs/general–recs/timing.html.
- Information on travel vaccination requirements and recommendations is available at www.cdc.gov/travel/.
- For vaccination of persons with immunodeficiencies, see Table 8–1, Vaccination of persons with primary and secondary immunodeficiencies, in *General Best Practice Guidelines for Immunization* at www.cdc.gov/vaccines/hcp/acip–recs/general–recs/immunocompetence.html
- For information about vaccination in the setting of a vaccine–preventable disease outbreak, contact your state or local health department.
- The National Vaccine Injury Compensation Program (VICP) is a no–fault alternative to the traditional legal system for resolving vaccine injury claims. All vaccines included in the adult immunization schedule except PPSV23, RSV, RZV, Mpox, and COVID–19 vaccines are covered by the National Vaccine Injury Compensation Program (VICP). Mpox and COVID–19 vaccines are covered by the Countermeasures Injury Compensation Program (CICP). For more information, see www.hrsa.gov/vaccinecompensation or www.hrsa.gov/cicp.

COVID–19 vaccination

Routine vaccination

Age 19–64 years

- **Unvaccinated:**
  - 1 dose 2024–25 Moderna or Pfizer-BioNTech
  - 2 doses 2024–25 Novavax at 0, 3–8 weeks
- **Previously vaccinated before 2024–25 vaccine with:**
  - **1 or more doses Moderna or Pfizer-BioNTech:** 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech at least 8 weeks after the most recent dose.
  - **1 dose Novavax:** 1 dose 2024–25 Novavax 3–8 weeks after most recent dose. If more than 8 weeks after most recent dose, administer 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech.
  - **2 or more doses Novavax:** 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech at least 8 weeks after the most recent dose.
  - **1 or more doses Janssen:** 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech.

Age 65 years and older

- **Unvaccinated:** follow recommendations above for unvaccinated persons ages 19–64 years **and** administer dose 2 of 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months).
- **Previously vaccinated before 2024–25 vaccine:** follow recommendations above for previously vaccinated persons ages 19–64 years **and** administer dose 2 of 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months).

Special situations

Persons who are moderately or severely immunocompromised. Use vaccine from the same manufacturer for all doses in the initial vaccination series.

- **Unvaccinated:**
  - 4 doses (**3-dose initial series 2024–25 Moderna** at 0, 4 weeks, and at least 4 weeks after dose 2, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later [minimum interval 2 months]). May administer additional doses.*
  - 4 doses (**3-dose initial series 2024–25 Pfizer-BioNTech** at 0, 3 weeks, and at least 4 weeks after dose 2, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later [minimum interval 2 months]). May administer additional doses.*
  - 3 doses (**2-dose initial series 2024–25 Novavax** at 0, 3 weeks, followed by 1 dose Moderna or Novavax or Pfizer-BioNTech 6 months later [minimum interval 2 months]). May administer additional doses.*
- **Incomplete initial vaccination series before 2024–25 vaccine:**
  - **Previous vaccination with Moderna**
    - **1 dose Moderna:** complete initial series with 2 doses 2024–25 Moderna at least 4 weeks apart (administer dose 1 4 weeks after most recent dose), followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses.*
    - **2 doses Moderna:** complete initial series with 1 dose 2024–25 Moderna at least 4 weeks after most recent dose, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses.*

COVID-19 vaccination - *continued*

- **Previous vaccination with Pfizer-BioNTech**
  - **1 dose Pfizer-BioNTech:** complete initial series with 2 doses 2024–25 Pfizer-BioNTech at least 4 weeks apart (administer dose 1 3 weeks after most recent dose), followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses.*
  - **2 doses Pfizer-BioNTech:** complete initial series with 1 dose 2024–25 Pfizer-BioNTech at least 4 weeks after most recent dose, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses.*
- **Previous vaccination with Novavax**
  - **1 dose Novavax:** complete initial series with 1 dose 2024–25 Novavax at least 3 weeks after most recent dose, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses.*

- **Completed the initial vaccination series before 2024–25 vaccine with:**
  - **3 or more doses Moderna or 3 or more doses Pfizer-BioNTech:** 2 doses 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months apart (minimum interval 2 months). Administer dose 1 at least 8 weeks after the most recent dose. May administer additional doses.*
  - **2 or more doses Novavax:** 2 doses 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months apart (minimum interval 2 months). Administer dose 1 at least 8 weeks after the most recent dose. May administer additional doses.*

***Additional doses of 2024–25 COVID-19 vaccine for moderately or severely immunocompromised:** based on shared clinical decision-making and administered at least 2 months after the most recent dose (see Table 2 at www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#table-02.). For description of moderate and severe immunocompromising conditions and treatment, see www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#immunocompromising-conditions-treatment.

Unvaccinated persons have never received any COVID-19 vaccine doses. There is no preferential recommendation for the use of one COVID-19 vaccine over another when more than one recommended age-appropriate vaccine is available. Administer an age-appropriate COVID-19 vaccine product for each dose.

For information about interchangeability of COVID-19 vaccines, see wcms-wp.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#Interchangeability.

Current COVID-19 schedule and dosage formulation available at www.cdc.gov/covidschedule. For more information on Emergency Use Authorization (EUA) indications for COVID-19 vaccines, see www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines.

Haemophilus influenzae type b vaccination

Special situations

- **Anatomical or functional asplenia (including sickle cell disease):** 1 dose if previously did not receive Hib vaccine
  - **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

- **Any person who is not fully vaccinated and requests vaccination** (identification of risk factor not required): complete 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])

Special situations

- **Any person who is not fully vaccinated and who is at risk for hepatitis A virus infection or severe disease from hepatitis A virus infection:** complete 2-dose series HepA or 3-dose series HepA–HepB as above. Risk factors include:
  - **Chronic liver disease** including 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: dose 1 as soon as adoption is planned; preferably at least 2 weeks before adoptee's arrival.

Hepatitis A vaccination - *continued*

- **Pregnancy** if at risk for infection or severe outcome from infection during pregnancy
- **Settings for exposure,** including health care setting serving persons who use injection or noninjection drugs, 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, PreHevbrio*, 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:** PreHevbrio is not recommended in pregnancy due to lack of safety data in pregnant persons.

- **Age 60 years or older without** known risk factors for hepatitis B virus infection **may** receive a HepB vaccine series.
- **Age 60 years or older with** known risk factors for hepatitis B virus infection **should** receive a HepB vaccine series.
- **Any adult age 60 years of age or older** who requests HepB vaccination **should** receive a HepB vaccine series.
  - **Risk factors for hepatitis B virus infection include:**
    - **Chronic liver disease** including persons with 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**
    - **Sexual exposure risk** e.g., sex partners of hepatitis B surface antigen (HBsAg)–positive persons, sexually 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**
    - **Percutaneous or mucosal risk for exposure to blood** 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), persons who are predialysis, and patients with diabetes**
    - **Incarceration**
    - **Travel in countries with high or intermediate endemic hepatitis B**

****Age 60 years or older with diabetes:** Based on shared clinical decision making, 2-, 3-, or 4-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 Dialysis 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)
- **Age 20 years or older with an immunocompromising condition:** complete a 2- or 3- or 4-dose series.
  - 3-dose series Recombivax HB at 0,1, 6 months (Note: Use Dialysis Formulation 1ml = 40 mcg)
  - 4-dose series Engerix–B at 0,1,2, and 6 months (Note: Use 2mL dose instead of the normal adult dose of 1mL)
  - 2-doses series Heplisav–B at 0, 1 months
  - 3-dose series PreHevbrio* at 0,1, 6 months

Human papillomavirus vaccination

Routine vaccination

- **All persons through age 26 years:** complete 2– or 3-dose series depending on age at initial vaccination or condition.
  - **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
  - **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)
- No additional dose recommended when any HPV vaccine series of any valency has been completed using the recommended dosing intervals.

Shared clinical decision–making

- **Adults age 27–45 years:** Based on shared clinical decision–making, complete a 2-dose series (if initiated age 9–14 years) or 3-dose series (if initiated ≥15 years).

For additional information on shared clinical decision–making for HPV; see www.cdc.gov/vaccines/hcp/admin/downloads/isd–job–aid–scdm–hpv–shared–clinical–decision–making–hpv.pdf

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**: complete 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
  - **Solid organ transplant recipients aged 19 through 64 years receiving immunosuppressive medications:** HD–IIV3 and aIIV3 are acceptable options. No preference over other age–appropriate IIV3 or RIV3.
  - **Age 65 years or older:** Any one of HD-IIV3, RIV3, or aIIV3 is preferred. If none of these three vaccines is available, then any other age–appropriate influenza vaccine should be used.
- For the 2024–25 season, see www.cdc.gov/mmwr/volumes/73/rr/rr7305a1.htm
- For the 2025–26 season, see the 2025–26 ACIP influenza vaccine recommendations.

Special situations

- **Close contacts (e.g., caregivers, healthcare workers) of severely immunosuppressed persons who require a protected environment:** should not receive LAIV3. If LAIV3 is given, they should avoid contact with/caring for such immunosuppressed persons for 7 days after vaccination.

Note: Persons with an egg allergy can receive any influenza vaccine (egg-based or non–egg based) appropriate for age and health status.

Measles, mumps, and rubella vaccination

Routine vaccination

- **No evidence of immunity to measles, mumps, or rubella:** 1 dose
  - **Evidence of immunity:** Born before 1957 (except for 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/mm^3 for at least 6 months and no evidence of immunity to measles, mumps, or rubella:** complete 2-dose series at least 4 weeks apart; MMR contraindicated for HIV infection with CD4 percentage <15% or CD4 count <200 cells/mm^3
- **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:** complete 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

Measles, mumps, and rubella vaccination *- continued*

- **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:** complete 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:** 2-dose primary series Menveo or MenQuadfi at least 8 weeks apart; 1 booster dose 5 years after primary series and every 5 years if risk remains
- **Travel in countries with hyperendemic or epidemic meningococcal disease, or for microbiologists routinely exposed to *Neisseria meningitidis*:** 1 dose Menveo or MenQuadfi; 1 booster dose 5 years after primary series and 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 Menveo or MenQuadfi

For MenACWY recommendations **in outbreak setting** (e.g., in community or organizational settings, or 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
  - **Bexsero or Trumenba (use same brand for all doses):** 2-dose series at least 6 months apart (if dose 2 is administered earlier than 6 months, administer dose 3 at least 4 months after dose 2)

*To optimize rapid protection (e.g., for students starting college in less than 6 months), a 3-dose series (0, 1–2, 6 months) may be administered.

For additional information on shared clinical decision–making for MenB, see www.cdc.gov/vaccines/hcp/admin/downloads/isd–job–aid–scdm–mening–b–shared–clinical–decision–making.pdf

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*.**
  - **Bexsero or Trumenba (use same brand for all doses including booster doses):** 3-dose primary series 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 4th dose should be administered at least 4 months after dose 3).
  - **Booster doses:** 1 booster dose one year after primary series and every 2–3 years if risk remains
- **Pregnancy:** Delay MenB until after pregnancy due to lack of safety data in pregnant persons. May administer if at increased risk and vaccination benefits outweigh potential risks.

For MenB recommendations **in outbreak setting** (e.g., in community or organizational settings, or among men who have sex with men) and **additional meningococcal vaccination** information, see ww.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.

Adults may receive a single dose of Penbraya (MenACWY–TT/MenB–FHbp) as an alternative to separate administration of MenACWY and MenB when both vaccines would be given on the same clinic day. For adults not at increased risk, if Penbraya is used for dose 1 MenB, then MenB–FHbp (Trumenba) should be administered for dose 2 MenB. For adults at increased risk of meningococcal disease, Penbraya may be used for additional MenACWY and MenB doses (including booster doses) if both would be given on the same clinic day **and** at least 6 months have elapsed since most recent Penbraya dose.

Mpox vaccination

Special situations

- **Any person at risk for mpox infection:** complete 2-dose series, 28 days apart.

  Risk factors for mpox infection include:
  - Persons who are gay or bisexual, and other MSM, transgender or nonbinary people who in the past 6 months have had:
    - A new diagnosis of at least 1 sexually transmitted disease
    - More than 1 sex partner
    - Sex at a commercial sex venue
    - Sex in association with a large public event in a geographic area where mpox transmission is occurring
  - Persons who are sexual partners of the persons described above
  - Persons who anticipate experiencing any of the situations described above
- **Pregnancy:** There is currently no ACIP recommendation for Jynneos use in pregnancy due to lack of safety data in pregnant persons. Pregnant persons with any risk factor described above may receive Jynneos.
- **Health care personnel:** Vaccination to protect against occupational risk in healthcare settings is not routinely recommended.

  For detailed information, see www.cdc.gov/mpox/hcp/vaccine-considerations/vaccination-overview.html.

Pneumococcal vaccination

Routine vaccination

- **Age 50 years or older who have:**
  - **Not previously received a dose of PCV13, PCV15, PCV20, or PCV21 or whose previous vaccination history is unknown:** 1 dose PCV15 or 1 dose PCV20 or 1 dose PCV21
    - If PCV15 is used, administer 1 dose PPSV23 at least 1 year after the PCV15 dose (may use minimum interval of 8 weeks 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 or 1 dose PCV21 at least 1 year after the last PCV13 dose
  - **Previously received only PPSV23:** 1 dose PCV15 or 1 dose PCV20 or 1 dose PCV21, at least 1 year after the last PPSV23 dose.
    - If PCV15 is used, no additional PPSV23 doses are recommended.
  - **Previously received both PCV13 and PPSV23 but NO PPSV23 was received at age 65 years or older:** 1 dose PCV20 or 1 dose PCV21 at least 5 years after the last pneumococcal vaccine dose.
  - **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 or 1 dose of PCV21 at least 5 years after the last pneumococcal vaccine dose.

Special situations

- **Age 19–49 years with certain underlying medical conditions or other risk factors** who have:**
  - **Not previously received a PCV13, PCV15, PCV20, or PCV21 or whose previous vaccination history is unknown:** 1 dose PCV15 or 1 dose PCV20 or 1 dose PCV21
    - If PCV15 is used, administer 1 dose PPSV23 at least 1 year after the PCV15 dose (may use minimum interval of 8 weeks 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 or 1 dose PCV21 at least 1 year after the last PCV13 dose
  - **Previously received only PPSV23:** 1 dose PCV15 or 1 dose PCV20 or 1 dose PCV21, at least 1 year after the last PPSV23 dose.
    - If PCV15 is used, no additional PPSV23 doses are recommended.
  - **Previously received PCV13 and 1 dose of PPSV23:** 1 dose PCV20 or 1 dose PCV21 at least 5 years after the last pneumococcal vaccine dose.

Adults aged 19 years and older who have received PCV20 or PCV21: no additional pneumococcal vaccine dose recommended.

Pregnancy: no recommendation for PCV or PPSV23 due to limited data. Summary of existing data on pneumococcal vaccination during pregnancy can be found at www.cdc.gov/mmwr/volumes/72/rr/rr7203a1.htm.

Pneumococcal vaccination - *continued*

PPSV23 not available: adults aged 19 years or older who received PCV15 but have not yet completed PPSV23 series, can complete the series with either 1 dose of PCV20 or 1 dose of PCV21 if they no longer have access to PPSV23.

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/pneumococcal/hcp/vaccine-recommendations/app.html.

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

Poliovirus vaccination

Routine vaccination

- **Adults known or suspected to be unvaccinated or incompletely vaccinated:** administer remaining doses (1, 2, or 3 IPV doses) to complete a 3-dose primary series.* Unless there are specific reasons to believe they were not vaccinated, most adults who were born and raised in the United States can assume they were vaccinated against polio as children.

Special situations

- **Adults at increased risk for exposure to poliovirus who completed primary series*:** may administer one lifetime IPV booster.

***Note:** Complete primary series consists of at least 3 doses of IPV or trivalent oral poliovirus vaccine (tOPV) in any combination.

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

Respiratory syncytial virus vaccination

Routine vaccination

- **Pregnant persons of any age:**
  - **Pregnant at 32 weeks 0 days through 36 weeks and 6 days gestation from September through January in most of the continental United States*:** 1 dose **Abrysvo**. Administer RSV vaccine regardless of previous RSV infection.
  - Either maternal RSV vaccination with Abrysvo or infant immunization with nirsevimab (RSV monoclonal antibody) is recommended to prevent severe respiratory syncytial virus disease in infants.
  - **All other pregnant persons:** RSV vaccine not recommended
  - **Subsequent pregnancies:** additional doses not recommended. No data are available to inform whether additional doses are needed in subsequent pregnancies. Infants born to pregnant persons who received RSV vaccine during a previous pregnancy should receive nirsevimab.

***Note:** Providers in jurisdictions with RSV seasonality that differs from most of the continental United States (e.g., Alaska, jurisdictions with tropical climate) should follow guidance from public health authorities on timing of administration. Refer to the 2025 Child and Adolescent Immunization Schedule for considerations regarding nirsevimab administration to infants.

Age 75 years or older

- **Unvaccinated:** 1 dose (Arexvy or Abrysvo or mResvia). Additional doses not recommended
- **Previously vaccinated:** additional doses not recommended. No data are available to inform whether additional doses are needed.

Respiratory syncytial virus vaccination - *continued*

Special situations

- **Age 60–74 years:**
  - **Unvaccinated and at increased risk of severe RSV disease**:** 1 dose (Arexvy or Abrysvo or mResvia). Additional doses not recommended.
  - **Previously vaccinated:** additional doses not recommended. No data are available to inform whether additional doses are needed.

Persons 60 years and older can get RSV vaccine at any time but it is best to administer in late summer and early fall before RSV spreads in communities—ideally August through October in most of continental United States. For further guidance, see www.cdc.gov/mmwr/volumes/73/wr/mm7332e1.htm.

****Note:** ***People can self–attest to the presence of a risk factor.*** **The following medical and other conditions increase the risk of severe RSV disease:**

- Chronic cardiovascular disease e.g., heart failure, coronary artery disease, congenital heart disease. Excludes isolated hypertension.
- Chronic lung or respiratory disease e.g., chronic obstructive pulmonary disease, emphysema, asthma, interstitial lung disease, cystic fibrosis
- End stage renal disease or dependence on hemodialysis or other renal replacement therapy
- Diabetes mellitus complicated by chronic kidney disease, neuropathy, retinopathy, or other end–organ damage
- Diabetes mellitus requiring treatment with insulin or sodium–glucose cotransporter 2 (SGLT2) inhibitor
- Neurologic or neuromuscular conditions causing impaired airway clearance or respiratory muscle weakness e.g., post–stroke dysphagia, amyotrophic lateral sclerosis, muscular dystrophy. Excludes history of stroke without impaired airway clearance.
- Chronic liver disease e.g., cirrhosis
- Chronic hematologic conditions e.g., sickle cell disease, thalassemia
- Severe obesity (body mass index ≥ 40 kg/m2)
- Moderate or severe immune compromise
- Residence in a nursing home
- Other chronic medical conditions or risk factors that a health care provider determines would increase the risk of severe disease due to viral respiratory infection e.g., frailty, concern for presence of undiagnosed chronic medical conditions, residence in a remote or rural community where escalation of medical care is challenging.

Tetanus, diphtheria, and pertussis vaccination

Routine vaccination

- **Completed primary series and received at least 1 dose Tdap at age 10 years or older:** Td or Tdap every 10 years thereafter
- **Completed primary series and did NOT receive Tdap at age 10 years or older:** 1 dose Tdap, then Td or Tdap every 10 years thereafter
- **Unvaccinated or incomplete primary vaccination series for tetanus, diphtheria, or pertussis:** administer remaining doses (1, 2, or 3 doses) to complete 3-dose primary series. 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 is preferred as first dose and can be substituted for any Td dose), then Td or Tdap every 10 years thereafter.

Special situations

- **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/mm6903a5.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/mm^3 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/mm^3.
- **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/hcp/vaccine–considerations/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

Appendix Recommended Adult Immunization Schedule for Ages 19 Years or Older, United States, 2025

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, Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2024–25 Influenza Season | MMWR (cdc.gov), *and* Contraindications and Precautions for COVID–19 Vaccination

Vaccines and Other Immunizing Agents	Contraindicated or Not Recommended[1]	Precautions[2]
COVID–19 mRNA vaccines [Pfizer–BioNTech, Moderna]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of an mRNA COVID–19 vaccine[3]	• Diagnosed non–severe allergy (e.g., urticaria beyond the injection site) to a component of an mRNA COVID–19 vaccine[3]; or non–severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of an mRNA COVID–19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID–19 vaccine • Multisystem inflammatory syndrome in children (MIS–C) or multisystem inflammatory syndrome in adults (MIS–A) • Moderate or severe acute illness, with or without fever
COVID–19 protein subunit vaccine [Novavax]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of a Novavax COVID–19 vaccine[3]	• Diagnosed non–severe allergy (e.g., urticaria beyond the injection site) to a component of Novavax COVID–19 vaccine[3]; or non–severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of a Novavax COVID–19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID–19 vaccine • Multisystem inflammatory syndrome in children (MIS–C) or multisystem inflammatory syndrome in adults (MIS–A) • Moderate or severe acute illness, with or without fever
Influenza, egg-based, inactivated injectable (IIV3)	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[4] (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 (ccIIV3) [Flucelvax]	• Severe allergic reaction (e.g., anaphylaxis) to any ccIIV of any valency, or to any component[4] of ccIIV3	• 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 IIV, RIV, or LAIV of any valency. If using ccIIV3, 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 (RIV3) [Flublok]	• Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component[4] of RIV3	• 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 IIV, ccIIV, or LAIV of any valency. If using RIV3, 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 (LAIV3) [Flumist]	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[4] (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.	• Guillain–Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Asthma in persons aged 5 years 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

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.
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, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization.
3. See package inserts and FDA EUA fact sheets for a full list of vaccine ingredients. mRNA COVID–19 vaccines contain polyethylene glycol (PEG).
4. Vaccination providers should check FDA–approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. See Package inserts for U.S.–licensed vaccines.

Appendix Recommended Adult Immunization Schedule for Ages 19 Years or Older, United States, 2025

Vaccine	Contraindicated or Not Recommended[1]	Precautions[2]
Haemophilus influenzae type b (Hib)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or 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[3] including neomycin	• 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[3] including yeast • Pregnancy: PreHevbrio is not recommended due to lack of safety data in pregnant persons. Use other hepatitis B vaccines if HepB is indicated[4]	• Moderate or severe acute illness with or without fever
Hepatitis A–Hepatitis B vaccine (HepA–HepB) [Twinrix]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] including neomycin and yeast	• Moderate or severe acute illness with or without fever
Human papillomavirus (HPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • *Pregnancy: HPV vaccination not recommended*	• Moderate or 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[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long–term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Pregnancy • Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent	• Recent (≤11 months) receipt of antibody–containing blood product (specific interval depends on product) • History of thrombocytopenia or thrombocytopenic purpura • Need for tuberculin skin testing or interferon–gamma release assay (IGRA) testing • Moderate or severe acute illness with or without fever
Meningococcal ACWY (MenACWY) (MenACWY–CRM) [Menveo] (MenACWY–TT) [MenQuadfi]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For MenACWY–CRM only: severe allergic reaction to any diphtheria toxoid– or CRM197–containing vaccine • For MenACWY–TT only: severe allergic reaction to a tetanus toxoid–containing vaccine	• Moderate or severe acute illness with or without fever
Meningococcal B (MenB) MenB–4C [Bexsero] MenB–FHbp [Trumenba]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Pregnancy • For MenB–4C only: Latex sensitivity • Moderate or severe acute illness with or without fever
Meningococcal ABCWY (MenACWY–TT/MenB–FHbp) [Penbraya]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe allergic reaction to a tetanus toxoid–containing vaccine	• Moderate or severe acute illness, with or without fever
Mpox [Jynneos]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness, with or without fever
Pneumococcal conjugate (PCV15, PCV20, PCV21)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe allergic reaction (e.g., anaphylaxis) to any diphtheria–toxoid–containing vaccine or to its vaccine component[3]	• Moderate or severe acute illness with or without fever
Pneumococcal polysaccharide (PPSV23)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness with or without fever
Poliovirus vaccine, inactivated (IPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Pregnancy • Moderate or severe acute illness with or without fever
Respiratory syncytial virus vaccine (RSV)	• Severe allergic reaction (e.g., anaphylaxis) to a vaccine component	• Moderate or severe acute illness with or without fever
Tetanus, diphtheria, and acellular pertussis (Tdap) Tetanus, diphtheria (Td)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For Tdap only: Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP, DTaP, or Tdap	• Guillain–Barré syndrome (GBS) within 6 weeks after a previous dose of tetanus–toxoid–containing vaccine • History of Arthus–type hypersensitivity reactions after a previous dose of diphtheria–toxoid containing or tetanus–toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus–toxoid–containing vaccine • Moderate or severe acute illness with or without fever • For Tdap only: Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized
Varicella (VAR)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long–term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Pregnancy • Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent	• Recent (≤11 months) receipt of antibody–containing blood product (specific interval depends on product) • Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination) • Use of aspirin or aspirin–containing products • Moderate or severe acute illness with or without fever
Zoster recombinant vaccine (RZV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness with or without fever • Current episode of herpes zoster

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.
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, Bahta 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.
4. For information on the pregnancy exposure registry for persons who were inadvertently vaccinated with PreHevbrio while pregnant, please visit www.prehevbrio.com/#safety.

Addendum Recommended Adult Immunization Schedule for Ages 19 Years or Older, United States, 2025

In addition to the recommendations presented in the previous sections of this immunization schedule, ACIP has approved the following recommendations by majority vote since October 24, 2024. The following recommendations have been adopted by the CDC Director and are now official. Links are provided if these recommendations have been published in *Morbidity and Mortality Weekly Report (MMWR)*.

Vaccines	Recommendations	Effective Date of Recommendation*
No new vaccines or vaccine recommendations to report		

*The effective date is the date when the CDC director adopted the recommendation and when the ACIP recommendation became official.

Table D-1: Immunizations for military personnel

Name of vaccine	Army	Navy	Air Force	Marine Corps	Coast Guard
Adenovirus	Acc[2]	Acc	Acc	Acc	Acc
Anthrax	Risk	Risk	Risk	Risk	Risk
***Haemophilus influenzae* type b**	Risk	Risk	Risk	Risk	Risk
Hepatitis A	Acc, Rou[3]	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou
Hepatitis B	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou
Influenza	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou
Japanese Encephalitis	Risk[4]	Risk	Risk	Risk	Risk
Measles, mumps, rubella	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou
Meningococcal	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou
Pneumococcal	Risk	Risk	Risk	Risk	Risk
Poliovirus[5]	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou
Rabies	Risk	Risk	Risk	Risk	Risk
Smallpox (vaccinia)	Risk	Risk	Risk	Risk	Risk
Tetanus-diptheria (preferably with pertussis vaccine)	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou
Typhoid fever	Risk	Risk	Risk	Risk	Risk
Varicella	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou	Acc, Rou
Yellow Fever	Risk	Risk	Risk	Acc, Risk	Risk

Notes:
1 Inital entry and basic training accessions only
2 Acc=accessions
3 Rou=adult routine
4 Risk=special, risk-based, and occupational
5 Refer to paragraph 4-13

Source: Immunizations and Chemoprophylaxis for the Prevention of Infectious Diseases, October 2013

Adenovirus Vaccine

Vaccine Description	• Brand: Adenovirus Type 4 and Type 7 Vaccine, Live, Oral • Live vaccine, has not been attenuated • See package insert
Dose & Route	• Dose: 2 separate oral tablets (1 white & 1 light peach in color) • Route: Oral • Do not crush or chew tablets, must swallow whole • See package insert
Indications	• Military populations 17 through 50 years of age; will be given to all new recruits
Administration Schedule	• A single dose of two separate tablets swallowed whole at the same time
Booster	• None
Contraindications	• Serious allergic reaction to prior dose or vaccine component • Pregnancy (also need to avoid pregnancy for at least 6 weeks afterward) • Inability to swallow whole tablets • Postpone administration to persons with vomiting and/or diarrhea
Precautions	• Moderate or severe acute illness • The safety and effectiveness of this vaccine in persons with immune suppression has not been evaluated • Because live virus is shed within the stool for up to 28 days following vaccination, vaccinees should use precaution when around: • Children younger than 7 years of age • Persons who are immune suppressed • Pregnant women
Special Considerations	• Instruct vaccinee to use proper personal hygiene, such as frequent hand washing, especially following bowel movements • Adenovirus vaccine can be administered simultaneously or at any interval before or after other vaccines, including live vaccines
• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/adenovirus.html • Additional education may be found at www.health.mil/adenovirus	

Implement the following steps if the vaccine tablets are accidentally chewed:

1. Rinse and swallow several sips of water to help clear the vaccine from the mouth.
2. Direct the recruit to seek medical care if he/she develops symptoms of fever or respiratory infection and to apprise the health care provider of the chewed vaccine tablet.
3. A VAERS form should be filed by the health care provider if a recruit develops symptoms of fever or respiratory infection.

Anthrax Vaccine

Vaccine Description	• **Brand: Biothrax® (Pre-exposure prophylaxis (PrEP) & Post-exposure prophylaxis (PEP))** • Inactivated vaccine • Adjuvant: Aluminum hydroxide • Vial stopper may contain dry natural latex rubber • See package insert • **Brand: Cyfendus (PIP)** • Inactivated vaccine • Adjuvant: Aluminum Hydroxide, preservative: formaldehyde • No latex in Cyfendus • See package insert
Dose & Route	• **Biothrax®:** Dose: 0.5 mL • Route: IM into the DELTOID muscle (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy); NOTE: SC route is required for post-exposure prophylaxis and approved for individuals at risk for hematoma formation: thrombocytopenia, hemophilia, and anticoagulation therapy. • (NOTE: dose and route differences for pre- and post-exposure administration). • **Cyfendus:** Dose: 0.5mL • Route: intramuscular (IM) in Deltoid • Gently swirl or roll vial, solution is milky-white suspension, AVOID foaming-DO NOT SHAKE • See package inserts
Indications	• Age 18-65 years according to current military guidelines • People with occupational risk • As adjunct treatment post exposure to anthrax bacillus (inhalation) (Biothrax or Cyfendus) • See Special Considerations
Administration Schedule **Note:** Delays do NOT interfere with vaccine response.	• **Biothrax®** Pre-Exposure: Given in a series of 5 doses at 0, 1 month, 6 months, 12 months, and 18 months with an annual booster to sustain immunity [if needed based on deployment requirements]. • **Biothrax®** Post-Exposure: 3 doses Subcutaneously at 0, 2, 4 weeks combined with antibiotic therapy for 60 days. (IE: Doxycycline 100mg every 12 hours or Ciprofloxacin 500mg every 12 hours in adults) • See CDC website - antibiotic use is weight based in children ◦ Doxycycline for Post-Exposure Prophylaxis of Anthrax ◦ Ciprofloxacin for Post-Exposure Prophylaxis of Anthrax ◦ Anthrax Vaccination Recommendations • Cyfendus Post-Exposure: 2 dose series administered at 0 and 2 weeks post exposure to anthrax bacillus.

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Anthrax Vaccine
(Continued)

<table>
<tr><td rowspan="6">Administration Schedule

(continued)</td><td>Dose</td><td>Dose Recommended Interval</td></tr>
<tr><td>#1</td><td>0 (initial dose)</td></tr>
<tr><td>#2</td><td>1 month after dose #1</td></tr>
<tr><td>#3</td><td>5 months after dose #2</td></tr>
<tr><td>#4</td><td>6 months after dose #3</td></tr>
<tr><td>#5</td><td>6 months after dose #4</td></tr>
<tr><td>Booster</td><td colspan="2">• Annually (every 12 months) if required by duty status</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to prior dose or vaccine component
• Prior serious adverse event (e.g., new onset disabling muscle and/or joint pains, headache, fatigue), particularly if reproducible and/or worsening with more than one dose of vaccine
• Breastfeeding is not a contraindication
• Pregnant women should not be routinely vaccinated pre-exposure
• Cyfendus: do not give with history severe allergic reaction-anaphylaxis following a previous dose Cyfendus, Biothrax or vaccine ingredient.
• Refer to DHA-IHD for recommendations related to medical exemptions</td></tr>
<tr><td>Precautions</td><td colspan="2">• Prior adverse events or non-allergic hypersensitivity reactions
• Pregnant women are not routinely be vaccinated pre-exposure unless the potential benefits of vaccination clearly outweigh the potential risks to the fetus
• Prior anthrax disease may increase the potential for severe local adverse reactions
• Vaccination during chemotherapy, high-dose corticosteroid therapy of greater than 2-week duration, or radiation therapy may result in a suboptimal response. Deferral of vaccination for 3 months after completion of such therapy may be considered
• Concurrent moderate or severe illness with or without fever - postpone until recovery
• Cyfendus: may have diminished immune response if receiving immunosuppressive therapy; DO NOT GIVE in pregnancy-can cause fetal harm (see package insert for details & Biothrax pregnancy studies)</td></tr>
</table>

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Anthrax Vaccine
(Continued)

Special Considerations	• **Do not restart the primary series for any reason.** Resume the primary series with administration of the next dose in the series. Administer subsequent doses of vaccine at intervals based on the date the last dose was given, not when it was originally scheduled. • If an annual booster has not been administered on time, administer the booster dose at the earliest possible date, adjusting the subsequent booster schedule accordingly. Once the primary series is complete, it is never repeated. • Side effects: site reaction, itch, swelling, muscle aches, fatigue, headache • For severe large local reactions (greater than 10 cm or extending below a joint), contact DHA-IHD for consultation regarding optimum treatment and medical exemption • Once the stopper of the multi-dose vial has been pierced, the vial must be discarded within 28 days. • See Storage and Handling Section

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/anthrax.html
- Standing Orders: www.health.mil/standingorders
- Bioterrorism: https://www.cdc.gov/anthrax/
- DHA-IHD: www.health.mil/anthrax
- Anthrax Vaccine Pregnancy Registry (619) 553-9255, DSN 553-9255, email: nhcr-vaccineregistry@mail.mil. Also notify DHA-IHD

FACTOID: Anthrax infection can occur in four forms: cutaneous (skin), inhalation, gastrointestinal, and injection.

Source: http://www.cdc.gov/anthrax/types/index.html

Cholera Vaccine

Vaccine Description	• Brand: Vaxchora • Live, attenuated oral vaccine • May contain yeast, casein (milk) and lactose • See package insert
Dose & Route	• Dose: 100 mL • Route: Oral administration only
Indications	• Persons aged 2-64 years traveling to areas where there is a recognized risk of exposure to V. Cholerae serogroup O1. • VAXCHORA has not been shown to protect against disease caused by V. cholerae serogroup O139 or other non-O1 serogroups
Administration Schedule	• A single oral dose of VAXCHORA a minimum of 10 days before potential exposure to cholera • Avoid eating or drinking for 60 minutes before or after oral ingestion of VAXCHORA • Reconstitution should be completed within 15 minutes of removing the carton with 2 packets (buffer component and active component) from the refrigerator • Pour 100 mL of cold or room temperature purified bottled water into a clean, disposable cup. Do not use tap water, non-purified bottled water, other beverages, or other liquids. • First, empty buffer component packet contents into cup. Effervescence will occur. Using a disposable stirrer, stir until the buffer component completely dissolves. • Next, empty the active component packet contents into the cup containing the buffer solution. Stir for at least 30 seconds and until active component disperses to form a slightly cloudy suspension that may contain some white particulates. The active component may not dissolve completely. • VAXCHORA must be consumed within 15 minutes of reconstitution. The recipient should drink the full contents of the cup at once. • Dispose of the cup, packets and stirrer according to standard procedures for medical waste. Inactivate any spilled vaccine and clean any non-disposable equipment used in the preparation of VAXCHORA with 70% isopropyl alcohol or 10% bleach solution. *NOTE: *If the packets are reconstituted in the improper order, the vaccine must be discarded (See package insert)*
Booster	• NONE

Continued on Next Page

Cholera Vaccine
(Continued)

Contraindications	• Serious allergic reaction to prior dose or vaccine component • Moderate or severe acute illness • Avoid concomitant administration of VAXCHORA with systemic antibiotics • Do not administer VAXCHORA to patients who have received oral or parenteral antibiotics within 14 days prior to vaccination (Antibiotics taken within 14 days before vaccination may cause the vaccine to not work as well.) • Do not administer VAXCHORA to persons with immune suppression from disease or therapies • Pregnancy: No data exist on use of CVD 103-HgR in pregnant or breastfeeding women. Pregnant women are at increased risk for poor outcomes from cholera infection. Pregnant women and their providers should consider the risks associated with traveling to areas of active cholera transmission. • The vaccine is not absorbed systemically; thus, maternal exposure to the vaccine is not expected to result in exposure of the fetus or breastfed infant to the vaccine.
Special Considerations	• Most travelers do not need cholera vaccine • VAXCHORA may be shed in the stool of recipients for at least 7 days. There is a potential for transmission of the vaccine strain to non-vaccinated close contacts (e.g., household contacts). Use caution when considering whether to administer VAXCHORA to individuals with immunocompromised close contacts • Administer VAXCHORA at least 10 days before beginning antimalarial prophylaxis with chloroquine. • VAXCHORA is stored in the refrigerator and must be protected from light and moisture. • Geriatric Use - The safety and effectiveness of VAXCHORA have not been established in adults 65 years of age or older. • The safety and effectiveness of VAXCHORA have not been established in immunocompromised individuals. • There is a pregnancy exposure registry that monitors pregnancy outcomes in women exposed to VAXCHORA during pregnancy. To enroll please call PaxVax at 1-800-533-5899
• VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/cholera.html • Pregnancy registry available at 1-800-533-5899; also notify DHA-IHD • Additional education may be found at www.health.mil/cholera	

COVID-19 Vaccine

Vaccine Description
 	
(See package inserts for specific vaccine components)
	• mRNA vaccines
	  ◦ Pfizer-BioNTech (Comirnaty) 2023-24 Formula Package Insert
	  ◦ Moderna (Spikevax) 2023-24 Formula Package Insert
	• Protein subunit vaccine
	  ◦ Novavax 2023-24 Formula Package Insert

Route (all)	• Intramuscular (IM)
Indications	• Vaccination is recommended for everyone ages 6 months and older in the U.S. for the prevention of COVID-19.
Dosing & Administration	• Pfizer-BioNTech (Comirnaty) 2023-24 Formula CDC Guidance • Moderna (Spikevax) 2023-24 Formula CDC Guidance • Novavax 2023-24 Formula CDC Guidance
Booster	• Not applicable; adults are eligible for a single dose of updated (2023-24 Formula) vaccine, regardless of prior COVID-19 vaccine history; immunocompromised adults may receive more than one dose of updated (2023-24 Formula) vaccine, based on CDC guidelines
Contraindications	• History of severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of the COVID-19 vaccine. See the package inserts or EUA Fact Sheet for a list of vaccine components
Precautions	• History of non-severe allergy to a component of vaccine • History of non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of one COVID-19 vaccine type • Moderate or severe acute illness, with or without fever • History of MISC-A or MISC-C • History of myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine Follow CDC Guidance on COVID-19 vaccine precautions
Adverse Reactions	• Syncope (fainting) may occur in association with any vaccination. • Local reactions may include pain/tenderness, and, less commonly, swelling, and erythema at the injection site • Systemic reactions may include fever, fatigue/malaise, headache, chills, myalgia, arthralgia • Localized axillary lymphadenopathy may occur on the same side as the vaccinated arm • Infrequently, people who have dermal fillers might experience temporary swelling at or near the site of filler injection • Myocarditis and pericarditis are rare adverse events, especially for males ages 12–39 years. See COVID-19 vaccination and myocarditis and pericarditis for additional information. • Anaphylactic reactions have been rarely reported following receipt of COVID-19 vaccines

Continued on Next Page

COVID-19 Vaccine
(Continued)

Special Considerations	• People who recently had SARS-CoV-2 infection may consider delaying vaccination by 3 months from symptom onset or positive test (if infection was asymptomatic) • Persons with a history of multisystem inflammatory syndrome, MIS-C (children) or MIS-A (adult), have a precaution to receipt of COVID-19 vaccine and should be referred to a provider for further evaluation • Development of myocarditis or pericarditis after a dose of an mRNA (Moderna, Pfizer-BioNTech) or Novavax COVID-19 vaccine is a precaution to a subsequent dose of any COVID-19 vaccine and subsequent doses should generally be avoided • Providers should consider observing people with the following precautions to a previously administered COVID-19 vaccine for 30 minutes if a subsequent dose of the same vaccine type is administered: ◦ History of a non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of one COVID-19 vaccine type ◦ History of a diagnosed non-severe allergy to a component of the COVID-19 vaccine • Vaccination is recommended for all people aged 6 months and older, including people who are pregnant, breastfeeding, or trying to get pregnant now or who might become pregnant in the future • COVID-19 vaccines may be co-administered with any other indicated vaccines; no minimum interval applies to receipt of other vaccines with COVID-19 vaccines. People, particularly adolescent and young adult males, who are recommended to receive both COVID-19 and smallpox/mpox vaccines might consider waiting 4 weeks between vaccines. This is because of the observed risk of myo/pericarditis after COVID-19 and ACAM2000 vaccines, and the hypothetical risk of myo/pericarditis after JYNNEOS vaccine. However, if a patient's risk of mpox or COVID-19 severe disease is increased, administration of mpox and COVID-19 vaccines should not be delayed

Screen for contraindications and precautions using DHA Form 207 before administering EACH dose, even if a vaccine was previously administered.

- VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/covid-19.html
- Standing Orders: www.health.mil/standingorders
- ACIP Recommendations: https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/covid-19.html
- Additional education: https://health.mil/COVID19vaccineresources_HCP

Hepatitis A, B, and Combination A/B Vaccines

<table>
<tr><td rowspan="6">Vaccine Description

See package inserts for specific vaccine components</td><td colspan="2">Hepatitis A: Vaqta and Havrix</td></tr>
<tr><td colspan="2">• Inactivated whole virus
• Adjuvant: aluminum hydroxide
• Vial stopper and/or the syringe plunger stopper may contain dry natural latex rubber</td></tr>
<tr><td colspan="2">Hepatitis B: Heplisav-B, Recombivax HB, Engerix-B</td></tr>
<tr><td colspan="2">• Subunit viral antigen vaccine
• Vial stoppers are not made with natural latex rubber
• Heplisav-B adjuvant: CpG, DNA, innate immunity activator</td></tr>
<tr><td colspan="2">Combination Hepatitis A and B: Twinrix</td></tr>
<tr><td colspan="2">• Bivalent vaccine containing the antigenic components used in producing Havrix and Engerix-B
• Tip caps of the prefilled syringes contain natural rubber latex; the plungers are not made with natural rubber latex</td></tr>
<tr><td>Route (all)</td><td colspan="2">• IM (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)</td></tr>
<tr><td>Vaccine</td><td>Age</td><td>Dose</td></tr>
<tr><td rowspan="2">Hepatitis A (Vaqta)</td><td>6 months-18 years</td><td>25 units (0.5 mL)</td></tr>
<tr><td>19 years and older</td><td>50 units (1 mL)</td></tr>
<tr><td rowspan="2">Hepatitis A (Havrix)</td><td>6 months-18 years</td><td>720 EL.U. (0.5 mL)</td></tr>
<tr><td>19 years and older</td><td>1440 EL.U. (1 mL)</td></tr>
<tr><td rowspan="2">Hepatitis B (Engerix-B)</td><td>0-19 years</td><td>0.5 mL</td></tr>
<tr><td>20 years and older</td><td>1 mL</td></tr>
<tr><td rowspan="2">Hepatitis B (Recombivax HB)</td><td>0-19 years</td><td>0.5 mL</td></tr>
<tr><td>20 years and older</td><td>1 mL</td></tr>
<tr><td>Hepatitis B (Heplisav-B)</td><td>18 years and older</td><td>0.5 mL</td></tr>
<tr><td>Hepatitis A/Hepatitis B (Twinrix)</td><td>18 years and older</td><td>1 mL</td></tr>
</table>

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Hepatitis A, B, and Combination A/B Vaccines
(Continued)

Indications	**Hepatitis A**
	• All persons aged ≥ 1 year infected with human immunodeficiency virus (HIV) • All persons with chronic liver disease • Pregnant women at risk for hepatitis A infection (HAV) during pregnancy • All persons aged ≥ 1 year, at risk for infection or severe disease from HAV during hepatitis A outbreaks • Persons providing services to adults in which a high proportion of those persons have risk factors for HAV infection • Persons aged ≥ 1 year at risk for HAV infection or for severe disease from HAV including: ◦ International travelers ◦ men who have sex with men ◦ persons who use injection or non-injection illegal drugs ◦ persons with occupational risk for exposure ◦ persons who anticipate close personal contact with an international adoptee ◦ persons experiencing homelessness ◦ persons requesting protection • All military personnel
	Hepatitis B
	• All children and adolescents • All military personnel • Household members and sexual partners of HBV carriers (test and if susceptible, vaccinate) • Intravenous drug users • Any person with more than one sex partner in 6 months • Men who have sex with men • People with recently diagnosed sexually transmitted diseases (STDs) • Persons with HIV • Persons with diabetes • Persons with chronic liver disease • Patients receiving hemodialysis and patients with renal disease that may result in dialysis • Recipients of certain blood products • Healthcare and public safety workers with frequent blood contact • Residents and staff of institutions for people with developmental disabilities • Long-term prison inmates • Certain international travelers (Determine risk by checking CDC or their travel medicine websites or check with local travel clinic for guidance) • People who want to decrease their risk for hepatitis B

Continued on Next Page

Hepatitis A, B, and Combination A/B Vaccines
(Continued)

Administration Schedule	Dose	Interval
Hepatitis A (Vaqta - 2 doses)	#1	N/A
	#1 to #2	6 months
Hepatitis A (Havrix - 2 doses)	#1	N/A
	#1 to #2	6 months
Hepatitis B (Engerix-B - 3 doses)	#1	N/A
	#1 to #2	4 weeks
	#2 to #3	8 weeks minimum, 16 weeks after dose #1
Hepatitis B (Recombivax HB - 3 doses)	#1	N/A
	#1 to #2	4 weeks
	#2 to #3	8 weeks minimum, 16 weeks after dose #1
* Hepatitis B (Heplisav-B - 2 doses)	#1	N/A
	#1 to #2	4 weeks minimum
** Hepatitis A + Hepatitis B (Twinrix)	#1	N/A
	#1 to #2	4 weeks
	#2 to #3	5 months
Twinrix (accelerated)	3 doses: 0, 7 days, and 21-30 days. Booster at 12 months.	

* Note: The 2-dose HepB vaccine series only applies when both doses in the series consist of HepB-CpG. Series consisting of a combination of 1 dose of HepB-CpG and a vaccine from a different manufacturer should consist of 3 total vaccine doses and should adhere to the 3-dose schedule minimum intervals of 4 weeks between dose 1 and 2, 8 weeks between dose 2 and 3, and 16 weeks between dose 1 and 3. Doses administered at less than the minimum interval should be repeated. However, a series containing 2 doses of HepB-CpG administered at least 4 weeks apart is valid, even if the patient received a single earlier dose from another manufacturer.

** If combining regimen of Twinrix® with individual doses of HepA and HepB vaccines, see info paper for number of doses needed (www.health.mil/HepA)

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Hepatitis A, B, and Combination A/B Vaccines
(Continued)

<table>
<tr><td>Contraindications</td><td>• Serious allergic reaction to prior dose or vaccine component, including yeast and neomycin
• Moderate or severe acute illness
• Pregnancy and breastfeeding are NOT contraindications</td></tr>
<tr><td rowspan="4">Special Considerations</td><td>Hepatitis A</td></tr>
<tr><td>• Start vaccine series at least 2-4 weeks before international traveling
• If first dose is given less than 4 weeks before international travel, consider giving IG as well as vaccine
• Close contact of international adoptee (e.g., household or regular babysitting), within 60 days of 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)
• If dose #2 is delayed, do not repeat dose #1; just give dose #2.
• See Storage and Handling Section</td></tr>
<tr><td>Hepatitis B</td></tr>
<tr><td>• If the series is delayed between doses, DO NOT start the series over. Continue from where you left off.
• For vaccine non-responders (negative Hep B Ab titers), consult allergy/ immunology, DHA-IHD, infectious disease
• See Storage and Handling Section</td></tr>
<tr><td colspan="2">• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hep-a.html
http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hep-b.html
• Standing Orders: www.health.mil/standingorders
• Additional education may be found at www.health.mil/hepA
www.health.mil/hepB
• Pregnancy registry for Twinrix®: 1-888-825-5249 (GlaxoSmithKline); also notify DHA-IHD</td></tr>
</table>

Haemophilus influenzae type b (hib) Vaccine

Vaccine Description	• Brand: ActHIB®, PedVaxHIB® • Inactivated protein conjugate vaccine • Vaccine or diluent vial stopper may contain dry natural latex rubber (see package insert)
Dose and Route	• Dose: 0.5 mL • Route: IM (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy) • See package insert
Indications	• People older than 5 years of age who are at risk, including people with: ◦ Anatomical or functional asplenia (e.g., sickle cell disease, postsplenectomy) ◦ Cancer treated with chemotherapy (give at least 2 weeks before or 3 months after completion) ◦ Immune suppression ◦ Post bone marrow or stem cell transplant (1 year post transplant)
Administration Schedule	• For people older than 5 years of age, one dose of Hib vaccine is usually enough. A healthcare provider will decide if an adolescent or adult needs a second dose.
Contraindications	• Serious allergic reaction to prior dose or vaccine component • Moderate or severe acute illness
Special Considerations	• Vaccine should be used within 24 hours of reconstitution • Refer pregnant women to a healthcare provider for evaluation • See Storage and Handling Section
• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hib.html • Standing Orders: www.health.mil/standingorders • Additional education may be found at www.health.mil/hib	

Human Papillomavirus (HPV) Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="4">

Brand: GARDASIL 9
Inactivated recombinant 9-valent vaccine
Contains aluminum and yeast
See package insert

</td></tr>
<tr><td>Dose & Route</td><td colspan="4">

Dose: 0.5 mL
Route: IM (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)

</td></tr>
<tr><td>Indications</td><td colspan="4">

GARDASIL 9 (9vHPV): Females 9-26 years of age (routinely given at 11-12 year old visit) and males 9-21 years of age (routinely given at 11-12 year old visit and may be given to males 22-26 years of age)

</td></tr>
<tr><td rowspan="5">Administration Schedule</td><td colspan="2">2 Dose Series
(For ages 9-14 years old)</td><td colspan="2">3 Dose Series
(For ages 15-26 years OR 9-26 years with impaired immunity)</td></tr>
<tr><td>Dose</td><td>Recommended Interval</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>#1</td><td>Initial dose</td><td>#1</td><td>Initial dose</td></tr>
<tr><td>#2</td><td>6-12 months after initial dose</td><td>#2</td><td>2 months after dose 1</td></tr>
<tr><td colspan="2"></td><td>#3</td><td>6 months after dose 1</td></tr>
<tr><td>Booster</td><td colspan="4">

None

</td></tr>
<tr><td>Contraindications</td><td colspan="4">

Serious allergic reaction to prior dose or vaccine component
Moderate or severe acute illness
Pregnancy - due to lack of safety studies

</td></tr>
<tr><td>Special Considerations</td><td colspan="4">

Syncope has been reported following vaccination; observation for 15 minutes after administration is recommended (see package insert)
If a female reaches 26 years of age before series is completed, remaining doses may be given
People with impaired immunity should receive the 3-dose series (0, 2 & 6 months) regardless of age
The HPV vaccine is now FDA-approved for use in appropriate patients ages 9-45 years.
Shared clinical decision-making regarding vaccination is recommended for some adults aged 27-45 years who are not adequately vaccinated.

</td></tr>
<tr><td colspan="5">

VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hpv-gardasil.html
Standing Orders: www.health.mil/standingorders
Pregnancy registry available: 1-800-986-8999; also notify DHA-IHD
Additional education may be found at www.health.mil/HPV

</td></tr>
</table>

Inactivated Influenza Vaccine

(This information is current for the 2024-25 influenza season)

Note: The US transitioned to quadrivalent influenza vaccine during the 2013-2014 flu season. For 2024-2025 onward, the influenza B/Yamagata vaccine component is being removed because influenza B/Yamagata viruses have not been detected after March 2020, using global surveillance for actively circulating influenza viruses. All flu vaccines for use in the U.S. for the 2024-2025 will be trivalent.

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brands:
◦ Trivalent: Afluria® (IIV3), Fluarix® (IIV3), FluBlok (IIV3), Flucelvax® (ccIIV3), FluLaval® (IIV3), Fluzone® (IIV3) [Fluzone® comes in Northern & Southern Hemisphere formulations]
◦ Cell Cultured-Based: Flucelvax® (ccIIV3)
◦ High Dose: Fluzone® High-Dose (HD-IIV3)
◦ Adjuvanted: Fluad® (aIIV3)
◦ Recombinant: FluBlok® (RIV3)
• Some brands contain egg protein or thimerosal*. Additionally, the tip cap and the rubber plunger of the needleless prefilled syringes may contain latex (see package insert).
*Thimerosal content varies. Preservative-free formulations are available.</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL
• Route: IM.</td></tr>
<tr><td>Indications</td><td colspan="2">• All persons aged 6 months and older who do not have a contraindication should receive the age-appropriate formulation of inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV). (Note: healthy, non- pregnant persons 2 through 49 years of age without high risk health conditions can receive IIV or LAIV*)
• Pregnant women and women who might become pregnant in the upcoming influenza season should receive IIV
• ACIP now recommends that adults aged 65 years and older preferentially receive HD-IIV3, RIV3, or aIIV3; if these are unavailable, any age-appropriate flu vaccine should be administered.
*Live Attenuated Influenza Vaccine - It is important to review CDC/ACIP guidelines for LAIV use before each flu season.</td></tr>
<tr><td>Administration Schedule by route</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>Adults IM</td><td>0.5 mL</td><td>Annually in the fall

(Southern Hemisphere vaccine given April-Sept.)</td></tr>
<tr><td>Contraindications</td><td colspan="2">• History of a severe allergic reaction (e.g., anaphylaxis) or diagnosed allergy to a previous dose or component of any influenza vaccine is a contraindication to that same influenza vaccine type/platform (e.g., egg-based [IIV, aIIV], cell culture-based [ccIIV], recombinant [RIV], or live attenuated [LAIV]). Per ACIP recommendations, other flu vaccine types may be considered with appropriate precautions.</td></tr>
</table>

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Inactivated Influenza Vaccine
(continued)

Precautions	• Moderate or severe acute illness with or without fever • History of Guillain-Barré syndrome within 6 weeks of a previous influenza vaccination • History of a severe allergic reaction to a previous dose of one type of influenza vaccine is a precaution to use of the others
Special Considerations	• Immunization providers should check FDA-approved seasonal influenza vaccines prescribing information for the most up-to-date information, including (but not limited to) indications, warnings, contraindications, and precautions. Package inserts are available at https://health.mil/flu. • For those assigned to an area designated as a Southern Hemisphere influenza zone April through September, the Southern Hemisphere formulation of Fluzone may be used. • Afluria® is licensed for administration by jet injector for persons aged 18 through 64 years only. • Once the stopper of the multi-dose vial has been pierced, the vial must be discarded either at the expiration date on the vial or within 28 days — see the package insert for specific guidance. • Fluad® includes an adjuvant. • It is important to review CDC/ACIP guidelines for LAIV use before each flu season • Vaccines may be less effective in immunocompromised persons. • ACIP recommends that all persons ages ≥6 months with egg allergy should receive influenza vaccine. Any influenza vaccine (egg based or non-egg based) that is otherwise appropriate for the recipients age and health status can be used. • ACIP recommends high-dose inactivated (HD-IIV3) and adjuvanted inactivated (aIIV3) influenza vaccines as acceptable options for influenza vaccination of solid organ transplant recipients aged 18 through 64 years who are on immunosuppressive medication regimens, without a preference over other age-appropriate IIV3s or RIV3. • See Storage and Handling Section
• Patient screening: www.health.mil/fluscreening • Standing orders: www.health.mil/standingorders • VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/flu.html • Additional education may be found at www.health.mil/flu	

FACTOID: Influenza (the flu) is a contagious respiratory illness caused by influenza viruses. Some people, such as people 65 years and older, young children, and people with certain health conditions, are at higher risk of serious flu complications.

Source: https://www.cdc.gov/flu/about/index.html

Live Attenuated Influenza Vaccine

(This information is current for the 2024-25 influenza season)

Vaccine Description	• Brand: FluMist Trivalent® • Live attenuated influenza vaccine trivalent (LAIV3) • Contains egg protein. See package insert. • It is important to review CDC/ACIP guidelines for LAIV use before each flu season.	
Dose & Route	• Dose: 0.2 mL (administered as 0.1 mL per nostril) • Route: intranasal • See package insert for administration guidance	
Indications	• Indicated for healthy, non-pregnant persons 2 through 49 years who do not have a contraindication • NOT indicated for immunization of people younger than 2 years or older than 49 years, nor for treatment of influenza, nor will it protect against illness caused by infectious agents other than the included influenza A or B viruses.	
Administration Schedule	**Dose**	**Recommended Interval**
Adults through age 49 years	0.2 mL	Annually in the fall
Contraindications	**Do not give live attenuated influenza vaccine (LAIV3; nasal spray) to a person who:** • is pregnant • is immunosuppressed (including that caused by medications or HIV) • is age 50 years or older • received influenza antivirals (e.g., oseltamivir and zanamivir within the previous 48 hours; peramivir within the previous 5 days; or baloxavir within the previous 17 days) or will possibly receive them within 14 days after vaccination • are close contacts or healthcare personnel caring for persons who are severely immunocompromised and requiring a protective environment • Persons with active communication between the CSF and the oropharynx, nasopharynx, nose, or ear or any other cranial CSF leak • Persons with cochlear implants	
Precautions	• Moderate or severe acute illness with or without fever • History of Guillain-Barré syndrome within 6 weeks of a previous influenza vaccination • Asthma in people 5 years or older, reactive airway disease, or other chronic pulmonary disease or other chronic conditions that place them at high risk for complications from influenza illness (e.g., heart disease, diabetes, renal disease, sickle cell anemia)	

Continued on Next Page

Live Attenuated Influenza Vaccine
(continued)

Special Considerations	• Give inactivated influenza vaccine (IIV) instead of LAIV to people who care for others who are severely immune-compromised • May be given at the same time as other live injectable vaccines, including MMR or varicella. But if two live vaccines are not given on the same day, they should be given at least 4 weeks apart. • Defer administration if nasal congestion might prevent LAIV from reaching nasopharyngeal mucosa • See Storage and Handling section

- Patient screening: www.health.mil/fluscreening
- Standing orders: www.health.mil/standingorders
- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/flulive.html
- Additional education may be found at www.health.mil/flu

Japanese Encephalitis Vaccine

Vaccine Description	• Brand: Ixiaro® • Inactivated • Contains bovine serum albumin, protamine sulfate • See package insert
Dose and Route	• Dose: 0.5 mL • Route: IM (Use IM precautions for persons with bleeding disorders or receiving anticoagulation therapy)
Indications	• Individuals 17 years of age and older spending a month or longer in endemic areas (especially rural) during transmission season. (Determine risk by checking CDC or other travel medicine websites or check with local travel clinic for guidance.) • Laboratory workers exposed to JE virus
Administration Schedule	• 2 doses at 0 and 7-28 days, for ages 18-65 years • 2 doses at 0 and 28 days for adults older than 65 years NOTE: Last dose should be given at least 7 days (Ixiaro®) before international travel to ensure adequate immunity
Booster	• A one-time booster dose may be given at least 11 months after completion of the primary immunization series if ongoing exposure or re-exposure to JE virus is expected. • Adults aged 17 years and older who have received JE-VAX previously and require further vaccination against JE virus should receive a 2-dose primary series of Ixiaro.
Contraindications	• Serious allergic reaction to prior dose of Ixiaro® or other JE vaccine, vaccine component, or to protamine sulfate
Precautions	• Moderate or severe acute illness with or without fever. • Altered immunocompetence may result in reduced vaccine effectiveness • Safety and effectiveness of JE vaccines have not been established in pregnant women; use in pregnancy should be considered with clinical consultation of potential risk and benefit.
Special Considerations	• See pediatric section for information on giving this vaccine to persons younger than 17 years of age. • See Storage and Handling Section

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/je-ixiaro.html
- Standing Orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/JEV

Measles, Mumps, and Rubella (MMR) Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brand: M-M-R II®
• Live attenuated virus
• Contains neomycin, gelatin, (See package insert)</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL Route: SC</td></tr>
<tr><td>Indications</td><td colspan="2">• Adults born in 1957 or later and who do not have evidence of immunity
• All women of childbearing age who do not have evidence of immunity
• Two lifetime doses (separated by at least 4 weeks) of MMR-containing vaccine are indicated in susceptible individuals in high-risk groups including:
◦ College students
◦ International travelers
◦ Healthcare personnel
◦ Military service members</td></tr>
<tr><td rowspan="3">Administration Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>#1</td><td></td></tr>
<tr><td>#2 (if recommended*)</td><td>Minimum 4 weeks after #1</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
• Pregnancy (or planned pregnancy in next month)
• Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised)</td></tr>
<tr><td>Precautions</td><td colspan="2">• Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product); see CDC Guidelines
• History of thrombocytopenia or thrombocytopenic purpura
• Moderate or severe acute illness with or without fever.</td></tr>
</table>

Continued on Next Page

Measles, Mumps, and Rubella (MMR) Vaccine
(Continued)

Special Considerations	• Women of childbearing age who have prior rubella-containing vaccine and have rubella-specific IgG levels that are not clearly positive should be administered 1 additional dose of MMR vaccine (maximum of 3 doses). • In mumps outbreak situations, MMR may be recommended for previously vaccinated adults, not to exceed a maximum of 3 lifetime doses • Tuberculin skin test (TST or PPD) can be applied at same visit as MMR. Delay TST for at least 4 weeks if MMR given first or apply TST first, then give MMR after TST is interpreted. • If another live injected vaccine and MMR are both needed and not administered on the same day, space vaccines at least 4 weeks apart • ACIP recommends avoiding pregnancy for 4 weeks following vaccine administration • Post-vaccination serologic testing to verify an immune response is not routinely recommended • Two documented age-appropriate MMR vaccinations are evidence of immunity and supersede subsequent negative serologic testing (MMWR 2013;62(4):8)

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mmr.html
- Standing Orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/MMR

Meningococcal (A, C, W, Y) Vaccine

Vaccine Description	• Brands: Menveo® (MenACWY-CRM) and MenQuadfi® (MenACWY-TT) • Inactivated, bacterial polysaccharide conjugate • See package insert
Dose & Route	• Dose: 0.5 mL • Route: IM (Menveo® and MenQuadfi®) - (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy) • See package insert
Indications	• U.S. military basic trainees • Deploying personnel per CCMD guidance • Children at the 11-12 year of age visit or at subsequent visit • People who might be infected during an outbreak of certain types of meningococcal disease • Anyone traveling to, or living in, a part of the world where meningococcal disease is common, such as sub-Saharan Africa • Anyone who has a non-functioning spleen or whose spleen has been removed (asplenia) • Anyone who has terminal complement component deficiency (an immune system disorder) • Persons receiving a complement inhibitor (e.g., eculizumab; [Soliris]) • People at occupational risk • College freshmen, especially those who live in dormitories • People with HIV infection
Administration Schedule	• Single dose for most adults • Two doses, 2 months apart, for adults at high risk; e.g., HIV infection, asplenia, complement component deficiency • Menveo®: Single dose vial is licensed for 10-55 years, 2 vial presentation is licensed for 2mo-55 years. • MenQuadfi® is licensed for 2 years and older • Individuals 56 years or older who are recommended meningococcal vaccination can receive either meningococcal conjugate vaccine (ACIP)
Booster (Menveo® and MenQuadFi®)	• Menveo® and MenQuadfi®: • A booster dose is recommended for people 19 through 21 years of age who are at risk (above) or first-year college students living in residence halls or a military recruit, if previous dose given before 16 years of age • People with persistent risk need booster every 5 years for as long as risk is present (this includes those with risk due to travel, persistent complement component deficiency, or functional or anatomic asplenia)

Continued on Next Page

Meningococcal (A, C, W, Y) Vaccine
(Continued)

Contraindications	• Serious allergic reaction to prior dose or vaccine component • Moderate or severe illness (temporary waiver) • Menveo: severe allergic reaction to any diphtheria toxoid or CRM_{197} containing vaccine. • MenQuadfi: severe allergic reaction to a tetanus toxoid-containing vaccine
Special Considerations	• Menveo® and MenQuadfi® have not been widely studied in pregnant or lactating women and should be given only if clearly indicated. • Persons aged ≥56 years who are recommended meningococcal vaccination because they are at increased risk for meningococcal disease can receive either MenACWY conjugate vaccine. This includes: ◦ Meningococcal vaccine-naïve persons ≥56 years who require only a single dose of vaccine (e.g. travelers and persons at risk as a result of a community outbreak) ◦ Persons who are recommended for revaccination or for whom multiple doses are anticipated (e.g., persons with asplenia, HIV, and microbiologists) • **Penbraya® (MenACWY-TT/MenB-FHbp) is licensed as a 2-dose series given 6 months apart, for individuals aged 10-25 years. Pfizer's Penbraya® vaccine may be used when both MenACWY and MenB are indicated at the same visit for: ◦ Healthy individuals age 16 through 23 years (routine schedule) when shared clinical decision-making (SCDM) favors administration of MenB vaccination (requires order from privileged provider). ◦ Individuals age 10 years and older at increased risk of meningococcal disease (e.g., due to persistent complement deficiencies, complement inhibitor use, or functional or anatomic asplenia) due for both vaccines ◦ The MenB component of Penbraya® is the MenB vaccine Trumenba®. As Trumenba® and Bexsero® are not interchangeable, a primary series and any future MenB booster doses must be of the same brand. • See Storage and Handling Section

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening.html
- Standing Orders: www.health.mil/standingorders
- Pregnancy registry for Menactra®: 1-800-822-2463 (Sanofi Pasteur); Pregnancy registry for Menveo®: 1-877-311-8972 (Novartis); also notify DHA- IHD
- Additional education may be found at www.health.mil/meningococcal

Meningococcal B Vaccine

Vaccine Description	• Brands: Bexsero® (MenB-4C), Trumenba® (MenB-FHbp) • Inactivated (recombinant) vaccine ◦ MenB-4C contains 3 recombinant cell surface proteins ◦ MenB-FHbp contains 2 FHbp variants • Bexsero®: Tip cap contains natural rubber latex • See package insert
Dose & Route	• Dose: 0.5 mL • Route: IM in deltoid region of upper arm. (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy) • See package insert
Indications	• MenB vaccine routinely recommended for people 10 years of age and older at increased risk due to: ◦ a serogroup B meningococcal disease outbreak, ◦ being routinely exposed to Neisseria meningitidis occupationally, or ◦ certain medical conditions such as: ▪ a non-functioning, absent, or removed spleen (asplenia) ▪ a complement (immune) component deficiency (e.g., C5-C9, properdin, factor H, factor D) ▪ Receiving a complement inhibitor (i.e., Solaris) • Although safety and efficacy of MenB vaccine is not established in adults ≥26 years of age, ACIP recommends routine vaccination in adults ≥26 years of age with the above risk factors. • MenB vaccines may be prescribed ***based on shared decision making*** for healthy first-year college students living in residence halls, military recruits, or other adolescents (preferably at 16 through 18 years of age). • MenB vaccine is not recommended for persons who travel to or reside in countries where meningococcal disease is hyperendemic or epidemic (because the risk for meningococcal disease in these countries generally is not caused by serogroup B). • Before administering MenB vaccines, providers should consult the package insert for precautions, warnings, and contraindications.
Administration Schedule	• Trumenba® (MenB-FHbp) and Bexsero® (MenB-4C) are licensed as both a 2-dose (at 0 and 6 months) and 3-dose (at 0, 1-2, and 6 months) series. • For persons at increased risk for meningococcal disease (see indications): administer 3 doses of either Bexsero® or Trumenba® at 0, 1-2, and 6 months. • For healthy adolescents not at increased risk: administer 2 doses of either Bexsero® or Trumenba® at 0 and 6 months. • **The 3-dose series (0,1-2,6 months) may be used to optimize rapid protection for individuals who initiate the vaccine series less than 6 months prior to increased risk (e.g., students with less than 6 months before college entry). • Bexsero® and Trumenba® are NOT interchangeable. • May be given with other age-appropriate vaccines but at a different anatomic site if feasible.

Continued on Next Page

Meningococcal B Vaccine
(Continued)

Booster	• Booster doses for previously vaccinated persons is not routinely recommended unless person becomes or remains at increased risk. A booster dose 1 year after primary series and every 2-3 years can be considered. • An order by a privileged provider is required.
Contraindications	• Severe allergic reaction to a previous dose of Bexsero® or Trumenba® or any component of the vaccines.
Special Considerations	• Defer administration of MenB vaccine during pregnancy or lactation, unless the woman is at increased risk for disease and benefits of vaccination outweigh potential risks. • If the second dose is administered earlier than 6 months after the first dose, a third dose should be administered at least 4 months after the second dose. • Immediately prior to administration of either vaccine, shake single-dose prefilled syringe well to obtain a homogeneous suspension. • Either MenB vaccine may be administered to immunosuppressed individuals; however, immune response may be reduced. • Storage and Handling: ◦ Bexsero®: 2–8°C; protect from light. Do not freeze; if freezing occurs, discard vaccine. ◦ Trumenba®: 2–8°C. Store syringes horizontally (lying flat) to minimize redispersion time. Do not freeze; if freezing occurs, discard vaccine • **Penbraya® (MenABCWY) is licensed as a 2-dose series given 6 months apart, for individuals aged 10-25 years. Pfizer's MenABCWY vaccine may be used when both MenACWY and MenB are indicated at the same visit. • The MenB component of Penbraya® is the MenB vaccine Trumenba®. As Trumenba® and Bexsero® are not interchangeable, a primary series and any future MenB booster doses must be of the same brand.
• VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening-serogroup.html • Standing Orders: www.health.mil/standingorders • Pregnancy registry for Bexsero at 877-413-4759; also notify DHA- IHD • Additional education may be found at www.health.mil/meningococcal	

Pneumococcal Conjugate Vaccines

Vaccine Description	• **Brand: VAXNEUVANCE™ (PCV15)** • **Brand: Prevnar 20™ (PCV20)** • Inactivated protein-conjugated vaccines • Contain diphtheria protein and aluminum phosphate • See package inserts for more information and full lists of vaccine components
Dose & Route	• Dose: 0.5 mL • Route: IM
Indications	• Persons ≥ 65 years of age • Persons 19-64 years of age with no or unknown PCV receipt and certain risk factors: • Alcoholism or cigarette smoking • Cerebrospinal fluid (CSF) leak • Chronic heart disease (e.g., heart failure and cardiomyopathies) • Chronic liver disease (e.g., cirrhosis) • Chronic lung disease (e.g., COPD, emphysema, and asthma) • Cochlear implant • Diabetes mellitus • Immunocompromising conditions (e.g., chronic renal failure; congenital or acquired asplenia; congenital or acquired immunodeficiencies [e.g., HIV, B or T-lymphocyte deficiency, complement deficiencies, and phagocytic disorders, excluding chronic granulomatous disease]; generalized malignancy; Hodgkin disease; iatrogenic immunosuppression [e.g., treatment with immunosuppressive drugs, including long-term systemic corticosteroids and radiation therapy]; leukemia; lymphoma; multiple myeloma; nephrotic syndrome; sickle cell disease or other hemoglobinopathies; and solid organ transplant)
Administration Schedule	• **VAXNEUVANCE™ (PCV15)** • One time dose, may be followed by a dose of PPSV23 • **Prevnar 20™ (PCV20)** • One time dose; when PCV20 is used, no subsequent PPSV23 is recommended • **See Pneumococcal Vaccine Schedule tables on the following pages for specific dosing and intervals.**

Continued on Next Page

Pneumococcal Conjugate Vaccines
(Continued)

Contraindications	• Serious reaction (e.g., anaphylaxis) after a previous dose of pneumococcal vaccine, to any vaccine containing diphtheria toxoid, or to a vaccine component (including yeast)
Precautions	• Moderate or severe acute illness with or without fever.
Special Considerations	• Pregnancy: provider may consider giving if increased risk for infection or poor outcome from infection. • For individuals with anatomic or functional asplenia and/or HIV: PCV vaccines and Menactra (MenACYW-D) should not be given concomitantly. Administer Menactra ≥ 4 weeks after completion of all PCV doses.

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/pcv.html
- MMWR: https://www.cdc.gov/mmwr/volumes/72/rr/rr7203a1.htm
- Standing Orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/pneumococcal

Pneumococcal Polysaccharide Vaccine

Vaccine Description	• **Brand: PNEUMOVAX 23® (PPSV23)** • Inactivated bacterial polysaccharide vaccine • Contains phenol • See package insert for more information and a full list of vaccine components
Dose & Route	• Dose: 0.5 mL • Route: IM or SC
Indications	• Persons ≥ 65 years of age • Persons 19-64 years of age with certain risk factors (see Pneumococcal Conjugate Vaccines – Adult above) who previously received PCV13 or PCV15. • Not indicated for individuals who previously received PCV20.
Administration Schedule	• One or two doses after receipt of PCV13 or PCV15 • When PCV20 is used, no subsequent PPSV23 is recommended. • See Pneumococcal Vaccine Schedule tables on the following pages for specific dosing and intervals.
Contraindications	• Serious reaction (e.g., anaphylaxis) after a previous dose of pneumococcal vaccine or to a vaccine component.
Precautions	• Moderate or severe acute illness with or without fever. • Persons with severely compromised cardiovascular or pulmonary function in whom a systemic reaction would pose a significant risk.
Special Considerations	• Pregnancy: provider may consider giving if increased risk for infection or poor outcomes from infection.
• VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/ppv.html • MMWR: https://www.cdc.gov/mmwr/volumes/72/rr/rr7203a1.htm • Standing Orders: www.health.mil/standingorders • Additional information: www.health.mil/pneumococcal	

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Pneumococcal Vaccine Schedule (Adult)
Age ≥ 65 years

Do not give pneumococcal conjugate (PCV) and pneumococcal polysaccharide (PPSV) vaccine at the same visit.

Vaccine received previously (any age)	Any or no underlying condition	No immunocompromising condition, CSF leak, or cochlear implant*	Immunocompromising condition, CSF leak, or cochlear implant*
	Option A: PCV20 available	Option B: PCV15 and PPSV23 available	Option B: PCV15 and PPSV23 available
None/unknown or PCV7 only	PCV20	PCV 15 → ≥ 1 year → PPSV 23	PCV 15 → ≥ 8 wks → PPSV 23
PPSV23 only	≥ 1 year → PCV20	≥ 1 year → PCV15	
PCV13 only	≥ 1 year → PCV20	≥ 1 year → PPSV23	≥ 8wks → PPSV23
Both PCV13 and PPSV23 (in any order) but no dose of PPSV23 at age ≥ 65 years	≥ 5 years since last PCV13 or PPSV23 → PCV 20	≥ 1 year since PCV13 & ≥ 5 years since PPSV23 → PPSV 23	≥ 8 wks since PCV13 & ≥ 5 years since PPSV23 → PPSV 23
Both PCV13 and PPSV23 (in any order) and the PPSV23 was at age ≥ 65 years	Using shared clinical decision making: ≥ 5 years since last PCV13 or PPSV23 → PCV20	Not Recommended	

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Pneumococcal Vaccine Schedule (Adult) **Age 19 – 64 years with risk factors**	**Do not give pneumococcal conjugate (PCV) and pneumococcal polysaccharide (PPSV) vaccine at the same visit.**	
Vaccine received previously (any age)	**Option A:** **PCV20 available**	**Option B:** **PCV15 and PPSV23 available**
Chronic medical condition*		
None/unknown or PCV7 only	PCV20	PCV 15 → ≥ 1 year → PPSV 23
PPSV23 only	≥ 1 year since PPSV23 → PCV20	≥ 1 year since PPSV23 → PCV15
PCV13 only	≥ 1 year since PCV13 → PCV20	≥ 1 year since PCV13 → PPSV23
PCV13 and PPSV23	Not recommended: review recommendations again at 65 years of age	
CSF leak or cochlear implant		
None/unknown or PCV7 only	PCV20	PCV 15 → ≥ 8 wks → PPSV 23
PPSV23 only	≥ 1 year since PPSV23 → PCV20	≥ 1 year since PPSV23 → PCV15
PCV13 only	≥ 1 year since PCV13 → PCV20	≥ 8 wks since PCV13 → PPSV23 (Review recommendations again at 65 years of age)
PCV13 and 1 dose PPSV23	≥ 5 years since last dose → PCV20	Not recommended: review recommendations again at 65 years of age
Immunocompromising condition*		
None/unknown or PCV7 only	PCV20	PCV 15 → ≥ 8 wks → PPSV 23
PPSV23 only	≥ 1 year since PPSV23 → PCV20	≥ 1 year since PPSV23 → PCV15
PCV13 only	≥ 1 year since PCV13 → PCV20	≥ 8 wks since PCV13 → PPSV23 → ≥ 5 years → PPSV23
PCV13 and 1 dose PPSV23 (in any order)	≥ 5 years since last dose → PCV20	≥ 8 wks since PCV13 & ≥ 5 years since PPSV23 → PPSV23 (Review recommendations again at 65 years of age)
PCV13 and 2 doses PPSV23 (in any order)	≥ 5 years since last dose → PCV20	Not recommended: review recommendations again at 65 years of age

Poliovirus Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Inactivated polio vaccine (IPV)
• Contains neomycin, streptomycin, polymyxin B, and calf serum proteins</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL
• Route: SC or IM (Use IM precautions for persons with bleeding disorders or receiving anticoagulation therapy)
• See package insert</td></tr>
<tr><td>Indications</td><td colspan="2">• All military personnel
• Revaccination of U.S. residents older than 18 years of age not routinely recommended
• Consider vaccination of some adults at increased risk of exposure to poliovirus:
◦ selected laboratory workers
◦ selected healthcare workers
◦ travelers to endemic areas
• Previously vaccinated adults can receive one booster dose if traveling to polio-endemic areas</td></tr>
<tr><td rowspan="4">Administration Schedule*

*Only for previously unvaccinated persons

Note: Doses should be separated by a minimum of 1 month</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>#1</td><td></td></tr>
<tr><td>#2</td><td>1 to 2 months after dose #1</td></tr>
<tr><td>#3</td><td>6 to 12 months after dose #2</td></tr>
<tr><td>Booster
(If needed based on risk)</td><td colspan="2">• Previously completed series: administer one IPV dose
• Incomplete series: administer remaining required IPV doses. Do not restart series</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to prior dose or vaccine component (IPV)</td></tr>
<tr><td>Precautions</td><td colspan="2">• Moderate or severe acute illness</td></tr>
<tr><td>Special Considerations</td><td colspan="2">• Vaccine-associated paralytic poliomyelitis (VAPP) associated with Oral Polio Vaccine (OPV), so OPV no longer used in U.S.
• See Storage and Handling Section
NOTE: Recently the CDC and WHO issued interim guidance for polio vaccination for travel to and from countries affected by wild poliovirus and includes exit requirements for proof of polio vaccination when leaving the country at borders and airports. Check CDC or other travel medicine websites, or check with local travel clinic for guidance.</td></tr>
<tr><td colspan="3">• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/ipv.html
• Standing Orders: www.health.mil/standingorders
• Additional education may be found at www.health.mil/polio</td></tr>
</table>

Rabies Vaccine

Vaccine Description	• **Brand: Imovax®** ◦ Inactivated human diploid cell vaccine (HDCV) ◦ Contains human albumin, neomycin, phenol, and trace amounts of beta-propiolactone ◦ (See package insert for full ingredients) • **Brand: RabAvert®** ◦ Inactivated purified chick embryo cell vaccine (PCEC) ◦ Contains bovine gelatin, human albumin, potassium glutamate, sodium EDTA, chicken protein (ovalbumin), neomycin, chlortetracycline, and amphotericin B. ◦ (See package insert for full ingredients)
Dose & Route	• Dose: 1 mL • Route: IM (IM precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)
Indications	All ages with a suspected or confirmed rabies exposure, or who fall into at least one of 5 risk categories: 1. Work with live rabies virus or perform testing for rabies in diagnostic laboratories. 2. Frequent contact with bats or high-density bat environments; perform animal necropsies. 3. At risk to or interact with other potentially rabid animals for > 3 years after PrEP (e.g., veterinarians and vet techs, animal control, wildlife control and biologists, spelunkers, and travelers to areas where rabies is endemic and immediate access to safe PEP is not readily available). 4. Same as category 3 but for ≤ 3 years after PrEP. 5. General U.S. population.
Pre-exposure Prophylaxis (PrEP)	• Primary series: 2 vaccine doses (0, 7 days) • Booster dose and/or titer: based on risk category (see Table 1 or current ACIP recommendations) • PrEP does not eliminate the need for additional medical attention after a rabies exposure, but it simplifies PEP.
Post-exposure Prophylaxis (PEP)	• **Previously received PrEP:** 2 vaccine doses (0, 3 days), no rabies immune globulin (RIG) • **No prior rabies vaccine:** 4 vaccine doses (0, 3, 7, 14 days) and RIG with first dose. If immunocompromised give a 5th vaccine dose on day 28 (see Table 2)

Continued on Next Page

Rabies Vaccine
(Continued)

Contraindications	• **PrEP:** History of a serious reaction (e.g., anaphylaxis) after vaccination or to any vaccine component, to include neomycin. • **PEP:** As rabies is virtually 100% fatal once symptoms appear, there are no contraindications to PEP (including pregnancy). Patients with a history of hypersensitivity who require PEP may be given antihistamines or NSAIDs and vaccinated under observation by an Allergist. Equipment and medications to manage a medical emergency should be readily available. If a local or mild systemic reaction occurs, consider switching to the alternative vaccine for the remainder of the series.
Precautions	• **PrEP:** Moderate or severe acute illness with or without fever • Individuals should postpone PrEP and avoid activities with risk for rabies exposure during any periods of expected immune compromise. • Syncope (fainting) can occur in association with administration of injectable vaccines. Have procedures in place to avoid a falling injury (e.g., observation after administration) and to restore cerebral perfusion following syncope.
Special Considerations	• See Storage and Handling Section

- VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/rabies.html
- Standing Orders: www.health.mil/standingorders
- Additional Information: www.health.mil/rabies
- MMWR: https://www.cdc.gov/mmwr/volumes/71/wr/mm7118a2.htm

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Rabies Vaccine
ACIP Recommendations 2022

Table 1. ACIP Rabies Pre-Exposure Prophylaxis (PrEP) Recommendations

Risk Category	Typical Population	Primary Series (2 doses)	Titer/Booster (1 dose)
1. Elevated risk for unrecognized† or recognized†† exposures, including unusual or high-risk exposures	Work with live rabies virus in research or vaccine production facilities; perform rabies testing in diagnostic laboratories	Vaccine on days 0 and 7	Titer: every 6 months Booster: if titer < 0.5 IU/mL§‖
2. Elevated risk for unrecognized† or recognized†† exposures	Frequently handle or have contact with bats; enter high-density bat environments; perform animal necropsies (e.g., biologists who frequently enter bat roosts or who collect suspected rabies samples)	Vaccine on days 0 and 7	Titer: every 2 years Booster: if titer < 0.5 IU/mL§‖
3. Elevated risk for recognized†† exposures, sustained risk¶	Interact with animals that could be rabid# (e.g., veterinarians, vet techs, animal control officers; wildlife biologists, rehabilitators, and trappers); spelunkers	Vaccine on days 0 and 7	Titer: once, 1–3 years after PrEP and booster if titer < 0.5 IU/mL§‖ OR Booster 3 weeks-3 years after PrEP‖
	Travelers with increased risk for exposure to potentially rabid animals (particularly dogs) who might not have prompt access to safe PEP (e.g., rural area, far from closest PEP clinic)		
4. Elevated risk for recognized†† exposures, risk not sustained¶	Same as Risk Category 3, but risk duration ≤ 3 years (e.g., short-term animal care, no expected high-risk travel > 3 years after PrEP)	Vaccine on days 0 and 7	None
5. Low risk for exposure	Typical person living in the United States	None	None

Adapted from CDC MMWR 71(18), 619-627 (06 May 2022): https://www.cdc.gov/mmwr/volumes/71/wr/mm7118a2.htm.

Abbreviations: IU: international units; PEP: post-exposure prophylaxis

* Nature of exposure is the most important variable to consider when determining risk category. Examples provided are only a guide; categorizations should be done on a case-by-case basis. If an individual falls into more than one category, follow guidance for the highest-risk category. Risk categories may change over an individual's lifetime.

† Example: a small scratch during an inconspicuous personal protective equipment breach while testing neural tissue from a rabid animal or conducting studies on bats in the field, etc.

†† Noticed because the exposure is unusual (e.g., contact with a bat, splash with contaminated fluids) or painful (e.g., bite or scratch from a raccoon).

§ Give a booster when rabies antibody titers are < 0.5 IU/mL. For immunocompetent patients, titers to verify booster response are not needed. For immunocompromised patients, verify response with a titer ≥ 1 week (ideally, 2–4 weeks) after every booster dose.

¶ Elevated risk for rabies > 3 years after the completion of the primary rabies PrEP series.

Rabies virus is unlikely to persist outside a deceased animal's body for an extended time. Risk of transmission to persons handling animal products (e.g., hunters or taxidermists) is unknown but presumed to be low (risk category 5); direct skin contact with saliva or nerve tissue of mammals should be avoided regardless of profession or activity.

‖ Titer after recommended booster dose(s) not indicated unless patient has altered immunity.

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Table 2. Rabies Post-Exposure Prophylaxis (PEP) Recommendations*

Status	Product	Dose	# of Doses	Schedule (Days)	Route
Not previously vaccinated	RIG	20 IU/kg body weight	1	0	Infiltrated at bite site (if possible); remainder IM
	HDCV or PCEC	1.0 mL	4 or 5‡	0, 3, 7, 14 (and 28)‡	IM
Previously vaccinated§, ¶	HDCV or PCEC	1.0 mL	2	0, 3	IM

Adapted from CDC Yellow Book (2024): https://wwwnc.cdc.gov/travel/yellowbook/2024/infections-diseases/rabies.

Abbreviations: RIG: rabies immune globulin; IM: intramuscular; HDCV: human diploid cell vaccine; PCEC: purified chick embryo cell.

* All PEP should begin with immediate, thorough wound cleansing with soap and water, povidone-iodine, or other substances with virucidal activity.

† For most minor schedule deviations (delays of a few days), resume vaccination as though the traveler were on schedule. If substantial deviations occur, assess immune response with a titer 7–14 days after the final dose is administered.

‡ Five vaccine doses for the immunocompromised patient. The first 4 vaccine doses are given on the same schedule as for an immunocompetent patient, and the fifth dose is given on day 28. Verify immune response with a titer ≥ 1 week (ideally, 2–4 weeks) after the final dose is administered. For more information, see www.cdc.gov/mmwr/preview/mmwrhtml/rr5902a1.htm.

§ Prior PrEP or PEP immunization with HDCV or PCEC, or previously received any other type of rabies vaccine and have a subsequent documented protective titer response (> 0.5 IU/mL).

¶ RIG not recommended.

Respiratory Syncytial Virus (RSV) Vaccine

Vaccine Description	• Brands and types
	  ◦ ABRYSVO™: Bivalent, recombinant protein subunit
	  ◦ AREXVY™: Adjuvanted, monovalent, recombinant subunit
	• Neither vaccine contains preservatives or latex but both may have residual host cell proteins
	• See package inserts

Dose & Route	• Dose: 0.5 mL • Route: IM (Use IM precautions for persons with bleeding disorders or receiving anticoagulant therapy) • See package inserts
Indications	• Individuals 60 years and older for the prevention of lower respiratory tract disease caused by RSV, using shared clinical decision making
Administration Schedule	• One dose
Booster	• None
Contraindications	• History of a severe allergic reaction (e.g., anaphylaxis) to any component of ABRYSVO™ or AREXVY™
Precautions	• Vaccination should be delayed for persons experiencing moderate or severe acute illness with or without fever • Appropriate medical treatment and supervision must be available to manage possible anaphylactic reactions following administration • Syncope (fainting) may occur in association with administration of injectable vaccines. Procedures should be in place to avoid injury from fainting. • Vaccines may be less effective in immunocompromised persons, including those receiving immunosuppressive therapy
Special Considerations	• Discard vaccine if not used within 4 hours of reconstitution • See package insert for reconstitution instructions for each vaccine • See Storage and Handling Section
• VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/rsv.html • Standing Orders: www.health.mil/standingorders • Additional information may be found at: www.health.mil/rsv	

Smallpox (Vaccinia) Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brand: ACAM2000™ - 100-dose vial
• Live vaccinia virus
• See package insert for contents</td></tr>
<tr><td rowspan="2">Dose and Route</td><td>Dose</td><td>Route</td></tr>
<tr><td>15 jabs using bifurcated needle
(for primary and re-vaccination)</td><td>Percutaneous (scarification)</td></tr>
<tr><td>Indications</td><td colspan="2">Pre-Event (No Smallpox Disease Outbreak)
• Laboratory workers who handle cultures or animals contaminated or infected with vaccinia or other related viruses (e.g., monkeypox, cowpox, variola)
• Emergency response personnel and healthcare workers involved in potential care of smallpox patients
• Military personnel with operational or other job-related indications
• People at risk of exposure to smallpox virus
• People administering smallpox vaccine
Emergency Use (Smallpox Outbreak)
• Anyone directly exposed to smallpox virus, give one dose as soon as possible after exposure. Most effective within 3 to 5 days of exposure.</td></tr>
<tr><td rowspan="2">Booster Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>15 jabs using bifurcated needle</td><td>• Pre-event: 10 yrs for categories above (except lab workers).
• Lab workers involved in orthopox virus research: 3 yrs.
• Outbreak: 3 yrs.</td></tr>
</table>

Continued on Next Page

Smallpox (Vaccinia) Vaccine
(Continued)

Screening Questionnaire Contraindications Medical Exemptions (Temporary or Permanent) May require consultation with medical specialist • Dermatology • Allergy-Immunology • Neurology • Cardiology • Others relevant to patient's disease	**Pre-Event** • Pregnancy or breast-feeding • Moderate or severe illness, with or without fever • Serious allergic reaction to prior dose or vaccine component – see package insert and refer to allergist for evaluation and exemption status • Atopic dermatitis or eczema, current or history of this problem (refer to dermatologist or allergist-immunologist to determine if exemption is necessary) • Immune system disorder (e.g., HIV, congenital immune deficiency, illness, medications, or chronic infection) • Heart or blood vessel disease such as chest pain, prior heart attack, heart failure, stroke or "mini stroke," history of significant arrhythmia, dyspnea on exertion, or have three of the following: tobacco use, high blood pressure, high cholesterol, diabetes, or significant cardiac family history – see Adverse Event Info • Close contact with person(s) with risk factors for vaccine virus complications (above) UNLESS alternative care and/or lodging arrangements can be made or home situation allows for avoidance of contact risk • Steroid (or any) eye drops or ointment • Recent eye surgery (within 8 weeks) • Child ≤ 1 year old in the home • Active skin condition with breaks in the skin (e.g., acne, severe burn, etc.) • High-dose steroid use for more than two weeks within the last month **Post-Exposure** • There are NO absolute contraindications following post-smallpox exposure
Precautions and Issues Temporary medical exemption may be needed May require consultation and treatment before vaccination	**Pre-Event** • Topical immunosuppressive therapy • Systemic lupus and other connective tissue disease, particularly if on immunosuppressive therapy • Other acute or chronic diseases may require medical consultation • Do not administer with varicella vaccine (as both can cause skin rash thereby confusing diagnosis, treatment, and risk assessment)
Education and Screening	Do NOT administer vaccine without patient receiving education and medical screening for contraindications and/or precautions, including consideration of close contact risk factors. Also caution women to avoid pregnancy for ≥4 weeks after smallpox vaccination. Resources: www.health.mil/smallpoxresourcecenter

Continued on Next Page

Smallpox (Vaccinia) Vaccine
(Continued)

Vaccinator Education & Competency Assessment	• Assure that training and competency assessment has been completed by vaccinator. • Education available at: www.health.mil/smallpoxresourcecenter and Joint Knowledge Online: https://jkodirect.jten.mil/ • Practice vaccine administration technique with saline before actual vaccine administration • Assess vaccination technique by evaluating vaccination take rates among first cohort of vaccinees (e.g., 50 to 100) for each vaccinator. Takes should be greater than 95%.
After Vaccination, Patient-Specific Education Special Precautions Care and Follow-up *Caution: Several reported cases of autoinoculation caused by uncovered site during sleep or contact sports, and spread from uncovered site during bathing with washcloth in contact with site and then other parts of the body.* *Suggest wrapping dressed site with plastic wrap during shower, then replace moist bandage with a dry bandage or allow site to air dry.* *In addition, when not alone maintain cover- ing for at least 30 days (with complete healing of vaccination site) or longer if site still has scab or skin changes*	• Avoid or minimize person-to-person contact with high-risk people who are otherwise medically exempt from smallpox immunization, including: ◦ People with current or a history of atopic dermatitis or eczema ◦ People who are immunocompromised ◦ Pregnant women ◦ Infants • Wash your hands regularly, especially before caring for a child younger than 1 year old. Avoid direct contact between child and vaccination site. • Be aware that virus may be present until site heals and skin returns to normal color, which can take more than 30 days • Do not touch the vaccination site • If you touch the site by accident, wash your hands immediately and then clean soiled clothing or towels/wash cloths • Wash your hands before and after dressing changes • Do not let others (including pets) touch your vaccination site or materials that touched the site Keep site dry. Cover with waterproof bandage or plastic wrap when bathing. Avoid rubbing or using creams/ointment on the site. Launder items that have touched the site with hot soapy water, take care to avoid risk to others from contact with contaminated laundry.
Location of vaccine administration * Follow package insert instructions carefully when reconstituting vaccine	• Usually over the deltoid upper arm; non-dominant arm (left if right handed or vice versa) is preferred to facilitate care of vaccination site. • Place low enough to allow for non-adhesive circumferential bandaging for those with hypersensitivity to standard bandage tape • Although deltoid site preferred (encouraged), please check with a credentialed provider for appropriate alternative sites, if necessary • Avoid locations that are hard to care for or associated with sweating or clothing irritation • Do NOT vaccinate directly on old scar • Avoid tattooed areas if possible

Continued on Next Page

Smallpox (Vaccinia) Vaccine
(Continued)

Patient Preparation Note: With 2-person vaccination teams, this procedure may be performed by assistant who is completing the paper work while vaccinator is performing the procedure	• Ask the patient if they have received the educational materials, have any other questions, or have new information relevant to vaccination • Position patient for comfort during procedure; avoid contact with vial • Unless obviously dirty, skin preparation is not needed. If alcohol is used, the skin must dry completely to prevent inactivating the vaccine virus.
Method for Proper Administration Caution: Vaccine vial should be handled carefully to avoid contamination while opening and handling • Use blue cool pack from refrigerator NOT freezer • Use cooling NOT freezing tray with holder for vial * *Administer vaccination low enough to allow for coban-like wrap if tape reaction occurs at site*	• **Steps for proper administration (WRAMC 2002)** • See storage and handling section for how to reconstitute vaccine; Note: diluent vial contains 0.6 mL of solution, but only 0.3 mL is mixed with the vaccine for reconstitution. • Wear gloves, particularly if you have broken skin on hands (not an absolute requirement) • Position vial securely in a vial holder to avoid accidental tipping or skin contact • Open sterile non-adherent bandage package so that sterile surface of package wrapper and non-adherent bandage are located near vial • Open vial and place stopper on its side on the sterile non-adherent bandage; position to avoid accidental contact (e.g., with sleeve or hand) • Open needle package (or have assistant open) • Submerge bifurcated end of needle in reconstituted vaccine solution. The needle will pick up a droplet of vaccine (0.0025 mL) within the fork of the bifurcation. (Do NOT hold over head to inspect) • Hold patient's upper arm with one hand under the arm pit area for maximum stability and comfort • Position the wrist of the hand holding the needle on the vaccine arm just below the marked area of administration so that the needle tips are perpendicular over skin area to be vaccinated • Rapidly make 15 jabs with the needle perpendicular to the skin to puncture the skin within a diameter of about 5 mm. The jabs should be vigorous enough so that a drop of blood appears at the vaccination site. • Discard needle in biohazard materials container • Inspect vaccination area for evidence of adequate administration technique (see next card) • If indicated, repeat administration steps • Bandage after procedure is completed
Data Recording Patient Specific	• SF 601 Immunization Record • CDC 731 (formally PHS 731) Yellow Immunization Record • DoD Smallpox Vaccination Administration Form • DD Form 2766 • Automated medical registry per Service-specific guidelines/immunization tracking system

Continued on Next Page

Smallpox (Vaccinia) Vaccine
(Continued)

Tips on Vaccinating	• Before bandaging, inspect the vaccination site and make sure there is evidence of skin surface penetration: ◦ Trace blood or clear abrasion/breaks in skin surface ◦ Some evidence of blood under the skin ◦ Frank bleeding (may reflect too forceful technique) Note: If no evidence of skin penetration (e.g., patient felt dull sensation only), repeat procedure with NEW needle and same vaccine dose (15 jabs)
Tips on Bandaging Avoiding autoinoculation and spread to contacts	• Use non-stick, breathable bandages unless injection site has drainage. Vary bandage size to reduce tape irritation. Use latex-free products. Encourage patient to keep site covered with non-stick bandage until scab falls off and skin returns to normal, which may take more than 30 days. Keep site dry. • Patient teaching is critical. Hand out the DHA-IHD brochure, *What You Need to Know About Smallpox Vaccine*. In addition, you must distribute the ACAM2000™ Medication Guide.
Vaccine TAKE Evaluation MAJOR REACTION VS. "NO TAKE" Reading LATER than Day 6-8 *If classic pustule, vesicle, or scab formation, or evidence of clear induration with prior scab site healing, consider a MAJOR REACTION*	• Assess site for major reaction/take 6 to 8 days after vaccination • Repeat vaccination in a primary vaccinee if no pustular lesion or definite palpable induration • Palpate with gloved finger for induration. • In the primary vaccinee, an equivocal reaction is any reaction that is not a major reaction, and indicates a non-take (vaccination failure) due to impotent vaccine or inadequate vaccination technique. • In re-vaccinees, prior vaccination may modify (reduce) the cutaneous response such that the absence of a cutaneous response does not necessarily indicate vaccination failure. Previously vaccinated individuals who do not have a cutaneous response on revaccination do not require revaccination to try to elicit a cutaneous response. • Obtain second opinion in reading if unclear • If "NO TAKE": Repeat vaccination procedure in primary vaccinee only once with 15 jabs • SECOND "NO TAKE": If after a second attempt there is still no evidence of a cutaneous reaction the individual is considered adequately protected against smallpox (immune) for all military-related assignments, including deployment. No further diagnostic evaluation is required.
Additional Notes	Most recent screening forms available: www.health.mil/smallpoxresourcecenter (see 'screening forms')

- For more information: www.health.mil/smallpoxresourcecenter
- Pregnancy registry: 1-619 553-9255, DSN 553-9255, or email: NHRC-BirthRegistry@med.navy.mil. Also notify DHA-IHD.

Tetanus and Diphtheria (Td) Toxoid Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brands: Tenivac®
• Inactivated vaccine
• Td contains thimerosal; the syringe tip caps may contain dry natural latex rubber
• See package insert
• See separate pages for information on Tdap</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL
• Route: IM (Use IM precautions for persons with bleeding disorders or receiving anticoagulation therapy)</td></tr>
<tr><td>Indications</td><td colspan="2">• Td is recommended for all adolescents and adults
• See package insert</td></tr>
<tr><td>Administration Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td rowspan="3">Primary Schedule*

*Only for previously unvaccinated patients 7 years of age and older</td><td>Td #1</td><td></td></tr>
<tr><td>Td #2</td><td>4 weeks after dose #1</td></tr>
<tr><td>Td #3</td><td>6 to 12 months after dose #2</td></tr>
<tr><td>Booster</td><td>Td</td><td>Every 10 years</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to prior dose or vaccine component</td></tr>
<tr><td>Precautions</td><td colspan="2">• Guillain-Barre Syndrome (GBS) <6 weeks after previous dose of tetanus-toxoid–containing vaccine
• History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid-containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid containing vaccine
• Moderate or severe acute illness with or without fever</td></tr>
<tr><td>Special Considerations</td><td colspan="2">• DO NOT restart the series, no matter how long since previous dose
• History of Arthus reaction following a tetanus or diphtheria toxoid-containing vaccine (do not give TT, Td, or Tdap until at least ten years have elapsed since last dose)
• Neurological reaction, including Guillain-Barré syndrome (GBS), within 6 weeks of receiving a tetanus-containing vaccine (provider must weigh benefits and risks)
• See Storage and Handling Section</td></tr>
<tr><td colspan="3">• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/td.html
• Standing orders: www.health.mil/standingorders
• Additional education may be found at www.health.mil/tdap</td></tr>
</table>

Tetanus and Diphtheria Toxoids and Acellular Pertussis (Tdap) Vaccine

Vaccine Description	• Brands: Boostrix® and Adacel® • Inactivated vaccine • The tip caps of the prefilled syringes of Boostrix® and Adacel® may contain natural rubber latex
Dose & Route	• Dose: 0.5 mL • Route: IM (Use IM Precautions for persons with bleeding disorders or receiving anticoagulation therapy)
Indications	• At least one dose of Tdap is recommended for people 10 years of age and older (see special recommendation for pregnant women below) • If the primary series of Td has not been given or completed, Tdap can be used for one of the missing doses, preferably the first dose • ACIP recommendations (off-label): ◦ use Tdap when indicated regardless of interval since last tetanus-containing vaccine ◦ use Tdap in undervaccinated children 7-10 years of age ◦ give a dose of Tdap during each pregnancy irrespective of prior history of Tdap with optimal timing for administration between 27 and 36 weeks gestation • See package insert
Administration Schedule	• Single dose
Contraindications	• Severe allergic reaction (e.g. anaphylaxis) after a previous dose or to a vaccine component • Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures), not attributable to another identifiable cause within 7 days of administration of previous dose of DTP, DTaP or Tdap
Precautions	• Guillain-Barre Syndrome (GBS) <6 weeks after a previous dose of tetanus-toxoid–containing vaccine • Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized • History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid-containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid-containing vaccine • Moderate or severe acute illness with or without fever
Special Considerations	• See Storage and Handling Section

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/tdap.html
- Standing orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/tdap

Tick-Borne Encephalitis (TBE) Vaccine

<table>
<tr><td>Vaccine Description</td><td>• Brand: TICOVAC™
• Inactivated
• Contains human serum albumin
• See package insert</td></tr>
<tr><td>Dose & Route</td><td>• Dose: 0.5 mL
• Route: IM (Use IM precautions for persons with bleeding disorders or receiving anticoagulant therapy)</td></tr>
<tr><td>Indications</td><td>• Individuals 16 years and older to prevent tick-borne encephalitis.
• Recommended for people who are living or traveling overseas to a tick-borne encephalitis (TBE) endemic area and will extensive exposure to ticks based on their planned outdoor activities and itinerary.</td></tr>
<tr><td>Administration Schedule</td><td>• Complete the primary immunization series at least 1 week prior to potential exposure to tick-borne encephalitis virus (TBEV)
<table>
<tr><th>Dose</th><th>Recommended Interval</th></tr>
<tr><td>1</td><td>Day 0</td></tr>
<tr><td>2</td><td>14 days-3 mo after first vaccination</td></tr>
<tr><td>3</td><td>5-12 mo after second vaccination</td></tr>
</table></td></tr>
<tr><td>Booster</td><td>• 4th dose may be given at least 3 years after completion of primary immunization series if ongoing exposure or re-exposure is expected</td></tr>
<tr><td>Contraindications</td><td>• Severe allergic reaction (e.g. anaphylaxis) to any component of TICOVAC™</td></tr>
<tr><td>Precautions</td><td>• Some individuals with altered immunocompetence may have reduced immune response
• Vaccination with TICOVAC™ may not protect all individuals
• There are no adequate and well-controlled studies of TICOVAC™ in pregnant women.
• Clinical studies did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects</td></tr>
<tr><td>Special Considerations</td><td>• Bring vaccine to room temperature before administration. Shake well prior to administration to thoroughly mix the vaccine suspension. After shaking, the vaccine should be a homogenous off-white, opalescent suspension. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit. Do not administer if particulate matter or discoloration remains after shaking</td></tr>
<tr><td colspan="2">• VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/tbe.html
• Standing orders: www.health.mil/standingorders
• Additonal education may be found at www.health.mil/TBE</td></tr>
</table>

Typhoid Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brands and types:
◦ Vivotif®: Oral live-attenuated - Ty21a (≥6 years of age and older); Contains lactose
◦ Typhim Vi® : capsular polysaccharide - ViCPS (≥2 years of age and older); Contains phenol
• See package insert; neither product contains latex</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Ty21a dose: 4 capsules Route: Oral
• ViCPS dose: 0.5 mL Route: IM - (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)
• See package inserts</td></tr>
<tr><td>Indications</td><td colspan="2">• Ty21a: is approved for persons ≥6 years of age
• ViCPS: is approved for persons ≥2 years of age
• Travelers to areas where a recognized risk of exposure to typhoid exists, particularly ones who will have prolonged exposure to potential contaminated food and water
• Persons with intimate exposure (i.e. continued household contact) to a documented typhoid carrier
• Microbiology laboratorians who work frequently with S. typhi
• DoD Policy. Vaccination is required for personnel who will deploy to typhoid-endemic areas and other areas with poor water sanitation. Typhoid immunization is generally required for members of units designated to be ready to deploy outside of the U.S. within 10 days of notification.</td></tr>
<tr><td rowspan="3">Administrative Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>Oral Ty21a: 1 capsule x 4 doses</td><td>1 capsule every 48 hours taken 1 hour before meal. Take only with cool or luke- warm fluids</td></tr>
<tr><td>ViCPS: 1 dose 0.5 mL IM</td><td>Not Applicable</td></tr>
<tr><td rowspan="2">Booster

If repeated or continued exposure to the typhi organism</td><td>Oral Ty21a</td><td>Every 5 years</td></tr>
<tr><td>ViCPS</td><td>Every 2 years</td></tr>
</table>

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Typhoid Vaccine
(Continued)

Contraindications	• Serious allergic reaction to prior dose or vaccine component • Moderate or severe acute illness • Do not administer Ty21a to people with moderate or severe gastrointestinal illness • Do not administer Ty21a to people who are immunocompromised • Do not administer Ty21a to people who have taken antibiotics or sulfonamides during prior 3 days. • Pregnancy: Do not administer Ty21a; refer to provider to determine if ViCPS should be given
Special Considerations	• Avoid oral antibiotics use with Ty21a (may compromise immune response to vaccine bacteria) • Give Ty21a only if 10 days or more have elapsed since the final dose of Proguanil for malaria prophylaxis was ingested. See package insert under "Drug-Interactions". • Caution travelers that typhoid vaccination is not a substitute for careful selection of food and drink • Do NOT restart oral typhoid 4-dose series unless an interval extends greater than 3 weeks (consult a provider) • See Storage and Handling Section
• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/typhoid.html • Standing orders: www.health.mil/standingorders • Additional education may be found at www.health.mil/typhoid	

Varicella Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brand: Varivax®
• Live attenuated virus
• Contains gelatin, neomycin; See package insert</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL Route: SC or IM
• See package insert</td></tr>
<tr><td>Indications</td><td colspan="2">• Vaccinate healthy people who do not have evidence of immunity
• Healthcare workers
• Household contacts of people who are immunocompromised
• May use as post-exposure prophylaxis. Ideally, the vaccine should be given within 3-5 days after exposure. Even if >5 days, still offer vaccine.</td></tr>
<tr><td rowspan="3">Administration Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>#1</td><td></td></tr>
<tr><td>#2</td><td>4 to 8 weeks later</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to prior dose or vaccine component
• Pregnancy, or possibility of pregnancy within one month
• Moderate or severe acute illness
• Immune suppression from disease or therapies
• Blood dyscrasia, leukemia, lymphoma, or other malignant neoplasm affecting the bone marrow or lymphatic system</td></tr>
</table>

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Varicella Vaccine
(Continued)

Special Considerations	• Active, untreated tuberculosis, decision to delay depends on severity of symptoms and etiology of disease • HIV-infected children ≥12 months old with CD4+ T-lymphocyte percentages ≥15% and people >8 years old with CD4+ T-lymphocyte counts ≥200 cells/μL should get vaccinated with varicella vaccine (2 doses at least 3 months apart); should not use ProQuad • Adolescents and adults with CD4+ T-lymphocyte counts of 200 cells/ microliter or more can also receive varicella vaccine (2 doses, at least 3 months apart). • If varicella vaccine and another live vaccine are both needed and not administered on the same day, space them at least 4 weeks apart • Recommended that smallpox vaccine and varicella vaccine not be given at the same time because varicella vaccine can cause lesions that can be confused with smallpox adverse reactions • Manufacturer recommends caution should be 'exercised if administered to a nursing woman; per CDC there is no need to delay postpartum vaccination because of breastfeeding • Manufacturer recommends that salicylates be avoided for 6 weeks after receiving varicella vaccine due to theoretical risk of Reye syndrome. • DO NOT restart series, no matter how long since the 1st dose • Apply Tuberculin skin test (TST or PPD) either before/simultaneously with vaccination or delay at least 1 month after the administration of the live-virus vaccine. • Note: Discard if not used within 30 minutes after reconstitution • See Storage and Handling Section

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/varicella.html
- Standing orders: www.health.mil/standingorders
- Pregnancy monitoring: 1-877-888-4231 (Merck); also notify DHA-IHD
- Additional education may be found at www.health.mil/chickenpox

Yellow Fever Vaccine

Vaccine Description	• Brand: YF-VAX® • Live attenuated virus vaccine • Contains egg protein, sorbitol and gelatin • See package insert for more information and a full list of vaccine components
Dose & Route	• Dose: 0.5 mL • Route: SC
Indications	• Persons ≥ 9 months of age living or traveling in endemic areas (consult CDC website, other travel medical website, or local travel clinic for specific travel vaccine needs) • Laboratory personnel who might be exposed to yellow fever (YF) virus • Deploying personnel per CCMD guidance (typically AFRICOM and SOUTHCOM AORs)
Administration Schedule	• One dose ≥ 10 days prior to exposure or entrance to country requiring YF vaccine receipt
Booster	• A single primary dose of YF vaccine provides long-lasting protection and is adequate for most travelers. • Additional (booster) doses of YF vaccine may be recommended for certain individuals who continue to be at risk (requires a written order from a privileged provider): ◦ Persons who were pregnant when they received their initial dose of YF vaccine ◦ Persons who received a stem cell transplant after YF vaccine receipt (once they are sufficiently immunocompetent) ◦ Persons who were infected with HIV when they received their last dose of YF vaccine ◦ Individuals who received their last YF vaccine dose ≥ 10 years ago and will be in a higher-risk setting based on season, location, activities, or travel duration • Laboratory personnel who routinely handle wild-type YF virus should have titers every 10 years to determine the need for additional doses.

Continued on Next Page

Yellow Fever Vaccine
(Continued)

Contraindications	• Acute hypersensitivity reaction to a previous dose or a vaccine component, including eggs, egg products, chicken proteins, gelatin, or latex • HIV infection (symptomatic) or CD4 T lymphocyte counts < 200/mL • Primary immunodeficiencies or use of immunosuppressive or immunomodulatory therapies • Malignant neoplasms • Thymus disorder associated with abnormal immune cell function • Transplantation (until they are sufficiently immunocompetent)
Precautions	• Moderate or severe acute illness with or without fever • Age ≥ 60 years (increased risk for systemic adverse events) • HIV infection (asymptomatic) and CD4 T lymphocyte counts 200–499/mL • Pregnancy or breastfeeding (may be given only if travel and exposure cannot be avoided; consult provider)
Special Considerations	• YF vaccine should be given at the same time as other live vaccines or separated by ≥ 30 days. • Must be used within one hour of reconstitution (see Storage and Handling section) • Receipt must be documented on a CDC 731 and must contain an official yellow fever uniform stamp. • Pregnancy should be avoided for ≥ 30 days after receipt.
• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/yf.html • Standing orders: www.health.mil/standingorders • Additional education may be found at www.health.mil/yellowfever	

Zoster Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Recombinant Zoster Vaccine(RZV)
• Brand: Shingrix®
• Adjuvanted viral particle vaccine</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL Route: IM
• See package insert</td></tr>
<tr><td>Indications</td><td colspan="2">• People 50 years of age and older (CDC preferred)</td></tr>
<tr><td rowspan="2">Administration Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>Two doses</td><td>Between 2 and 6 months</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to any component of the vaccine or after a previous dose of SHINGRIX.</td></tr>
<tr><td>Special Considerations</td><td colspan="2">• Most people get a sore arm with mild to moderate pain after vaccination and some have redness and swelling where they got the shot. About 1 out of 6 people who get RZV may develop side effects that prevent him/her from doing regular activities. Symptoms typically go away on their own in about 2-3 days.
• Not indicated during pregnancy
• Not studied in children
• Must be used within 6 hours of reconstitution
• Do not freeze component vials
• See Storage and Handling Section</td></tr>
<tr><td colspan="3">• VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/shingles-recombinant.html
• Standing orders: www.health.mil/standingorders
• Pregnancy monitoring: notify DHA-IHD
• Additional education may be found at www.health.mil/shingles</td></tr>
</table>

Pediatric Immunizations

Defense Health Agency
Immunization Healthcare Division
(DHA-IHD)

Based on the Recommendations of the Advisory Committee on Immunization Practices (ACIP), Centers for Disease Control and Prevention (CDC).

Refer to manufacturer's package insert and ACIP guidelines for specific vaccine recommendations and precautions as only absolute contraindications are listed herein. Links to VIS (Vaccine Information Statement) created by CDC are provided where applicable under each vaccine.

Recommended Child and Adolescent Immunization Schedule
for ages 18 years or younger

UNITED STATES
2025

Vaccines and Other Immunizing Agents in the Child and Adolescent Immunization Schedule*

Monoclonal antibody	Abbreviation(s)	Trade name(s)
Respiratory syncytial virus monoclonal antibody (Nirsevimab)	RSV-mAb	Beyfortus
Vaccine	**Abbreviation(s)**	**Trade name(s)**
COVID-19 vaccine	1vCOV-mRNA	Comirnaty/Pfizer-BioNTech COVID-19 Vaccine
		Spikevax/Moderna COVID-19 Vaccine
	1vCOV-aPS	Novavax COVID-19 Vaccine
Dengue vaccine	DEN4CYD	Dengvaxia
Diphtheria, tetanus, and acellular pertussis vaccine	DTaP	Daptacel Infanrix
Haemophilus influenzae type b vaccine	Hib (PRP-T)	ActHIB Hiberix
	Hib (PRP-OMP)	PedvaxHIB
Hepatitis A vaccine	HepA	Havrix Vaqta
Hepatitis B vaccine	HepB	Engerix-B Recombivax HB
Human papillomavirus vaccine	HPV	Gardasil 9
Influenza vaccine (inactivated: egg-based)	IIV3	Multiple
Influenza vaccine (inactivated: cell-culture)	ccIIV3	Flucelvax
Influenza vaccine (live, attenuated)	LAIV3	FluMist
Measles, mumps, and rubella vaccine	MMR	M-M-R II Priorix
Meningococcal serogroups A, C, W, Y vaccine	MenACWY-CRM	Menveo
	MenACWY-TT	MenQuadfi
Meningococcal serogroup B vaccine	MenB-4C	Bexsero
	MenB-FHbp	Trumenba
Meningococcal serogroup A, B, C, W, Y vaccine	MenACWY-TT/ MenB-FHbp	Penbraya
Mpox vaccine	Mpox	Jynneos
Pneumococcal conjugate vaccine	PCV15 PCV20	Vaxneuvance Prevnar 20
Pneumococcal polysaccharide vaccine	PPSV23	Pneumovax 23
Poliovirus vaccine (inactivated)	IPV	Ipol
Respiratory syncytial virus vaccine	RSV	Abrysvo
Rotavirus vaccine	RV1 RV5	Rotarix RotaTeq
Tetanus, diphtheria, and acellular pertussis vaccine	Tdap	Adacel Boostrix
Tetanus and diphtheria vaccine	Td	Tenivac Tdvax
Varicella vaccine	VAR	Varivax
Combination vaccines *(use combination vaccines instead of separate injections when appropriate)*		
DTaP, hepatitis B, and inactivated poliovirus vaccine	DTaP-HepB-IPV	Pediarix
DTaP, inactivated poliovirus, and *Haemophilus influenzae* type b vaccine	DTaP-IPV/Hib	Pentacel
DTaP and inactivated poliovirus vaccine	DTaP-IPV	Kinrix Quadracel
DTaP, inactivated poliovirus, *Haemophilus influenzae* type b, and hepatitis B vaccine	DTaP-IPV-Hib-HepB	Vaxelis
Measles, mumps, rubella, and varicella vaccine	MMRV	ProQuad

*Administer recommended vaccines if immunization history is incomplete or unknown. Do not restart or add doses to vaccine series for extended intervals between doses. When a vaccine is not administered at the recommended age, administer at a subsequent visit. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

11/21/2024

How to use the child and adolescent immunization schedule

1 Determine recommended vaccine by age **(Table 1)**

2 Determine recommended interval for catch-up vaccination **(Table 2)**

3 Assess need for additional recommended vaccines by medical condition or other indication **(Table 3)**

4 Review vaccine types, frequencies, intervals, and considerations for special situations **(Notes)**

5 Review contraindications and precautions for vaccine types **(Appendix)**

6 Review new or updated ACIP guidance **(Addendum)**

Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/acip/index.html) and approved by the Centers for Disease Control and Prevention (www.cdc.gov), American Academy of Pediatrics (www.aap.org), American Academy of Family Physicians (www.aafp.org), American College of Obstetricians and Gynecologists (www.acog.org), American College of Nurse-Midwives (www.midwife.org), American Academy of Physician Associates (www.aapa.org), and National Association of Pediatric Nurse Practitioners (www.napnap.org).

Report

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

Questions or comments

Contact www.cdc.gov/cdc-info 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/hcp/imz-schedules/app.html

Helpful information

- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/acip-recs/hcp/vaccine-specific/index.html
- ACIP Shared Clinical Decision-Making Recommendations: www.cdc.gov/acip/vaccine-recommendations/shared-clinical-decision-making.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/vis/index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases (including case identification and outbreak response): www.cdc.gov/surv-manual/php/

Scan QR code for access to online schedule

U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

CS310020-E

Table 1 Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2025

These recommendations must be read with the notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars.
To determine minimum intervals between doses, see the catch-up schedule (Table 2).

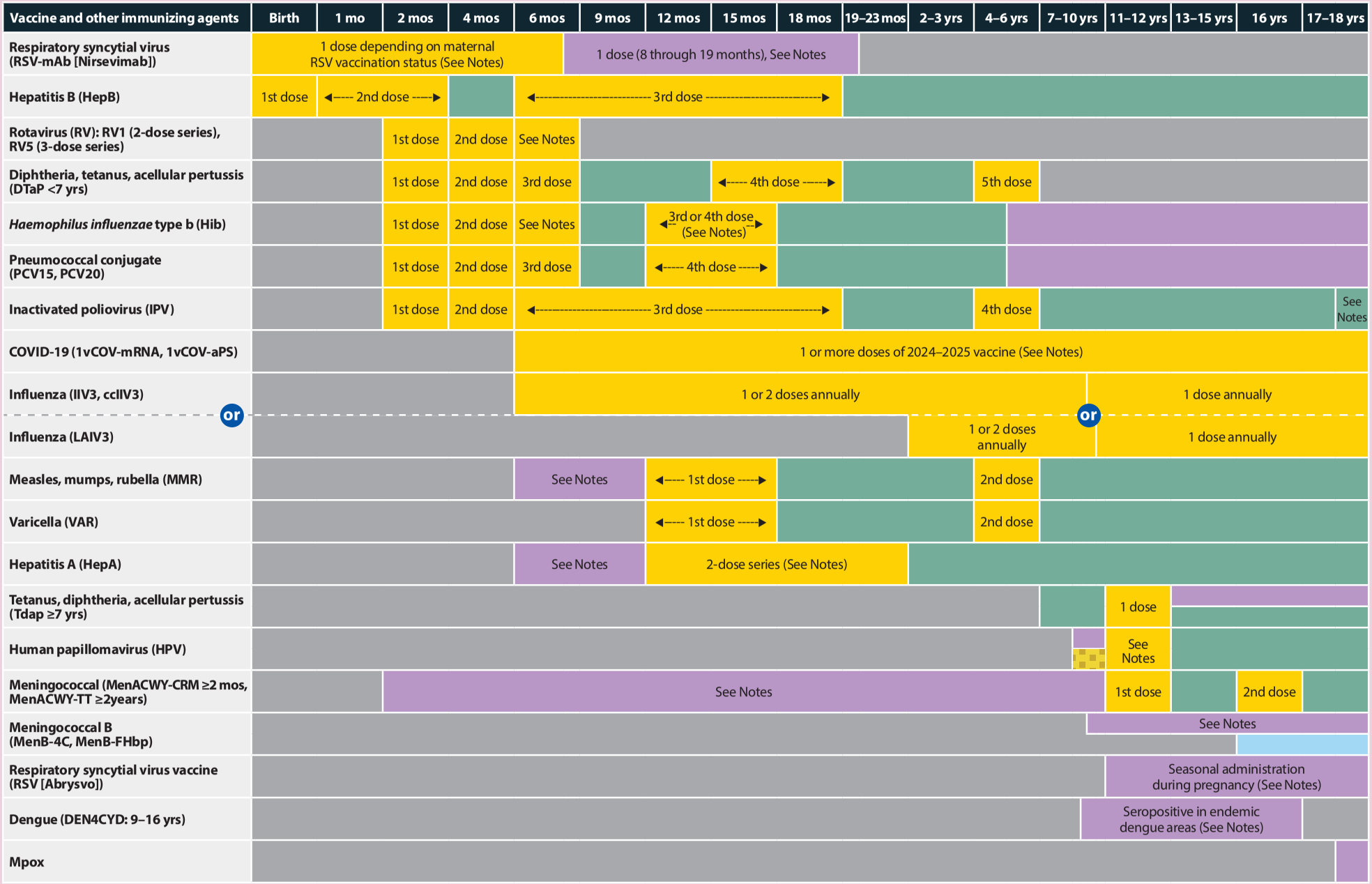

Table 2 Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who Are More than 1 Month Behind, United States, 2025

The table below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. **Always use this table in conjunction with Table 1 and the Notes that follow.**

Children age 4 months through 6 years					
Vaccine	**Minimum Age for Dose 1**	**Minimum Interval Between Doses**			
		Dose 1 to Dose 2	**Dose 2 to Dose 3**	**Dose 3 to Dose 4**	**Dose 4 to Dose 5**
Hepatitis B	Birth	**4 weeks**	**8 weeks *and* at least 16 weeks after first dose** minimum age for the final dose is 24 weeks		
Rotavirus	6 weeks Maximum age for first dose is 14 weeks, 6 days.	**4 weeks**	**4 weeks** maximum age for final dose is 8 months, 0 days		
Diphtheria, tetanus, and acellular pertussis	6 weeks	**4 weeks**	**4 weeks**	**6 months**	**6 months** A fifth dose is not necessary if the fourth dose was administered at age 4 years or older ***and*** at least 6 months after dose 3
Haemophilus influenzae type b	6 weeks	**No further doses needed** if first dose was administered at age 15 months or older. **4 weeks** if first dose was administered before the 1st birthday. **8 weeks (as final dose)** if first dose was administered at age 12 through 14 months.	**No further doses needed** if previous dose was administered at age 15 months or older **4 weeks** if current age is younger than 12 months ***and*** first dose was administered at younger than age 7 months ***and*** at least 1 previous dose was PRP-T (ActHib, Pentacel, Hiberix), Vaxelis or unknown **8 weeks *and* age 12 through 59 months (as final dose)** if current age is younger than 12 months ***and*** first dose was administered at age 7 through 11 months; **OR** if current age is 12 through 59 months ***and*** first dose was administered before the 1st birthday ***and*** second dose was administered at younger than 15 months; **OR** if both doses were PedvaxHIB and were administered before the 1st birthday	**8 weeks (as final dose)** This dose only necessary for children age 12 through 59 months who received 3 doses before the 1st birthday.	
Pneumococcal conjugate	6 weeks	**No further doses needed** for healthy children if first dose was administered at age 24 months or older **4 weeks** if first dose was administered before the 1st birthday **8 weeks (as final dose for healthy children)** if first dose was administered at the 1st birthday or after	**No further doses needed** for healthy children if previous dose was administered at age 24 months or older **4 weeks** if current age is younger than 12 months ***and*** previous dose was administered at <7 months old **8 weeks (as final dose for healthy children)** if previous dose was administered between 7–11 months (wait until at least 12 months old); **OR** if current age is 12 months or older ***and*** at least 1 dose was administered before age 12 months	**8 weeks (as final dose)** This dose is only necessary for children age 12 through 59 months regardless of risk, or age 60 through 71 months with any risk, who received 3 doses before age 12 months.	
Inactivated poliovirus	6 weeks	**4 weeks**	**4 weeks** if current age is <4 years **6 months (as final dose)** if current age is 4 years or older	**6 months (minimum age 4 years for final dose)**	
Measles, mumps, rubella	12 months	**4 weeks**			
Varicella	12 months	**3 months**			
Hepatitis A	12 months	**6 months**			
Meningococcal ACWY	2 months MenACWY-CRM 2 years MenACWY-TT	**8 weeks**	See Notes	See Notes	
Children and adolescents age 7 through 18 years					
Meningococcal ACWY	Not applicable (N/A)	**8 weeks**			
Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis	7 years	**4 weeks**	**4 weeks** if first dose of DTaP/DT was administered before the 1st birthday **6 months (as final dose)** if first dose of DTaP/DT or Tdap/Td was administered at or after the 1st birthday	**6 months** if first dose of DTaP/DT was administered before the 1st birthday	
Human papillomavirus	9 years	**Routine dosing intervals are recommended.**			
Hepatitis A	N/A	**6 months**			
Hepatitis B	N/A	**4 weeks**	**8 weeks *and* at least 16 weeks after first dose**		
Inactivated poliovirus	N/A	**4 weeks**	**6 months** A fourth dose is not necessary if the third dose was administered at age 4 years or older ***and*** at least 6 months after the previous dose.	A fourth dose of IPV is indicated if all previous doses were administered at <4 years **OR** if the third dose was administered <6 months after the second dose.	
Measles, mumps, rubella	N/A	**4 weeks**			
Varicella	N/A	**3 months** if younger than age 13 years. **4 weeks** if age 13 years or older			
Dengue	9 years	**6 months**	6 months		

Table 3 Recommended Child and Adolescent Immunization Schedule by Medical Indication, United States, 2025

Always use this table in conjunction with Table 1 and the Notes that follow. Medical conditions are often not mutually exclusive. If multiple conditions are present, refer to guidance in all relevant columns. See Notes for medical conditions not listed.

Vaccine and other immunizing agents	Pregnancy	Immunocompromised (excluding HIV infection)	HIV infection CD4 percentage and count[a]		CSF leak or cochlear implant	Asplenia or persistent complement component deficiencies	Heart disease or chronic lung disease	Kidney failure, End-stage renal disease or on dialysis	Chronic liver disease	Diabetes
			<15% or <200mm	≥15% and ≥200mm						
RSV-mAb (nirsevimab)		2nd RSV season		1 dose depending on maternal RSV vaccination status (See Notes)			2nd RSV season for chronic lung disease (See Notes)	1 dose depending on maternal RSV vaccination status (See Notes)		
Hepatitis B										
Rotavirus		SCID[b]								
DTaP/Tdap	DTaP Tdap: 1 dose each pregnancy									
Hib		HSCT: 3 doses		See Notes		See Notes				
Pneumococcal										
IPV										
COVID-19		See Notes								
Influenza inactivated		Solid organ transplant: 18yrs (See Notes)								
LAIV3							Asthma, wheezing: 2–4 years[c]			
MMR	*									
VAR	*									
Hepatitis A										
HPV	*	3-dose series (See Notes)								
MenACWY										
MenB										
RSV (Abrysvo)	Seasonal administration (See Notes)									
Dengue										
Mpox	See Notes									

Recommended for all age-eligible children who lack documentation of a complete vaccination series

Not recommended for all children, but recommended for some children based on increased risk for or severe outcomes from disease

Recommended for all age-eligible children, and additional doses may be necessary based on medical condition or other indications. See Notes.

Precaution: Might be indicated if benefit of protection outweighs risk of adverse reaction

Contraindicated or not recommended
*Vaccinate after pregnancy, if indicated

No Guidance/ Not Applicable

a. For additional information regarding HIV laboratory parameters and use of live vaccines, see the General Best Practice Guidelines for Immunization, "Altered Immunocompetence," at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/immunocompetence.html and Table 4-1 (footnote J) at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html.

b. Severe Combined Immunodeficiency

c. LAIV3 contraindicated for children 2–4 years of age with asthma or wheezing during the preceding 12 months

Notes

Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2025

For vaccination recommendations for persons ages 19 years or older, see the Recommended Adult Immunization Schedule, 2025.

Additional information

- For calculating intervals between doses, 4 weeks = 28 days. Intervals of ≥4 months are determined by calendar months.
- Within a number range (e.g., 12–18), a dash (–) should be read as "through."
- Vaccine doses administered ≤4 days before the minimum age or interval are considered valid. Doses of any vaccine administered ≥5 days earlier than the minimum age or minimum interval should not be counted as valid and should be repeated as age appropriate. **The repeat dose should be spaced after the invalid dose by the recommended minimum interval.** For further details, see Table 3-2, Recommended and minimum ages and intervals between vaccine doses, in *General Best Practice Guidelines for Immunization* at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html.
- Information on travel vaccination requirements and recommendations is available at www.cdc.gov/travel/.
- For vaccination of persons with immunodeficiencies, see Table 8-1, Vaccination of persons with primary and secondary immunodeficiencies, in *General Best Practice Guidelines for Immunization* at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/immunocompetence.html, and Immunization in Special Clinical Circumstances (In: Kimberlin DW, Barnett ED, Lynfield Ruth, Sawyer MH, eds. *Red Book: 2021–2024 Report of the Committee on Infectious Diseases*. 32nd ed. Itasca, IL: American Academy of Pediatrics; 2021:72–86).
- For information about vaccination in the setting of a vaccine-preventable disease outbreak, contact your state or local health department.
- The National Vaccine Injury Compensation Program (VICP) is a no-fault alternative to the traditional legal system for resolving vaccine injury claims. All vaccines included in the child and adolescent vaccine schedule are covered by VICP except dengue, PPSV23, RSV, Mpox and COVID-19 vaccines. Mpox and COVID-19 vaccines are covered by the Countermeasures Injury Compensation Program (CICP). For more information, see www.hrsa.gov/vaccinecompensation or www.hrsa.gov/cicp.

COVID-19 vaccination

(minimum age: 6 months [Moderna and Pfizer-BioNTech COVID-19 vaccines], 12 years [Novavax COVID-19 Vaccine])

Routine vaccination

Age 6 months–4 years

All vaccine doses should be from the same manufacturer.

- **Unvaccinated:**
  - 2 doses 2024–25 Moderna at 0, 4–8 weeks
  - 3 doses 2024–25 Pfizer-BioNTech at 0, 3–8, and at least 8 weeks after dose 2
- **Incomplete initial vaccination series before 2024–25 vaccine with:**
  - **1 dose Moderna:** complete initial series with 1 dose 2024–25 Moderna 4–8 weeks after most recent dose
  - **1 dose Pfizer-BioNTech:** complete initial series with 2 doses 2024–25 Pfizer-BioNTech 8 weeks apart (administer dose 1 3–8 weeks after most recent dose).
  - **2 doses Pfizer-BioNTech:** complete initial series with 1 dose 2024–25 Pfizer-BioNTech at least 8 weeks after the most recent dose.
- **Completed initial vaccination series before 2024–25 vaccine with:**
  - **2 or more doses Moderna:** 1 dose 2024–25 Moderna at least 8 weeks after the most recent dose.
  - **3 or more doses Pfizer-BioNTech:** 1 dose 2024–25 Pfizer-BioNTech at least 8 weeks after the most recent dose.

Age 5–11 years

- **Unvaccinated:** 1 dose 2024–25 Moderna or Pfizer-BioNTech
- **Previously vaccinated before 2024–25 vaccine with 1 or more doses Moderna or Pfizer-BioNTech:** 1 dose 2024–25 Moderna or Pfizer-BioNTech at least 8 weeks after the most recent dose.

Age 12–18 years

- **Unvaccinated:**
  - 1 dose 2024–25 Moderna or Pfizer-BioNTech
  - 2 doses 2024–25 Novavax at 0, 3–8 weeks
- **Previously vaccinated before 2024–25 vaccine with:**
  - **1 or more doses Moderna or Pfizer-BioNTech:** 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech at least 8 weeks after the most recent dose.
  - **1 dose Novavax:** 1 dose 2024–25 Novavax 3–8 weeks after most recent dose. If more than 8 weeks after most recent dose, administer 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech.
  - **2 or more doses Novavax:** 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech at least 8 weeks after the most recent dose.

Special situation

Persons who are moderately or severely immunocompromised.

Age 6 months–4 years

Use vaccine from the same manufacturer for all doses ***(initial vaccination series and additional doses*)****.*

- **Unvaccinated:**
  - 4 doses (**3-dose initial series 2024–25 Moderna** at 0, 4 weeks, and at least 4 weeks after dose 2, followed by 1 dose 2024–25 Moderna 6 months later [minimum interval 2 months]).May administer additional doses.*
  - 4 doses (**3-dose initial series 2024–25 Pfizer-BioNTech** at 0, 3 weeks, and at least 8 weeks after dose 2, followed by 1 dose 2024–25 Pfizer-BioNTech 6 months later [minimum interval 2 months]). May administer additional doses.*
- **Incomplete initial 3-dose vaccination series before 2024–25 vaccine:**
  - **Previous vaccination with Moderna**
    - **1 dose Moderna:** complete initial series with 2 doses 2024–25 Moderna at least 4 weeks apart (administer dose 1 4 weeks after most recent dose), followed by 1 dose 2024–25 Moderna 6 months later (minimum interval 2 months). May administer additional doses of Moderna.*
    - **2 doses Moderna:** complete initial series with 1 dose 2024–25 Moderna at least 4 weeks after most recent dose, followed by 1 dose 2024–25 Moderna 6 months later (minimum interval 2 months). May administer additional doses of Moderna.*
  - **Previous vaccination with Pfizer-BioNTech**
    - **1 dose Pfizer-BioNTech:** complete initial series with 2 doses 2024–25 Pfizer-BioNTech at least 8 weeks apart (administer dose 1 3 weeks after most recent dose), followed by 1 dose 2024–25 Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Pfizer-BioNTech.*
    - **2 doses Pfizer-BioNTech:** complete initial series with 1 dose 2024–25 Pfizer-BioNTech at least 8 weeks after most recent dose, followed by 1 dose 2024–25 Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Pfizer-BioNTech.*

COVID-19 vaccination - *continued*

- **Completed initial 3-dose vaccination series before 2024–25 vaccine with:**
  - **3 or more doses Moderna:** 2 doses 2024–25 Moderna 6 months apart (minimum interval 2 months). Administer dose 1 at least 8 weeks after the most recent dose. May administer additional doses of Moderna.*
  - **3 or more doses Pfizer-BioNTech:** 2 doses 2024–25 Pfizer-BioNTech 6 months apart (minimum interval 2 months). Administer dose 1 at least 8 weeks after the most recent dose. May administer additional doses of Pfizer-BioNTech.*

Age 5–11 years

Use vaccine from the same manufacturer for all doses in the initial vaccination series.

- **Unvaccinated:**
  - 4 doses (**3-dose initial series 2024–25 Moderna** at 0, 4 weeks, and at least 4 weeks after dose 2, followed by 1 dose 2024–25 Moderna or Pfizer-BioNTech 6 months later [minimum interval 2 months]). May administer additional doses.*
  - 4 doses (**3-dose initial series 2024–25 Pfizer-BioNTech** at 0, 3 weeks, and at least 4 weeks after dose 2, followed by 1 dose 2024–25 Moderna or Pfizer-BioNTech 6 months later [minimum interval 2 months]). May administer additional doses.*
- **Incomplete initial 3-dose vaccination series before 2024–25 vaccine:**
  - **Previous vaccination with Moderna**
    - **1 dose Moderna:** complete initial series with 2 doses 2024–25 Moderna at least 4 weeks apart (administer dose 1 4 weeks after most recent dose), followed by 1 dose 2024–25 Moderna or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Moderna or Pfizer-BioNTech.*
    - **2 doses Moderna:** complete initial series with 1 dose 2024–25 Moderna at least 4 weeks after most recent dose, followed by 1 dose 2024–25 Moderna or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Moderna or Pfizer-BioNTech.*
  - **Previous vaccination with Pfizer-BioNTech**
    - **1 dose Pfizer-BioNTech:** complete initial series with 2 doses 2024–25 Pfizer-BioNTech at least 4 weeks apart (administer dose 1 3 weeks after most recent dose), followed by 1 dose 2024–25 Moderna or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Moderna or Pfizer-BioNTech.*
    - **2 doses Pfizer-BioNTech:** complete initial series with 1 dose 2024–25 Pfizer-BioNTech at least 4 weeks after most recent dose, followed by 1 dose 2024–25 Moderna or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Moderna or Pfizer-BioNTech.*
- **Completed initial 3-dose vaccination series before 2024–25 vaccine with:**
  - **3 or more doses Moderna or 3 or more doses Pfizer-BioNTech:** 2 doses 2024–25 Moderna or Pfizer-BioNTech 6 months apart (minimum interval 2 months). Administer dose 1 at least 8 weeks after the most recent dose. May administer additional doses of Moderna or Pfizer-BioNTech.*

Age 12–18 years

Use vaccine from the same manufacturer for all doses in the initial vaccination series.

- **Unvaccinated:**
  - 4 doses (**3-dose initial series Moderna** at 0, 4 weeks, and at least 4 weeks after dose 2, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later [minimum interval 2 months]). May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*
  - 4 doses (**3-dose initial series Pfizer-BioNTech** at 0, 3 weeks, and at least 4 weeks after dose 2, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later [minimum interval 2 months]). May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*
  - 3 doses (**2-dose initial series Novavax** at 0, 3 weeks, followed by 1 dose Moderna or Novavax or Pfizer-BioNTech 6 months later [minimum interval 2 months]). May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*
- **Incomplete initial vaccination series before 2024–25 vaccine:**
  - **Previous vaccination with Moderna**
    - **1 dose Moderna:** complete initial series with 2 doses 2024–25 Moderna at least 4 weeks apart (administer dose 1 4 weeks after most recent dose), followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*
    - **2 doses Moderna:** complete initial series with 1 dose 2024–25 Moderna at least 4 weeks after most recent dose, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*
  - **Previous vaccination with Pfizer-BioNTech**
    - **1 dose Pfizer-BioNTech:** complete initial series with 2 doses 2024–25 Pfizer-BioNTech at least 4 weeks apart (administer dose 1 3 weeks after most recent dose), followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*
    - **2 doses Pfizer-BioNTech:** complete initial series with 1 dose 2024–25 Pfizer-BioNTech at least 4 weeks after most recent dose, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*
  - **Previous vaccination with Novavax**
    - **1 dose Novavax:** complete initial series with 1 dose 2024–25 Novavax at least 3 weeks after most recent dose, followed by 1 dose 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months later (minimum interval 2 months). May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*

COVID-19 vaccination - *continued*

- **Completed initial 3-dose vaccination series before 2024–25 vaccine with:**
  - **3 or more doses Moderna or 3 or more doses Pfizer-BioNTech:** 2 doses 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months apart (minimum interval 2 months). Administer dose 1 at least 8 weeks after the most recent dose. May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*
  - **2 or more doses Novavax:** 2 doses 2024–25 Moderna or Novavax or Pfizer-BioNTech 6 months apart (minimum interval 2 months). Administer dose 1 at least 8 weeks after the most recent dose. May administer additional doses of Moderna or Novavax or Pfizer-BioNTech.*

***Additional doses of 2024–25 COVID-19 vaccine for moderately or severely immunocompromised:** based on shared clinical decision-making and administered at least 2 months after the most recent dose (see Table 2 at www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#table-02.). For description of moderate and severe immunocompromising conditions and treatment, see www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#immunocompromising-conditions-treatment.

Unvaccinated persons have never received any COVID-19 vaccine doses. There is no preferential recommendation for the use of one COVID-19 vaccine over another when more than one recommended age-appropriate vaccine is available. Administer an age-appropriate COVID-19 vaccine product for each dose.

For information about transition from age 4 years to age 5 years or age 11 years to age 12 years during COVID-19 vaccination series, see Tables 1 and 2 at www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html.

For information about interchangeability of COVID-19 vaccines, see www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html#Interchangeability.

Current COVID-19 schedule and dosage formulation available at www.cdc.gov/covidschedule. For more information on Emergency Use Authorization (EUA) indications for COVID-19 vaccines, see www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines.

Dengue vaccination (minimum age: 9 years)

Routine vaccination

- Age 9–16 years living in areas with endemic dengue **AND** have laboratory confirmation of previous dengue infection
  - 3-dose series administered at 0, 6, and 12 months
- Endemic areas include Puerto Rico, American Samoa, US Virgin Islands, Federated States of Micronesia, Republic of Marshall Islands, and the Republic of Palau. For updated guidance on dengue endemic areas and pre-vaccination laboratory testing see www.cdc.gov/mmwr/volumes/70/rr/rr7006a1.htm?s_cid=rr7006a1_w and www.cdc.gov/dengue/index.html
- Dengue vaccine should not be administered to children traveling to or visiting endemic dengue areas.

Diphtheria, tetanus, and pertussis (DTaP) vaccination (minimum age: 6 weeks [4 years for Kinrix or Quadracel])

Routine vaccination

- 5-dose series (3-dose primary series at age 2, 4, and 6 months, followed by booster doses at ages 15–18 months and 4–6 years)
  - **Prospectively:** Dose 4 may be administered as early as age 12 months if at least 6 months have elapsed since dose 3.
  - **Retrospectively:** A 4th dose that was inadvertently administered as early as age 12 months may be counted if at least 4 months have elapsed since dose 3.

Catch-up vaccination

- Dose 5 is not necessary if dose 4 was administered at age 4 years or older and at least 6 months after dose 3.
- For other catch-up guidance, see Table 2.

Special situations

- **Children younger than age 7 years with a contraindication specific to the pertussis component of DTaP:** May administer Td for all recommended remaining doses in place of DTaP. Encephalopathy within 7 days of vaccination when not attributable to another identifiable cause is the only contraindication specific to the pertussis component of DTaP. For additional information, see www.cdc.gov/pertussis/hcp/vaccine-recommendations/td-offlabel.html.
- **Wound management in children younger than age 7 years with history of 3 or more doses of tetanus-toxoid-containing vaccine:** For all wounds except clean and minor wounds, administer DTaP if more than 5 years since last dose of tetanus-toxoid-containing vaccine. For detailed information, see www.cdc.gov/mmwr/volumes/67/rr/rr6702a1.htm.

Haemophilus influenzae type b vaccination (minimum age: 6 weeks)

Routine vaccination

- **ActHIB, Hiberix, Pentacel, or Vaxelis:** 4-dose series (3-dose primary series at age 2, 4, and 6 months, followed by a booster dose* at age 12–15 months)
  - *Vaxelis is not recommended for use as a booster dose. A different Hib-containing vaccine should be used for the booster dose.
- **PedvaxHIB:** 3-dose series (2-dose primary series at age 2 and 4 months, followed by a booster dose at age 12–15 months)
- **American Indian and Alaska Native infants:** Vaxelis and PedvaxHIB preferred over other Hib vaccines for the primary series.

Catch-up vaccination

- **Dose 1 at age 7–11 months:** Administer dose 2 at least 4 weeks later and dose 3 (final dose) at age12–15 months or 8 weeks after dose 2 (whichever is later).
- **Dose 1 at age 12–14 months:** Administer dose 2 (final dose) at least 8 weeks after dose 1.
- **Dose 1 before age 12 months and dose 2 before age 15 months:** Administer dose 3 (final dose) at least 8 weeks after dose 2.
- **2 doses of PedvaxHIB before age 12 months:** Administer dose 3 (final dose) at age12–59 months and at least 8 weeks after dose 2.
- **1 dose administered at age 15 months or older:** No further doses needed
- **Unvaccinated at age 15–59 months:** Administer 1 dose.
- **Previously unvaccinated children age 60 months or older who are not considered high risk:** Catch-up vaccination not required.

For other catch-up guidance, see Table 2. Vaxelis can be used for catch-up vaccination in children younger than age 5 years. Follow the catch-up schedule even if Vaxelis is used for one or more doses. For detailed information on use of Vaxelis see www.cdc.gov/mmwr/volumes/69/wr/mm6905a5.htm.

Haemophilus influenzae type b vaccination
- continued

Special situations

- **Chemotherapy or radiation treatment:**
  Age 12–59 months
  - Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart
  - 2 or more doses before age 12 months: 1 dose at least 8 weeks after previous dose

  Doses administered within 14 days of starting therapy or during therapy should be repeated at least 3 months after therapy completion.
- **Hematopoietic stem cell transplant (HSCT):**
  - 3-dose series 4 weeks apart starting 6 to 12 months after successful transplant, regardless of Hib vaccination history
- **Anatomic or functional asplenia (including sickle cell disease):**
  Age 12–59 months
  - Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart
  - 2 or more doses before age 12 months: 1 dose at least 8 weeks after previous dose

  Unvaccinated* persons age 5 years or older
  - 1 dose
- **Elective splenectomy:**
  Unvaccinated* persons age 15 months or older
  - 1 dose (preferably at least 14 days before procedure)
- **HIV infection:**
  Age 12–59 months
  - Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart
  - 2 or more doses before age 12 months: 1 dose at least 8 weeks after previous dose

  Unvaccinated* persons age 5–18 years
  - 1 dose
- **Immunoglobulin deficiency, early component complement deficiency, or early component complement inhibitor use:**
  Age 12–59 months
  - Unvaccinated or only 1 dose before age 12 months: 2 doses, 8 weeks apart
  - 2 or more doses before age 12 months: 1 dose at least 8 weeks after previous dose

Unvaccinated* = Less than routine series (through age 14 months) **or no doses (age 15 months or older)*

Hepatitis A vaccination
(minimum age: 12 months for routine vaccination)

Routine vaccination

- **2-dose series** (minimum interval: 6 months) at age 12–23 months

Catch-up vaccination

- **Unvaccinated persons through age 18 years should complete a 2-dose series** (minimum interval: 6 months).
- Persons who previously received 1 dose at age 12 months or older should receive dose 2 at least 6 months after dose 1.
- Adolescents age 18 years or older may receive HepA-HepB (Twinrix) as a 3-dose series (0, 1, and 6 months) or 4-dose series (3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months).

International travel

- Persons traveling to or working in countries with high or intermediate endemic hepatitis A (www.cdc.gov/travel/):
  - **Infants age 6–11 months**: 1 dose before departure; revaccinate with 2 doses (separated by at least 6 months) between age 12–23 months.
  - **Unvaccinated age 12 months or older**: Administer dose 1 as soon as travel is considered.

Hepatitis B vaccination
(minimum age: birth)

Routine vaccination

- **Mother is HBsAg-negative**
  - 3-dose series at age 0, 1–2, 6–18 months **(use monovalent HepB vaccine for doses administered before age 6 weeks)**
    - Birth weight ≥2,000 grams: 1 dose within 24 hours of birth if medically stable
    - Birth weight <2,000 grams: 1 dose at chronological age 1 month or hospital discharge (whichever is earlier and even if weight is still <2,000 grams)
- Infants who did not receive a birth dose should begin the series as soon as possible (see Table 2 for minimum intervals).
- Administration of 4 doses is permitted when a combination vaccine containing HepB is used after the birth dose.
- **Minimum intervals (see Table 2):** when 4 doses are administered, substitute "dose 4" for "dose 3" in these calculations.
- **Final (3rd or 4th) dose:** age 6–18 months **(minimum age 24 weeks)**
- **Mother is HBsAg-positive**
  - **Birth dose (monovalent HepB vaccine only):** administer **HepB vaccine** and **hepatitis B immune globulin (HBIG)** in separate limbs within 12 hours of birth, regardless of birth weight.
  - **Birth weight <2000 grams:** administer 3 additional doses of HepB vaccine beginning at age 1 month (total of 4 doses).
  - **Final (3rd or 4th) dose:** administer at age 6 months **(minimum age 24 weeks)**.
  - Test for HBsAg and anti-HBs at age 9–12 months. If HepB series is delayed, test 1–2 months after final dose. Do not test before age 9 months.

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Hepatitis B vaccination - *continued*

- **Mother is HBsAg-unknown**

  If other evidence suggestive of maternal hepatitis B infection exists (e.g., presence of HBV DNA, HBeAg-positive, or mother known to have chronic hepatitis B infection), manage infant as if mother is HBsAg-positive.
  - **Birth dose (monovalent HepB vaccine only):**
    - Birth weight ≥2,000 grams: administer **HepB vaccine** within 12 hours of birth. Determine mother's HBsAg status as soon as possible. If mother is determined to be HBsAg-positive, administer **HBIG** as soon as possible (in separate limb), but no later than 7 days of age.
    - Birth weight <2,000 grams: administer **HepB vaccine** and **HBIG** (in separate limbs) within 12 hours of birth. Administer 3 additional doses of **HepB vaccine** beginning at age 1 month (total of 4 doses).
  - **Final (3rd or 4th) dose:** administer at age 6 months **(minimum age 24 weeks)**.
  - If mother is determined to be HBsAg-positive or if status remains unknown, test for HBsAg and anti-HBs at age 9–12 months. If HepB series is delayed, test 1–2 months after final dose. Do not test before age 9 months.

Catch-up vaccination

- Unvaccinated persons should complete a 3-dose series at 0, 1–2, 6 months. See Table 2 for minimum intervals.
- Adolescents age 11–15 years may use an alternative 2-dose schedule with at least 4 months between doses (adult formulation **Recombivax HB** only).
- Adolescents age 18 years may receive:
  - **Heplisav-B:** 2-dose series at least 4 weeks apart
  - **PreHevbrio*:** 3-dose series at 0, 1, and 6 months
  - **HepA-HepB (Twinrix):** 3-dose series (0, 1, and 6 months) or 4-dose series (3 doses at 0, 7, and 21–30 days, followed by a booster dose at 12 months).

Special situations

- Revaccination is generally not recommended for persons with a normal immune status who were vaccinated as infants, children, adolescents, or adults.
- **Post-vaccination serology testing and revaccination** (if anti-HBs <10mIU/mL) is recommended for certain populations, including:
  - Infants born to HBsAg-positive mothers
  - Persons who are predialysis or on maintenance dialysis
  - Other immunocompromised persons
  - For detailed revaccination recommendations, see www.cdc.gov/mmwr/volumes/67/rr/rr6701a1.htm.

***Note:** PreHevbrio is not recommended in pregnancy due to lack of safety data in pregnant persons.

Human papillomavirus vaccination (minimum age: 9 years)

Routine and catch-up vaccination

- HPV vaccination routinely recommended at **age 11–12 years (can start at age 9 years)** and catch-up HPV vaccination recommended for all persons through age 18 years if not adequately vaccinated.
- 2- or 3-dose series depending on age at initial vaccination:
  - **Age 9–14 years at initial vaccination**: 2-dose series at 0, 6–12 months (minimum interval: 5 months; repeat dose if administered too soon)
  - **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)
- No additional dose recommended when any HPV vaccine series **of any valency** has been completed using recommended dosing intervals.

Special situations

- **Immunocompromising conditions, including HIV infection:** 3-dose series, even for those who initiate vaccination at age 9 through 14 years.
- **History of sexual abuse or assault:** Start at age 9 years
- **Pregnancy:** Pregnancy testing not needed before vaccination; HPV vaccination not recommended until after pregnancy; no intervention needed if vaccinated while pregnant

Influenza vaccination (minimum age: 6 months [IIV3], 2 years [LAIV3],18 years [recombinant influenza vaccine, RIV3])

Routine vaccination

- Use any influenza vaccine appropriate for age and health status annually:
  - **Age 6 months–8 years** who have received fewer than 2 influenza vaccine doses before July 1, 2024, or whose influenza vaccination history is unknown: 2 doses, separated by at least 4 weeks. Administer dose 2 even if the child turns 9 years between receipt of dose 1 and dose 2.
  - **Age 6 months–8 years** who have received at least 2 influenza vaccine doses before July 1, 2024: 1 dose.
  - **Age 9 years or older:** 1 dose
  - **Age 18 years solid organ transplant recipients receiving immunosuppressive medications:** high-dose inactivated (HD-IIV3) and adjuvanted inactivated (aIIV3) influenza vaccines are acceptable options. No preference over other age-appropriate IIV3 or RIV3.
- For the 2024–25 season, see www.cdc.gov/mmwr/volumes/73/rr/rr7305a1.htm.
- For the 2025–26 season, see the 2025–26 ACIP influenza vaccine recommendations.

Special situations

- **Close contacts (e.g., household contacts) of severely immunosuppressed persons who require a protected environment:** should not receive LAIV3. If LAIV3 is given, they should avoid contact with, or caring for such immunosuppressed persons for 7 days after vaccination.

Note: Persons with an egg allergy can receive any influenza vaccine (egg-based or non-egg based) appropriate for age and health status.

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Measles, mumps, and rubella vaccination
(minimum age: 12 months for routine vaccination)

Routine vaccination
- 2-dose series at age 12–15 months, age 4–6 years
- MMR or MMRV* may be administered

Note: For dose 1 in children age 12–47 months, it is recommended to administer MMR and varicella vaccines separately. MMRV* may be used if parents or caregivers express a preference.

Catch-up vaccination
- **Unvaccinated children and adolescents:** 2-dose series at least 4 weeks apart*
- The maximum age for use of MMRV* is 12 years.

Special situations
- **International travel**
  - **Infants age 6–11 months:** 1 dose before departure; revaccinate with 2-dose series at age 12–15 months (12 months for children in high-risk areas) and dose 2 as early as 4 weeks later.*
  - **Children age 12 months or older:**
    - Unvaccinated: 2-dose series (separated by at least 4 weeks*) before departure
    - Previously received 1 dose: administer dose 2 at least 4 weeks after dose 1*
- 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

***Note:** If MMRV is used, the minimum interval between MMRV doses is 3 months.

Meningococcal serogroup A,C,W,Y vaccination
(minimum age: 2 months [MenACWY-CRM, Menveo], 2 years [MenACWY-TT, MenQuadfi]), 10 years [MenACWY-TT/MenB-FHbp, Penbraya])

Routine vaccination
- 2-dose series at age 11–12 years; 16 years

Catch-up vaccination
- **Age 13–15 years:** 1 dose now and booster at age 16–18 years (minimum interval: 8 weeks)
- **Age 16–18 years:** 1 dose

Special situations
Anatomic or functional asplenia (including sickle cell disease), HIV infection, persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use:
- **Menveo***
  - Dose 1 at age 2 months: 4-dose series (additional 3 doses at age 4, 6, and 12 months)
  - Dose 1 at age 3–6 months: 3- or 4-dose series (dose 2 [and dose 3 if applicable] at least 8 weeks after previous dose until a dose is received at age 7 months or older, followed by an additional dose at least 12 weeks later and after age 12 months)
  - Dose 1 at age 7–23 months: 2-dose series (dose 2 at least 12 weeks after dose 1 and after age 12 months)
  - Dose 1 at age 24 months or older: 2-dose series at least 8 weeks apart
- **MenQuadfi**
  - Dose 1 at age 24 months or older: 2-dose series at least 8 weeks apart

Travel to countries with hyperendemic or epidemic meningococcal disease, including countries in the African meningitis belt or during the Hajj (www.cdc.gov/travel/)**:**
- **Children younger than age 24 months:**
  - **Menveo* (age 2–23 months)**
    - Dose 1 at age 2 months: 4-dose series (additional 3 doses at age 4, 6, and 12 months)
    - Dose 1 at age 3–6 months: 3- or 4-dose series (dose 2 [and dose 3 if applicable] at least 8 weeks after previous dose until a dose is received at age 7 months or older, followed by an additional dose at least 12 weeks later and after age 12 months)
    - Dose 1 at age 7–23 months: 2-dose series (dose 2 at least 12 weeks after dose 1 and after age 12 months)
- **Children age 2 years or older:** 1 dose Menveo* or MenQuadfi

First-year college students who live in residential housing (if not previously vaccinated at age 16 years or older) or military recruits: 1 dose Menveo* or MenQuadfi

Adolescent vaccination of children who received MenACWY prior to age 10 years:
- **Children for whom boosters are recommended because of an ongoing increased risk of meningococcal disease** (e.g., those with complement component deficiency, HIV, or asplenia): Follow the booster schedule for persons at increased risk.
- **Children for whom boosters are not recommended** (e.g., a healthy child who received a single dose for travel to a country where meningococcal disease is endemic): Administer MenACWY according to the recommended adolescent schedule with dose 1 at age 11–12 years and dose 2 at age 16 years.

**Menveo has two formulations: lyophilized and liquid. The liquid formulation should not be used before age 10 years. See www.cdc.gov/vaccines/vpd/mening/downloads/menveo-single-vial-presentation.pdf.*

Note: For MenACWY **booster dose recommendations** for groups listed under "Special situations" and in an outbreak setting and additional meningococcal vaccination information, see www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm.

Children age 10 years or older may receive a single dose of Penbraya as an alternative to separate administration of MenACWY and MenB when both vaccines would be given on the same clinic day (see "Meningococcal serogroup B vaccination" section below for more information).

Meningococcal serogroup B vaccination
(minimum age: 10 years [MenB-4C, Bexsero; MenB-FHbp, Trumenba; MenACWY-TT/MenB-FHbp, Penbraya])

Shared clinical decision-making

- **Adolescents not at increased risk age 16–23 years (preferred age 16–18 years)* based on shared clinical decision-making.**
  - **Bexsero or Trumenba (use same brand for all doses):** 2-dose series at least 6 months apart (if dose 2 is administered earlier than 6 months, administer dose 3 at least 4 months after dose 2)

*To optimize rapid protection (e.g., for students starting college in less than 6 months), a 3-dose series (0, 1–2, 6 months) may be administered.

For additional information on shared clinical decision-making for MenB, see www.cdc.gov/vaccines/hcp/admin/downloads/isd-job-aid-scdm-mening-b-shared-clinical-decision-making.pdf

Special situations

Anatomic or functional asplenia (including sickle cell disease), persistent complement component deficiency, complement inhibitor (e.g., eculizumab, ravulizumab) use.

- **Bexsero or Trumenba (use same brand for all doses including booster doses)** 3-dose series 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 4th dose should be administered at least 4 months after dose 3)

For MenB **booster dose recommendations** for groups listed under "Special situations" and in an outbreak setting 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.

Children age 10 years or older may receive a dose of Penbraya (MenACWY–TT/MenB–FHbp) as an alternative to separate administration of MenACWY and MenB when both vaccines would be given on the same clinic day. For age-eligible children not at increased risk, if Penbraya is used for dose 1 MenB, MenB-FHbp (Trumenba) should be administered for dose 2 MenB. For age-eligible children at increased risk of meningococcal disease, Penbraya may be used for additional MenACWY and MenB doses (including booster doses) if both would be given on the same clinic day **and** at least 6 months have elapsed since most recent Penbraya dose.

Mpox vaccination
(minimum age: 18 years [Jynneos])

Special situations

- **Age 18 years and at risk for mpox infection:** complete 2-dose series, 28 days apart.

  Risk factors for mpox infection include:
  - Persons who are gay, bisexual, and other MSM, transgender or nonbinary people who in the past 6 months have had:
    - A new diagnosis of at least 1 sexually transmitted disease
    - More than 1 sex partner
    - Sex at a commercial sex venue
    - Sex in association with a large public event in a geographic area where mpox transmission is occurring
  - Persons who are sexual partners of the persons described above
  - Persons who anticipate experiencing any of the situations described above
- **Pregnancy:** There is currently no ACIP recommendation for Jynneos use in pregnancy due to lack of safety data in pregnant persons. Pregnant persons with any risk factor described above may receive Jynneos.

For detailed information, see www.cdc.gov/mpox/hcp/vaccine-considerations/vaccination-overview.html

Pneumococcal vaccination
(minimum age: 6 weeks [PCV15], [PCV 20]; 2 years [PPSV23])

Routine vaccination with PCV

- 4-dose series at 2, 4, 6, 12–15 months

Catch-up vaccination with PCV

- Healthy children ages 2–4 years with any incomplete* PCV series: 1 dose PCV
- For other catch-up guidance, see Table 2.

Note: For children **without** risk conditions, PCV20 is not indicated if they have received 4 doses of PCV13 or PCV15 or another age appropriate complete PCV series.

Special situations

Children and adolescents with cerebrospinal fluid leak; chronic heart disease; chronic kidney disease (excluding maintenance dialysis and nephrotic syndrome); chronic liver disease; chronic lung disease (including moderate persistent or severe persistent asthma); cochlear implant; or diabetes mellitus:

Age 2–5 years

- Any incomplete* PCV series with:
  - 3 PCV doses: 1 dose PCV (at least 8 weeks after the most recent PCV dose)
  - Less than 3 PCV doses: 2 doses PCV (at least 8 weeks after the most recent dose and administered at least 8 weeks apart)
- Completed recommended PCV series but have not received PPSV23.
  - Previously received at least 1 dose of PCV20: no further PCV or PPSV23 doses needed
  - Not previously received PCV20: administer 1 dose PCV20 or 1 dose PPSV23 administer at least 8 weeks after the most recent PCV dose.

Pneumococcal vaccination - *continued*

Age 6–18 years

- Not previously received any dose of PCV13, PCV15, or PCV20: administer 1 dose of PCV15 or PCV20. If PCV15 is used and no previous receipt of PPSV23, administer 1 dose of PPSV23 at least 8 weeks after the PCV15 dose.**
- Received PCV before age 6 years but have not received PPSV23
  - Previously received at least 1 dose of PCV20: no further PCV or PPSV23 doses needed
  - Not previously received PCV20: 1 dose PCV20 or 1 dose PPSV23 administer at least 8 weeks after the most recent PCV dose.
- Received PCV13 only at or after age 6 years: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV13 dose.
- Received 1 dose PCV13 and 1 dose PPSV23 at or after age 6 years: no further doses of any PCV or PPSV23 indicated.

Children and adolescents on maintenance dialysis, or with immunocompromising conditions such as nephrotic syndrome; congenital or acquired asplenia or splenic dysfunction; congenital or acquired immunodeficiencies; diseases and conditions treated with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, Hodgkin disease, and solid organ transplant; HIV infection; or sickle cell disease or other hemoglobinopathies:

Age 2–5 years

- Any incomplete* PCV series:
  - 3 PCV doses: 1 dose PCV (at least 8 weeks after the most recent PCV dose)
  - Less than 3 PCV doses: 2 doses PCV (at least 8 weeks after the most recent dose and administered at least 8 weeks apart)
- Completed recommended PCV series but have not received PPSV23
  - Previously received at least 1 dose of PCV20: no further PCV or PPSV23 doses needed
  - Not previously received PCV20: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV dose. If PPSV23 is used, administer 1 dose of PCV20 or dose 2 PPSV23 at least 5 years after dose 1 PPSV23.

Age 6–18 years

- Not previously received any dose of PCV13, PCV15, or PCV20: administer 1 dose of PCV15 or 1 dose of PCV20. If PCV15 is used and no previous receipt of PPSV23, administer 1 dose of PPSV23 at least 8 weeks after the PCV15 dose.**
- Received PCV before age 6 years but have not received PPSV23
  - Previously received at least 1 dose of PCV20: no additional dose of PCV or PPSV23
  - Not previously received PCV20: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV dose. If PPSV23 is used, administer either PCV20 or dose 2 PPSV23 at least 5 years after dose 1 PPSV23.
- Received PCV13 only at or after age 6 years: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV13 dose. If PPSV23 is used, administer 1 dose of PCV20 or dose 2 PPSV23 at least 5 years after dose 1 PPSV23.
- Received 1 dose PCV13 and 1 dose PPSV23 at or after age 6 years: administer 1 dose PCV20 or 1 dose PPSV23 at least 8 weeks after the most recent PCV13 dose and at least 5 years after dose 1 PPSV23.

Pregnancy: no recommendation for PCV or PPSV23 due to limited data. Summary of existing data on pneumococcal vaccination during pregnancy can be found at www.cdc.gov/mmwr/volumes/72/rr/rr7203a1.htm

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

**Incomplete series* = Not having received all doses in either the recommended series or an age-appropriate catch-up series. See Table 2 in ACIP pneumococcal recommendations at stacks.cdc.gov/view/cdc/133252

***When both PCV15 and PPSV23 are indicated, administer all doses of PCV15 first. PCV15 and PPSV23 should not be administered during the same visit.*

Poliovirus vaccination (minimum age: 6 weeks)

Routine vaccination

- 4-dose series at ages 2, 4, 6–18 months, 4–6 years; administer the final dose on or after age 4 years and at least 6 months after the previous dose.
- 4 or more doses of IPV can be administered before age 4 years when a combination vaccine containing IPV is used. However, a dose is still recommended on or after age 4 years and at least 6 months after the previous dose.

Catch-up vaccination

- In the first 6 months of life, use minimum ages and intervals only for travel to a polio-endemic region or during an outbreak.
- **Adolescents age 18 years known or suspected to be unvaccinated or incompletely vaccinated:** administer remaining doses (1, 2, or 3 IPV doses) to complete a 3-dose primary series.* Unless there are specific reasons to believe they were not vaccinated, most persons aged 18 years or older born and raised in the United States can assume they were vaccinated against polio as children.

Series containing oral poliovirus vaccine (OPV), either mixed OPV-IPV or OPV-only series:

- Total number of doses needed to complete the series is the same as that recommended for the U.S. IPV schedule. See www.cdc.gov/mmwr/volumes/66/wr/mm6601a6.htm?s_%20cid=mm6601a6_w.
- Only trivalent OPV (tOPV) counts toward the U.S. vaccination requirements.
  - Doses of OPV administered before April 1, 2016, should be counted (unless specifically noted as administered during a campaign).
  - Doses of OPV administered on or after April 1, 2016, should not be counted.
  - For guidance to assess doses documented as "OPV," see www.cdc.gov/mmwr/volumes/66/wr/mm6606a7.htm?s_cid=mm6606a7_w.
- For other catch-up guidance, see Table 2.

Special situations

- **Adolescents aged 18 years at increased risk of exposure to poliovirus and completed primary series*:** may administer one lifetime IPV booster

***Note:** Complete primary series consist of at least 3 doses of IPV or trivalent oral poliovirus vaccine (tOPV) in any combination.

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

Respiratory syncytial virus immunization
(minimum age: birth [Nirsevimab, RSV-mAb, Beyfortus])

Routine immunization

- **Infants born October – March in most of the continental United States***
  - Mother did not receive RSV vaccine or mother's RSV vaccination status is unknown or mother received RSV vaccine in previous pregnancy: administer 1 dose nirsevimab within 1 week of birth—ideally during the birth hospitalization.
  - Mother received RSV vaccine **less than 14 days** prior to delivery: administer 1 dose nirsevimab within 1 week of birth—ideally during the birth hospitalization.
  - Mother received RSV vaccine **at least 14 days** prior to delivery: nirsevimab not needed but can be considered in rare circumstances at the discretion of healthcare providers (see www.cdc.gov/vaccines/vpd/rsv/hcp/child-faqs.html)
- **Infants born April–September in most of the continental United States***
  - Mother did not receive RSV vaccine or mother's RSV vaccination status is unknown or mother received RSV vaccine in previous pregnancy: administer 1 dose nirsevimab shortly before start of RSV season.*
  - Mother received RSV vaccine **less than 14 days** prior to delivery: administer 1 dose nirsevimab shortly before start of RSV season.*
  - Mother received RSV vaccine **at least 14 days** prior to delivery: nirsevimab not needed but can be considered in rare circumstances at the discretion of healthcare providers (see www.cdc.gov/vaccines/vpd/rsv/hcp/child-faqs.html)

Infants with prolonged birth hospitalization** (e.g., for prematurity) discharged October through March should be immunized shortly before or promptly after discharge.

Special situations

- **Ages 8–19 months with chronic lung disease of prematurity requiring medical support (e.g., chronic corticosteroid therapy, diuretic therapy, or supplemental oxygen) any time during the 6-month period before the start of the second RSV season; severe immunocompromise; cystic fibrosis with either weight for length <10th percentile or manifestation of severe lung disease (e.g., previous hospitalization for pulmonary exacerbation in the first year of life or abnormalities on chest imaging that persist when stable)**:**
  - 1 dose nirsevimab shortly before start of second RSV season*
- **Ages 8–19 months who are American Indian or Alaska Native:** 1 dose nirsevimab shortly before start of second RSV season*
- **Age-eligible and undergoing cardiac surgery with cardiopulmonary bypass**:** 1 additional dose of nirsevimab after surgery. See www.accessdata.fda.gov/drugsatfda_docs/label/2023/761328s000lbl.pdf

***Note:** While the timing of the onset and duration of RSV season may vary, administration of nirsevimab is recommended October through March in most of the continental United States (optimally October through November or within 1 week of birth). Providers in jurisdictions with RSV seasonality that differs from most of the continental United States (e.g., Alaska, jurisdiction with tropical climate) should follow guidance from public health authorities (e.g., CDC, health departments) or regional medical centers on timing of administration based on local RSV seasonality.

****Note:** Nirsevimab can be administered to children who are eligible to receive palivizumab. Children who have received nirsevimab should not receive palivizumab for the same RSV season.

For further guidance, see www.cdc.gov/mmwr/volumes/72/wr/mm7234a4.htm and www.cdc.gov/vaccines/vpd/rsv/hcp/child-faqs.html

Respiratory syncytial virus vaccination
(RSV [Abrysvo])

Routine vaccination

- **Pregnant at 32 weeks 0 days through 36 weeks and 6 days gestation from September through January in most of the continental United States*:** 1 dose Abrysvo. Administer RSV vaccine regardless of previous RSV infection.
  - Either maternal RSV vaccination with Abrysvo or infant immunization with nirsevimab (RSV monoclonal antibody) is recommended to prevent severe respiratory syncytial virus disease in infants.
- **All other pregnant persons:** RSV vaccine not recommended
- **Subsequent pregnancies:** additional doses not recommended. No data are available to inform whether additional doses are needed in subsequent pregnancies. Infants born to pregnant persons who received RSV vaccine during a previous pregnancy should receive nirsevimab.

***Note:** Providers in jurisdictions with RSV seasonality that differs from most of the continental United States (e.g., Alaska, jurisdictions with tropical climate) should follow guidance from public health authorities (e.g., CDC, health departments) or regional medical centers on timing of administration based on local RSV seasonality.

Rotavirus vaccination
(minimum age: 6 weeks)

Routine vaccination

- **Rotarix:** 2-dose series at age 2 and 4 months
- **RotaTeq:** 3-dose series at age 2, 4, and 6 months
- If any dose in the series is either **RotaTeq** or unknown, default to 3-dose series.

Catch-up vaccination

- Do not start the series on or after age 15 weeks, 0 days.
- The maximum age for the final dose is 8 months, 0 days.
- For other catch-up guidance, see Table 2.

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Tetanus, diphtheria, and pertussis (Tdap) vaccination (minimum age: 11 years for routine vaccination, 7 years for catch-up vaccination)

Routine vaccination

- **Age 11–12 years:** 1 dose Tdap (adolescent booster)
- **Pregnancy:** 1 dose Tdap during each pregnancy, preferably in early part of gestational weeks 27–36

Note: Tdap may be administered regardless of the interval since the last tetanus- and diphtheria-toxoid-containing vaccine.

Catch-up vaccination

- **Age 13–18 years who have not received Tdap:** 1 dose Tdap (adolescent booster)
- **Age 7–18 years not fully vaccinated* with DTaP:** 1 dose Tdap as part of the catch-up series (preferably the first dose); if additional doses are needed, use Td or Tdap.
- **Tdap administered at age 7–10 years:**
  - **Age 7–9 years** who receive Tdap should receive the adolescent Tdap booster dose at age 11–12 years
  - **Age 10 years** who receive Tdap do not need the adolescent Tdap booster dose at age 11–12 years
- **DTaP inadvertently administered on or after age 7 years**:
  - **Age 7–9 years**: DTaP may count as part of catch-up series. Administer adolescent Tdap booster dose at age 11–12 years.
  - **Age 10–18 years**: Count dose of DTaP as the adolescent Tdap booster dose.
- For other catch-up guidance, see Table 2.

Special situations

- **Wound management** in persons age 7 years or older with history of 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 age 11 years or older who have not previously received Tdap or whose Tdap history is unknown. If a tetanus-toxoid-containing vaccine is indicated for a pregnant adolescent, use Tdap.
- For detailed information, see www.cdc.gov/mmwr/volumes/69/wr/mm6903a5.htm.

**Fully vaccinated* = 5 valid doses of DTaP or 4 valid doses of DTaP if dose 4 was administered at age 4 years or older

Varicella vaccination (minimum age: 12 months)

Routine vaccination

- 2-dose series at age 12–15 months, 4–6 years
- VAR or MMRV may be administered*
- Dose 2 may be administered as early as 3 months after dose 1 (a dose inadvertently administered after at least 4 weeks may be counted as valid).

**Note:* For dose 1 in children age 12–47 months, it is recommended to administer MMR and varicella vaccines separately. MMRV may be used if parents or caregivers express a preference.

Catch-up vaccination

- Ensure persons age 7–18 years without evidence of immunity (see *MMWR* at www.cdc.gov/mmwr/pdf/rr/rr5604.pdf) have a 2-dose series:
  - **Age 7–12 years**: Routine interval: 3 months (a dose inadvertently administered after at least 4 weeks may be counted as valid)
  - **Age 13 years and older**: Routine interval: 4–8 weeks (minimum interval: 4 weeks)
  - The maximum age for use of *MMRV* is 12 years.

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Appendix Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2025

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, Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2023–24 Influenza Season | MMWR (cdc.gov), *and* Contraindications and Precautions for COVID-19 Vaccination

Vaccines and other Immunizing Agents	Contraindicated or Not Recommended[1]	Precautions[2]
COVID-19 mRNA vaccines [Pfizer-BioNTech, Moderna]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of an mRNA COVID-19 vaccine[3]	• Diagnosed non-severe allergy (e.g., urticaria beyond the injection site) to a component of an mRNA COVID-19 vaccine[3]; or non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of an mRNA COVID-19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine • Multisystem inflammatory syndrome in children (MIS-C) or multisystem inflammatory syndrome in adults (MIS-A) • Moderate or severe acute illness, with or without fever
COVID-19 protein subunit vaccine [Novavax]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of a Novavax COVID-19 vaccine[3]	• Diagnosed non-severe allergy (e.g., urticaria beyond the injection site) to a component of Novavax COVID-19 vaccine[3]; or non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of a Novavax COVID-19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine • Multisystem inflammatory syndrome in children (MIS-C) or multisystem inflammatory syndrome in adults (MIS-A) • Moderate or severe acute illness, with or without fever
Influenza, egg-based, inactivated injectable (IIV3)	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[4] (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 (ccIIV3) [Flucelvax]	• Severe allergic reaction (e.g., anaphylaxis) to any ccIIV of any valency, or to any component[4] of ccIIV3	• 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 IIV, RIV, or LAIV of any valency. If using ccIIV3, 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 (RIV3) [Flublok]	• Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component[4] of RIV3	• 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 IIV, ccIIV, or LAIV of any valency. If using RIV3, 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 (LAIV3) [Flumist]	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[4] (excluding egg) • Children age 2–4 years with a history of asthma or wheezing • 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 • Children and adolescents receiving aspirin or salicylate-containing medications • 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	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Asthma in persons age 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

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.
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, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization.
3. See package inserts and FDA EUA fact sheets for a full list of vaccine ingredients. mRNA COVID-19 vaccines contain polyethylene glycol (PEG).
4. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. See Package inserts for U.S.-licensed vaccines.

Appendix

Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2025

Vaccines and other Immunizing Agents	Contraindicated or Not Recommended[1]	Precautions[2]
Dengue (DEN4CYD)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Lack of laboratory confirmation of a previous dengue infection	• Pregnancy • HIV infection without evidence of severe immunosuppression • Moderate or severe acute illness with or without fever
Diphtheria, tetanus, pertussis (DTaP)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures) not attributable to another identifiable cause within 7 days of administration of previous dose of DTP or DTaP	• Guillain-Barré syndrome (GBS) within 6 weeks after previous dose of tetanus-toxoid–containing vaccine • History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid-containing vaccine • For DTaP only: Progressive neurologic disorder, including infantile spasms, uncontrolled epilepsy, progressive encephalopathy; defer DTaP until neurologic status clarified and stabilized • Moderate or severe acute illness with or without fever
Haemophilus influenzae type b (Hib)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Younger than age 6 weeks	• Moderate or 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[3] including neomycin	• 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[3] including yeast • Pregnancy: PreHevbrio is not recommended due to lack of safety data in pregnant persons. Use other hepatitis B vaccines if HepB is indicated[4]	• Moderate or severe acute illness with or without fever
Hepatitis A-Hepatitis B vaccine (HepA-HepB) [Twinrix]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] including neomycin and yeast	• Moderate or severe acute illness with or without fever
Human papillomavirus (HPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • *Pregnancy: HPV vaccination not recommended.*	• Moderate or severe acute illness with or without fever
Measles, mumps, rubella (MMR) Measles, mumps, rubella, and varicella (MMRV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Pregnancy • Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent • For MMRV only: HIV infection of any severity	• Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product) • History of thrombocytopenia or thrombocytopenic purpura • Need for tuberculin skin testing or interferon-gamma release assay (IGRA) testing • Moderate or severe acute illness with or without fever • For MMRV only: Personal or family (i.e., sibling or parent) history of seizures of any etiology • If using MMRV, see Varicella/MMRV for additional precautions
Meningococcal ACWY (MenACWY) MenACWY-CRM [Menveo] MenACWY-TT [MenQuadfi]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For Men ACWY-CRM only: severe allergic reaction to any diphtheria toxoid— or CRM197—containing vaccine • For MenACWY-TT only: severe allergic reaction to a tetanus toxoid-containing vaccine	• For MenACWY-CRM only: Preterm birth if younger than age 9 months • Moderate or severe acute illness with or without fever
Meningococcal B (MenB) MenB-4C [Bexsero] MenB-FHbp [Trumenba]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Pregnancy • For MenB-4C only: Latex sensitivity • Moderate or severe acute illness with or without fever
Meningococcal ABCWY (MenACWY-TT/MenB-FHbp) [Penbraya]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe allergic reaction to a tetanus toxoid-containing vaccine	• Moderate or severe acute illness, with or without fever
Mpox [Jynneos]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness, with or without fever
Pneumococcal conjugate (PCV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe allergic reaction (e.g., anaphylaxis) to any diphtheria-toxoid-containing vaccine or its component[3]	• Moderate or severe acute illness with or without fever
Pneumococcal polysaccharide (PPSV23)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness with or without fever
Poliovirus vaccine, inactivated (IPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Pregnancy • Moderate or severe acute illness with or without fever
RSV monoclonal antibody (RSV-mAb)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[5]	• Moderate or severe acute illness with or without fever
Respiratory syncytial virus vaccine (RSV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness with or without fever
Rotavirus (RV) RV1 [Rotarix] RV5 [RotaTeq]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe combined immunodeficiency (SCID) • History of intussusception	• Altered immunocompetence other than SCID • Chronic gastrointestinal disease • RV1 only: Spina bifida or bladder exstrophy • Moderate or severe acute illness with or without fever
Tetanus, diphtheria, and acellular pertussis (Tdap) Tetanus, diphtheria (Td)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For Tdap only: Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures) not attributable to another identifiable cause within 7 days of administration of previous dose of DTP, DTaP, or Tdap	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of tetanus-toxoid–containing vaccine • History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid–containing vaccine • For Tdap only: Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized • Moderate or severe acute illness with or without fever
Varicella (VAR) Measles, mumps, rubella, and varicella (MMRV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Pregnancy • Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent • For MMRV only: HIV infection of any severity	• Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product) • Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination) • Use of aspirin or aspirin-containing products • Moderate or severe acute illness with or without fever • If using MMRV, see MMR/MMRV for additional precautions

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.
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, Bahta 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.
4. For information on the pregnancy exposure registry for persons who were inadvertently vaccinated with PreHevbrio while pregnant, please visit www.prehevbrio.com/#safety.
5. Full prescribing information for BEYFORTUS (nirsevimab-alip) www.accessdata.fda.gov/drugsatfda_docs/label/2023/761328s000lbl.pdf.

Addendum Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2025

In addition to the recommendations presented in the previous sections of this immunization schedule, ACIP has approved the following recommendations by majority vote since October 24, 2024. The following recommendations have been adopted by the CDC Director and are now official. Links are provided if these recommendations have been published in *Morbidity and Mortality Weekly Report (MMWR)*.

Vaccines	Recommendations	Effective Date of Recommendation*
No new vaccines or vaccine recommendations to report		

*The effective date is the date when the CDC director adopted the recommendation and when the ACIP recommendation became official.

Appendix A

Recommended and minimum ages and intervals between vaccine doses[a],[b],[c],[d]

Vaccine and dose number	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
DTaP-1[e]	2 months	6 weeks	8 weeks	4 weeks
DTaP-2	4 months	10 weeks	8 weeks	4 weeks
DTaP-3	6 months	14 weeks	6-12 months[f]	6 months[f]
DTaP-4	15-18 months	15 months[f]	3 years	6 months
DTaP-5[g]	4-6 years	4 years	—	—
HepA-1[e]	12-23 months	12 months	6-18 months	6 months
HepA-2	≥18 months	18 months	—	—
HepB-1[h]	Birth	Birth	4 weeks-4 months	4 weeks
HepB-2	1-2 months	4 weeks	8 weeks-17 months	8 weeks
HepB-3[i]	6-18 months	24 weeks	—	—
Hib-1[j]	2 months	6 weeks	8 weeks	4 weeks
Hib-2	4 months	10 weeks	8 weeks	4 weeks
Hib-3[k]	6 months	14 weeks	6-9 months	8 weeks
Hib-4	12-15 months	12 months	—	—
HPV-1 (Two-Dose Series)[l]	11-12 years	9 years	6 months	5 months
HPV-2	11-12 years (+6 months)	9 years +5 months[m]	—	—
HPV-1[n] **(Three-Dose Series)**	11-12 years	9 years	1-2 months	4 weeks
HPV-2	11-12 years (+1-2 months)	9 years (+4 weeks)	4 months	12 weeks[n]
HPV-3[n]	11-12 years (+6 months)	9 years (+5 months)	—	—
Influenza, inactivated[o]	≥6 months	6 months[p]	4 weeks	4 weeks
IPV-1[e]	2 months	6 weeks	8 weeks	4 weeks
IPV-2	4 months	10 weeks	8 weeks-14 months	4 weeks
IPV-3	6-18 months	14 weeks	3-5 years	6 months
IPV-4[q]	4-6 years	4 years	—	—
LAIV[o]	2-49 years	2 years	4 weeks	4 weeks
MenACWY-1[r]	11-12 years	2 months[s]	4-5 years	8 weeks
MenACWY-2	16 years	11 years (+ 8 weeks)[t]	—	—
MenB-1	Healthy adolescents: 16-23 years	16 years	Bexsero: 4 weeks Trumenba: 6 months[c]	Bexsero: 4 weeks Trumenba: 6 months[c]
MenB-1	Persons at increased risk: ≥10 years	10 years	Bexsero: 4 weeks Trumenba: 1–2 months[c]	Bexsero: 4 weeks Trumenba: 1 month
MenB-2	Healthy adolescents: 16-23 years (+1 month)	16 years (+1 month)	—	—
MenB-2	Persons at increased risk: ≥10 years (+1 month)	10 years (+1 month)	Bexsero: —	Bexsero: —
			Trumenba: 4-5 month[c]	Trumenba: 4 months[c]
MenB-3[u]	Persons at increased risk: ≥10 years (+6 months[c])	10 years (+6 months[c])	—	—

Vaccine and dose number	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
MMR-1[v]	12-15 months	12 months	3-5 years	4 weeks
MMR-2[v]	4-6 years	13 months	—	—
PCV13-1[j]	2 months	6 weeks	8 weeks	4 weeks
PCV13-2	4 months	10 weeks	8 weeks	4 weeks
PCV13-3	6 months	14 weeks	6 months	8 weeks
PCV13-4	12-15 months	12 months	—	—
PPSV23-1	—	2 years	5 years	5 years
PPSV23-2[w]	—	7 years	—	—
Rotavirus-1[x]	2 months	6 weeks	8 weeks	4 weeks
Rotavirus-2	4 months	10 weeks	8 weeks	4 weeks
Rotavirus-3[x]	6 months	14 weeks	—	—
Td	11-12 years	7 years	10 years	5 years
Tdap[y]	≥11 years	7 years	—	—
Varicella-1[v]	12-15 months	12 months	3-5 years	12 weeks[z]
Varicella-2[v]	4-6 years	15 months[aa]	—	—
RZV-1	≥50 years	50 years[bb]	2-6 months	4 weeks
RZV-2	≥50 years (+2-6months)	50 years	—	—

Abbreviations: DTaP = diphtheria and tetanus toxoids and acellular pertussis; HepA = hepatitis A; HepB = hepatitis B; Hib = *Haemophilus influenzae* type b; HPV = human papillomavirus; IPV = inactivated poliovirus; LAIV = live, attenuated influenza vaccine; MenACWY = quadrivalent meningococcal conjugate vaccine; MenB = serogroup B meningococcal vaccine; MMR = measles, mumps, and rubella; MMRV = measles, mumps, rubella, and varicella; PCV13 = pneumococcal conjugate vaccine; PPSV23= pneumococcal polysaccharide vaccine; PRP-OMP = polyribosylribitol phosphate-meningococcal outer membrane protein conjugate; RZV = recombinant zoster vaccine; Td = tetanus and diphtheria toxoids; Tdap = tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis.

[a] Combination vaccines are available. Use of licensed combination vaccines is generally preferred to separate injections of their equivalent component vaccines. When administering combination vaccines, the minimum age for administration is the oldest age for any of the individual components. The minimum interval between doses is equal to the greatest interval of any of the individual components.

[b] Information on travel vaccines, including typhoid, Japanese encephalitis, and yellow fever, is available at https://www.cdc.gov/travel. Information on other vaccines that are licensed in the United States but not distributed, including anthrax and smallpox, is available at http://emergency.cdc.gov/bioterrorism/.

[c] "Months" refers to calendar months.

[d] Within a number range, a hyphen (-) should be read as "through."

[e] Combination vaccines containing the hepatitis B component are available (Twinrix and Pediarix). These vaccines should not be administered to infants aged <6 weeks because of the other vaccine components (i.e., Hib, DTaP, HepA, and IPV).

[f] The minimum recommended age for DTaP-4 is 15 months, with a recommended 6 months from DTaP-3 (the recommended interval between DTaP-3 and DTaP-4 is 6 months). However, DTaP4 need not be repeated if given on or after 12 months of age and at least 4 months after DTaP-3. The 4-day grace period can be applied when validating past doses and can be applied to the minimum age of 12 months and the minimum interval of 4 months between DTaP-3 and DTaP-4. The 4-day grace period can be used when planning doses ahead of time, but should be applied to the minimum age of 15 months and the minimum interval between DTaP-3 and DTaP-4 of 6 months.

[g] If a fourth dose of DTaP is given on or after the fourth birthday, a fifth dose is not needed if the interval between the third dose and fourth dose is at least 6 months.

[h] Adjuvanted Hepatitis B vaccine (HepB-CgG) can be administered to adults 18 years old and older on a two dose schedule, the first and second dose separated by 4 weeks.

[i] HepB-3 should be administered at least 8 weeks after HepB-2 and at least 16 weeks after HepB-1 and should not be administered before age 24 weeks.

[j] For Hib and PCV13, children receiving the first dose of vaccine at age ≥7 months require fewer doses to complete the series.

[k] If PRP-OMP (Pedvax-Hib, Merck Vaccine Division) was administered at ages 2 and 4 months, a dose at age 6 months is not necessary. The final dose has a minimum age of 12 months.

[l] A two-dose schedule of HPV vaccine is recommended for most persons beginning the series between 9 through 14 years of age. See HPV vaccine-specific recommendations for details. www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6549a5.pdf.

[m] If a patient is eligible for a 2-dose HPV series, and the second dose is given less than four weeks after the first dose, it is an invalid dose. Administer another dose 6-12 months after the first dose. If the second dose is given less than five months after the first dose, but more than four weeks after the first dose, the next dose should be administered at least 12 weeks after the second dose, and at least 6-12 months after the first dose. The 4-day grace period may be used. If the third dose was administered before December 16, 2016, and was administered 12 weeks after the 2nd dose, and 16 weeks after the first dose, it is a valid dose. The 4-day grace period may be used. If the third dose was administered on or after December 16, 2016, and was administered 12 weeks after the 2nd dose and 5 months after the first dose, it is a valid dose. The 4-day grace period may be used.

Appendix A

[n] The minimum age for HPV-3 is based on the baseline minimum age for the first dose (i.e., 9 years) and the minimum interval of 5 months between the first and third dose. If the third dose was administered before December 16, 2016, and was administered 12 weeks after the 2nd dose, and 16 weeks after the first dose, it is a valid dose. The 4-day grace period may be used. If the third dose was administered on or after December 16, 2016, and was administered 12 weeks after the 2nd dose and 5 months after the first dose, it is a valid dose. The 4-day grace period may be used.

[o] One dose of influenza vaccine per season is recommended for most persons. To determine which children younger than 9 years should receive 2 doses in a single season, please see influenza vaccine-specific recommendations https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/flu.html.

[p] The minimum age for inactivated influenza vaccine varies by vaccine manufacturer. See package insert for vaccine-specific minimum ages.

[q] A fourth dose is not needed if the third dose was administered at ≥4 years and at least 6 months after the previous dose.

[r] Revaccination with meningococcal vaccine is recommended for previously vaccinated persons who remain at high risk for meningococcal disease. Cohn AC, MacNeil JR, Clark TA, et al. Prevention and control of meningococcal disease: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Recomm Rep*. 2013;62(RR-2):1-28.

[s] MenACWY-D (Menactra) can be given as young as 9 months for high-risk persons. MenACWY-CRM (Menveo) can be given as young as 2 months for high-risk persons. Hib-MenCY can be given as young as 6 weeks for high-risk persons. Hib-MenCY is given as a 4-dose series at 2 months, 4 months, 6 months and 12-18 months. MenACWY-TT (MenQuadfi) can be given as young as 2 years for high-risk persons.

[t] For routine non-high risk adolescent vaccination, the minimum age for the booster dose is 16 years.

[u] This dose is not necessary if Bexsero is correctly administered, or if Trumenba is correctly administered to healthy adolescents.

[v] Combination MMRV vaccine can be used for children aged 12 months-12 years.

[w] A second dose of PPSV23 5 years after the first dose is recommended for persons aged ≤65 years at highest risk for serious pneumococcal infection and those who are likely to have a rapid decline in pneumococcal antibody concentration. See https://www.cdc.gov/mmwr/volumes/69/rr/rr6909a1.htm.

[x] The first dose of rotavirus must be administered at age 6 weeks through 14 weeks and 6 days. The vaccine series should not be started for infants aged ≥15 weeks, 0 days. Rotavirus should not be administered to children older than 8 months, 0 days of age regardless of the number of doses received between 6 weeks and 8 months, 0 days of age. If 2 doses of Rotarix (GlaxoSmithKline) are administered as age appropriate, a third dose is not necessary.

[y] Only 1 dose of Tdap is recommended. Subsequent doses should be given as Td or Tdap. For management of a tetanus-prone wound in persons who have received a primary series of tetanus-toxoid–containing vaccine, the minimum interval after a previous dose of any tetanus-containing vaccine is 5 years.

[z] A special grace period of 2 months, based on expert opinion, can be applied to the minimum interval of 3 months, when evaluating records retrospectively, which results in an acceptable minimum interval of 4 weeks. An additional 4 days should not be added on to this grace period.

[aa] A special grace period of 2 months, based on expert opinion, can be applied to the minimum age of 15 months when evaluating records retrospectively, which results in an acceptable minimum age of 13 months. An additional 4 days should not be added on to this grace period.

[bb] If a 1st dose of recombinant zoster vaccine is administered to someone 18-49 years of age, the dose does not need to be repeated. A 4 day grace period can be added to the absolute minimum age of 18 years when evaluating records retrospectively.

Adapted from Table 3-1, ACIP General Best Practice Guidelines for Immunization. **January 2021**

Grace Period: Vaccine doses administered ≤4 days before the minimum interval or age are considered valid; however, local or state mandates might supersede this 4-day guideline.

Source:
http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/A/age-interval-table.pdf

COVID-19 Vaccine

(6 months through 17 years of age)

Vaccine Description (See Manufacturer EUA Fact Sheets for specific vaccine components)	• mRNA vaccines ◦ Pfizer-BioNTech COVID-19 Vaccine (2023-24 Formula) EUA Fact Sheet – 6 Months through 11 Years ◦ Moderna COVID-19 Vaccine (2023-24 Formula) EUA Fact Sheet – 6 Months through 11 Years ◦ Pfizer-BioNTech (Comirnaty) 2023-24 Formula Package Insert ◦ Moderna (Spikevax) 2023-24 Formula Package Insert • Protein subunit vaccine [12 years and older] ◦ Fact sheet for Healthcare Providers Administering Vaccine: Emergency Use Authorization for Novavax COVID-19 Vaccine ◦ Novavax 2023-24 Formula Package Insert
Route (all)	• Intramuscular (IM)
Indications	• COVID-19 vaccination is recommended for everyone ages 6 months and older in the United States for the prevention of COVID-19.
Dosing & Administration	• Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) • Pfizer-BioNTech (Comirnaty) 2023-24 Formula CDC Guidance • Moderna COVID-19 Vaccine (2023-2024 Formula) • Moderna (Spikevax) 2023-24 Formula CDC Guidance • Novavax 2023-24 Formula CDC Guidance *The recommended vaccine type and number of updated (2023-2024 Formula) COVID-19 vaccine doses are based on age on the day of vaccine administration, vaccination history, and immune status. • COVID-19 vaccination schedules for ages 6 months and older who are NOT immunocompromised. • COVID-19 vaccination schedules for ages 6 months and older who ARE immunocompromised. ◦ For children who transition from age 4 years to 5 years and children who are moderately or severely compromised and transition from age 11 years to 12 years, FDA allows for an alternative dosage (see above tables for guidance). ◦ Children ages 6 months–4 years should receive all doses of an mRNA COVID-19 vaccine from the same manufacturer (i.e., homologous dosing). ◦ People ages 5 years and older who are moderately or severely immunocompromised should receive a 3-dose initial mRNA vaccination series using vaccines from the same manufacturer. • For special situations regarding the interchangeability of COVID-19 vaccines click here
Booster	• Not applicable; people 6 months and older who are moderately or severely compromised may receive an additional dose of an age-appropriate updated (2023-24 Formula) vaccine, based on CDC guidelines.

Continued on Next Page

COVID-19 Vaccines
(Continued)

Contraindications	• History of severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of the COVID-19 vaccine. See the package inserts or EUA Fact Sheet for a list of vaccine components.
Precautions	• History of non-severe allergy to a component of vaccine • History of non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of one COVID-19 vaccine type • Moderate or severe acute illness, with or without fever • History of Multisystem Inflammatory Syndrome in Children (MISC-C) • History of myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine • Follow CDC Guidance on COVID-19 vaccine precautions
Adverse Reactions	• Syncope (fainting) may occur in association with any vaccination. • Local reactions may include pain/tenderness, and, less commonly, swelling, and erythema at the injection site. • Systemic reactions may include fever, irritability/crying, drowsiness/ sleepiness/fatigue, malaise, headache, chills, myalgia, arthralgia. • Localized axillary lymphadenopathy may occur on the same side as the vaccinated arm. • Infrequently, people who have dermal fillers might experience temporary swelling at or near the site of filler injection. • Myocarditis and pericarditis are rare adverse events, especially for males ages 12–39 years. See COVID-19 vaccination and myocarditis and pericarditis for additional information. • Anaphylactic reactions have been rarely reported following receipt of COVID-19 vaccines.

Continued on Next Page

COVID-19 Vaccine
(Continued)

Special Considerations	• People who recently had SARS-CoV-2 infection may consider delaying vaccination by 3 months from symptom onset or positive test (if infection was asymptomatic). • Persons with a history of multisystem inflammatory syndrome, MIS-C (children), have a precaution to receipt of COVID-19 vaccine and should be referred to a provider for further evaluation. • Development of myocarditis or pericarditis after a dose of an mRNA (Moderna, Pfizer-BioNTech) or Novavax COVID-19 vaccine is a precaution to a subsequent dose of any COVID-19 vaccine and subsequent doses should generally be avoided. • Providers should consider observing people with the following precautions to a previously administered COVID-19 vaccine for 30 minutes if a subsequent dose of the same vaccine type is administered: ◦ History of a non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of one COVID-19 vaccine type ◦ History of a diagnosed non-severe allergy to a component of the COVID-19 vaccine • Vaccination is recommended for all people aged 6 months and older, including people who are pregnant, breastfeeding, or trying to get pregnant now or who might become pregnant in the future. • COVID-19 vaccines may be co-administered with any other indicated vaccines; no minimum interval applies to receipt of other vaccines with COVID-19 vaccines. People, particularly adolescent and young adult males, who are recommended to receive both COVID-19 and smallpox/mpox vaccines might consider waiting 4 weeks between vaccines. This is because of the observed risk of myo/pericarditis after COVID-19 and ACAM2000 vaccines, and the hypothetical risk of myo/pericarditis after JYNNEOS vaccine. However, if a patient's risk of mpox or COVID-19 severe disease is increased, administration of mpox and COVID-19 vaccines should not be delayed.

Screen for contraindications and precautions using DHA Form 236 before administering EACH dose, even if a vaccine was previously administered.

- VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/covid-19.html
- Standing Orders: www.health.mil/standingorders
- ACIP Recommendations: https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html
- Additional education: https://health.mil/COVID19vaccineresources_HCP

Diphtheria Toxoid, Tetanus Toxoid and Acellular Pertussis (DTaP) Vaccine

Vaccine Description	• Brands: Infanrix®, and Daptacel® • Inactivated vaccine • Tip caps of prefilled syringes contain natural rubber latex • See package inserts for contents • DTaP is also contained in several combination vaccines (see Polio vaccine combination pages) • For the prevention of diphtheria, tetanus, and pertussis in adolescents and adults. See Tdap page for details. • DTP (whole-cell pertussis vaccine) no longer available in U.S.
Dose & Route	• Dose: 0.5 mL • Route: IM (Use IM precautions for persons with bleeding disorders or receiving anticoagulation therapy)
Indications	• DTaP is recommended for all children 2 months through 6 years of age • Do NOT use in children 7 years of age and older (use Td or Tdap as appropriate)

Recommended and Minimum Ages and Intervals Between Doses

Vaccine and Dose Number	Recommended Age	Minimum Age	Recommended Interval	Minimum Interval to Next Dose
DTaP-1[1]	2 months	6 weeks	8 weeks	4 weeks
DTaP-2	4 months	10 weeks	8 weeks	4 weeks
DTaP-3	6 months	14 weeks	6-12 months[2]	6 months[2]
DTaP-4	15-18 months	15 months[2]	3 years	6 months
DTaP-5[3]	4-6 years	4 years		

Footnotes:

- Combination vaccines containing a hepatitis B component (Pediarix) are available. These vaccines should not be administered to infants younger than 6 weeks because of the other components (i.e., Hib, DTaP, HepA, and IPV).
- The minimum recommended interval between DTaP-3 and DTaP-4 is 6 months. However, DTaP-4 need not be repeated if administered at least 4 months after DTaP-3. This is a special grace period of 2 months, which can be used when evaluating records retrospectively. An additional 4 days should not be added to this grace period prospectively, but can be added retrospectively.
- If a fourth dose of DTaP is given on or after the fourth birthday, a fifth dose is not needed.

Continued on Next Page

Diphtheria Toxoid, Tetanus Toxoid and Acellular Pertussis (DTaP) Vaccine
(Continued)

Contraindications	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP or DTaP
Precautions	• When these conditions are present, DTaP should not be given. In situations where the benefit outweighs the risk (e.g., community pertussis outbreak), vaccination may be considered by a healthcare provider: ◦ Progressive or unstable neurologic disorder, including infantile spasms, uncontrolled seizures or progressive encephalopathy; defer DTaP until neurologic status clarified and stabilized ◦ Guillain-Barre syndrome < 5 weeks after previous dose of tetanus toxoid-containing vaccine ◦ History of Arthus-type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid-containing vaccines; defer vaccination until at least 10 years have elapsed since the last tetanus toxoid-containing vaccine ◦ Moderate or severe acute illness with or without fever
Special Considerations	• DO NOT use in children age 7 years and older - use Td or Tdap instead (ACIP off-label). • Pediatric DT is used for children younger than 7 years of age when the pertussis component of DTaP is contraindicated. • DO NOT restart series, no matter how long since previous dose
• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/dtap.html • Standing orders: www.health.mil/standingorders • Additional education may be found at www.health.mil/tdap	

Diphtheria and Tetanus (DT) Toxoid Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brand: Generic only
• Inactivated vaccine
• Contains thimerosal
• See package insert</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL
• Route: IM (Use IM Precautions for persons with bleeding disorders or receiving anticoagulation therapy)</td></tr>
<tr><td>Indications</td><td colspan="2">• Pediatric DT used if a valid contraindication to pertussis vaccine exists</td></tr>
<tr><td>Administration Schedule</td><td>Dose</td><td>Recommended Age</td></tr>
<tr><td rowspan="5">Primary Schedule</td><td>DT #1</td><td>2 months (minimum age 6 weeks)</td></tr>
<tr><td>DT #2</td><td>4 months</td></tr>
<tr><td>DT #3</td><td>6 months</td></tr>
<tr><td>DT #4</td><td>15 to 18 months</td></tr>
<tr><td>DT #5</td><td>4 to 6 years</td></tr>
<tr><td>Booster</td><td colspan="2">• Refer to Td and Tdap pages</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to prior dose or vaccine component
• Do NOT use in children 7 years and older (Use Td or Tdap as appropriate)</td></tr>
<tr><td>Precautions</td><td colspan="2">• Moderate or severe acute illness with or without fever
• Guillain-Barre Syndrome (GBS) <6 weeks after previous dose of tetanus-toxoid–containing vaccine
• History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid-containing or tetanus-toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid containing vaccine</td></tr>
<tr><td>Special Considerations</td><td colspan="2">• DO NOT restart series, no matter how long since previous dose
• See Storage and Handling Section</td></tr>
</table>

Tetanus and Diphtheria (Td) Toxoid Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brands: Generic Td and Tenivac
• Inactivated vaccine
• Td contains thimerosal in multi-dose vials; the tip caps of prefilled syringes may contain natural rubber latex
• See package insert</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL
• Route: IM (Use IM Precautions for persons with bleeding disorders or receiving anticoagulation therapy)</td></tr>
<tr><td>Indications</td><td colspan="2">• People 7 years of age and older
• Tdap is recommended at 11-12 year old visit as a single, one time booster dose
• See package insert</td></tr>
<tr><td>Administration Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td rowspan="3">Primary Schedule*

*Only for previously unvaccinated patients 7 years of age and older. See CDC pediatric Catch-up</td><td>Td #1**</td><td>** Use Tdap for dose 1 if older than 10 years of age</td></tr>
<tr><td>Td #2</td><td>4 weeks after dose #1</td></tr>
<tr><td>Td #3</td><td>6 to 12 months after dose #2</td></tr>
<tr><td>Booster</td><td>Td (or Tdap if not received already)</td><td>First booster may be given at 11 to 12 years of age if at least 5 years have elapsed since the last dose of DTP, DTaP, or DT</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to prior dose or vaccine component</td></tr>
<tr><td>Precautions</td><td colspan="2">• Guillain-Barre Syndrome (GBS) <6 weeks after previous dose of tetanus-toxoid–containing vaccine
• History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid-containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid containing vaccine
• Moderate or severe acute illness with or without fever</td></tr>
<tr><td>Special Considerations</td><td colspan="2">• DO NOT restart the series, no matter how long since previous dose
• See Storage and Handling Section</td></tr>
<tr><td colspan="3">• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/td.html
• Standing orders: www.health.mil/standingorders
• Additional education may be found at www.health.mil/tdap</td></tr>
</table>

Tetanus and Diphtheria Toxoids and Acellular Pertussis (Tdap) Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">

Brands: Boostrix® and Adacel® (ages 10 years and older)
Inactivated vaccine
The tip caps of the prefilled syringes of Boostrix® and Adacel® may contain natural rubber latex which may cause allergic reactions in latex-sensitive individuals.
See package insert

</td></tr>
<tr><td>Dose & Route</td><td colspan="2">

Dose: 0.5 mL
Route: IM (Use IM precautions for persons with bleeding disorders or receiving anticoagulation therapy)

</td></tr>
<tr><td>Indications</td><td colspan="2">

At least one dose of Tdap is recommended for people 10 years and older, with recommendation of giving at 11-12 year visit (see note on pregnancy below)
If the primary series of Td has not been given or completed, Tdap can be used for one of the missing doses, preferably the first dose if 10 years or older
ACIP recommendations (off-label):

use Tdap when indicated regardless of interval since last tetanus-containing vaccine
use Tdap in undervaccinated children 7-10 years of age
give Tdap to pregnant women during each pregnancy (regardless of prior Tdap immunization) with optimal timing between 27 and 36 weeks gestation

See package insert

</td></tr>
<tr><td rowspan="2">Administration Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>Single dose</td><td>Normally given at 11-12 years of age</td></tr>
<tr><td>Contraindications</td><td colspan="2">

Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component
Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures), not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP, DTaP or Tdap

</td></tr>
</table>

Continued on Next Page

Tetanus and Diphtheria Toxoids and Acellular Pertussis (Tdap) Vaccine
(Continued)

Precautions	• Guillain-Barre Syndrome (GBS) <6 weeks after a previous dose of tetanus-toxoid–containing vaccine • Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized • History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid-containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid-containing vaccine • Moderate or severe acute illness with or without fever
Special Considerations	• See Storage and Handling section

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/tdap.html
- Standing orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/tdap

FACTOID: Pertussis is known as “whooping cough.” Infection can be life-threatening, especially to babies.

Source: https://www.cdc.gov/pertussis/fast-facts.html

Hepatitis A Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brands: Havrix® and Vaqta®
• Inactivated whole virus
• Adjuvant: aluminum hydroxide; Vial stopper, syringe cover or syringe plunger may contain latex; See package insert for location and other contents</td></tr>
<tr><td>Route</td><td colspan="2">• Route: IM (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)
Note: Havrix® should not be administered into the gluteal region due to suboptimal response.</td></tr>
<tr><td>Dose</td><td colspan="2">• Vaqta® (6 months-18 years): 25 units (0.5 mL)
• Havrix® (6 months-18 years): 720 EL.U. (0.5 mL)</td></tr>
<tr><td>Indications</td><td colspan="2">• All children and adolescents, aged ≥1 year
• If aged 6-11 months, dose prior to departing United States plus 2 doses, aged 12-23 months, separated by 6-18 months</td></tr>
<tr><td rowspan="3">Administration Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>Havrix® #1
Vaqta® #1</td><td>First dose of either brand at 1 to 18 years</td></tr>
<tr><td>Havrix® #2
Vaqta® #2</td><td>Havrix®: 6 to 12 months after dose #1
Vaqta®: 6 to 18 months after dose #1</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to prior dose or vaccine component
• Moderate or severe acute illness</td></tr>
<tr><td>Special Considerations</td><td colspan="2">• Consider simultaneous immune globulin administration if person is traveling to highly endemic area sooner than 4 weeks after administration
• Close contact of international adoptee (e.g., household or regular babysitting), within 60 days of 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)
• You may interchange brands
• DO NOT restart series, no matter how long since previous dose</td></tr>
<tr><td colspan="3">• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hep-a.html
• Standing orders: www.health.mil/standingorders
• Additional education may be found at www.health.mil/hepA</td></tr>
</table>

Hepatitis B Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brands: Engerix-B® and Recombivax HB®
• Subunit recombinant viral antigen
• Contains yeast and aluminum hydroxide; The tip cap and the rubber plunger of the needleless prefilled syringes contain dry natural latex rubber
• HepB for peds use also available in combination vaccines. See the end of this section for a list of combination vaccines.</td></tr>
<tr><td>Route</td><td colspan="2">• Route: IM (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)</td></tr>
<tr><td>Vaccine</td><td>Age</td><td>Dose</td></tr>
<tr><td>Engerix-B®</td><td>0-19 years</td><td>10 mcg (0.5 mL)</td></tr>
<tr><td rowspan="2">Recombivax HB®</td><td>0-19 years</td><td>5 mcg (0.5 mL)</td></tr>
<tr><td>11-15 years</td><td>10 mcg (1 mL) - This is a special dose for this age group and is given on a special schedule on back of card</td></tr>
<tr><td>Indications</td><td colspan="2">• Birth through 18 years of age</td></tr>
<tr><td rowspan="5">Administration Schedule

Recommended schedule for routine infant immunization is
Dose #1: birth
Dose #2: 1-2 months
Dose #3: 6-18 months</td><td>Dose</td><td>Minimum Age</td></tr>
<tr><td>#1</td><td>Birth (thimerosal-free)*</td></tr>
<tr><td>#2</td><td>1 month (thimerosal-free)</td></tr>
<tr><td>#3</td><td>6 months</td></tr>
<tr><td colspan="2">*Thimerosal-free vaccine recommended for use in infants younger than 6 months old</td></tr>
<tr><td rowspan="3">Minimum Intervals

DO NOT restart series, no matter how long since previous dose

Doses administered sooner than minimum intervals may reduce efficacy</td><td>Dose</td><td>Minimum Intervals</td></tr>
<tr><td># 1-2</td><td>4 weeks</td></tr>
<tr><td># 2-3</td><td>At least 8 weeks IF it has been at least 16 weeks since dose #1 AND child is at least 6 months of age</td></tr>
<tr><td>Schedule for 11-15 year olds with Recombivax HB®</td><td colspan="2">• 2 doses of 10 mcg (1 mL): 0 and 4-6 months</td></tr>
</table>

Continued on Next Page

Hepatitis B Vaccine
(Continued)

Contraindications	• Serious allergic reaction or adverse reaction to prior dose or vaccine component • Moderate or severe acute illness
Special Considerations	• Do not use Comvax® or Pediarix® in infants younger than 6 weeks of age • Vaccine brands interchangeable for 3-dose schedule

TABLE 3. Hepatitis B vaccine schedules for infants, by infant birthweight and maternal HBsAg status

		Single-antigen vaccine		Single-antigen + combination vaccine†	
Birthweight	**Maternal HBsAg status**	**Dose**	**Age**	**Dose**	**Age**
≥2,000 g	Positive	1	Birth (≤12 hrs)	1	Birth (≤12 hrs)
		HBIG§	Birth (≤12 hrs)	HBIG	Birth (≤12 hrs)
		2	1–2 mos	2	2 mos
		3	6 mos¶	3	4 mos
				4	6 mos¶
	Unknown*	1	Birth (≤12 hrs)	1	Birth (≤12 hrs)
		2	1–2 mos	2	2 mos
		3	6 mos¶	3	4 mos
				4	6 mos¶
	Negative	1	Birth (≤24 hrs)	1	Birth (≤24 hrs)
		2	1–2 mos	2	2 mos
		3	6–18 mos¶	3	4 mos
				4	6 mos¶
<2,000 g	Positive	1	Birth (≤12 hrs)	1	Birth (≤12 hrs)
		HBIG	Birth (≤12 hrs)	HBIG	Birth (≤12 hrs)
		2	1 mos	2	2 mos
		3	2–3 mos	3	4 mos
		4	6 mos¶	4	6 mos¶
	Unknown	1	Birth (≤12 hrs)	1	Birth (≤12 hrs)
		HBIG	Birth (≤12 hrs)	HBIG	Birth (≤12 hrs)
		2	1 mos	2	2 mos
		3	2–3 mos	3	4 mos
		4	6 mos¶	4	6 mos¶
	Negative	1	Hospital discharge or age 1 mo	1	Hospital discharge or age 1 mo
		2	2 mos	2	2 mos
		3	6–18 mos¶	3	4 mos
				4	6 mos¶

Abbreviations: HBIG = hepatitis B immune globulin; HBsAg = hepatitis B surface antigen.
* Mothers should have blood drawn and tested for HBsAg as soon as possible after admission for delivery; if the mother is found to be HBsAg positive, the infant should receive HBIG as soon as possible but no later than age 7 days.
† Pediarix should not be administered before age 6 weeks.
§ HBIG should be administered at a separate anatomical site from vaccine.
¶ The final dose in the vaccine series should not be administered before age 24 weeks (164 days).

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hep-b.html
- Standing orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/hepB

Haemophilus influenzae type b (Hib) Vaccine

Vaccine Description

- Brands: ActHIB®, PedvaxHIB® and Hiberix® (Hiberix® is not approved for primary immunization series)
- Inactivated protein conjugate vaccine
- Vaccine or diluent vial stopper may contain dry natural latex rubber (see package insert for components)

Dose & Route

- Dose: 0.5 mL
- Route: IM (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)
- Hib vaccine is also available as combined: DTaP + polio +Hib (Pentacel®)

Indications

- All children 2 months - 5 years, including those born prematurely
- People older than 5 years who are at risk, including those with:
  - Anatomical or functional asplenia
  - Cancer treated with chemotherapy (give at least 2 weeks before or 3 months after completion)
  - Immune suppression
  - Bone marrow or stem cell transplant (1 year post transplant)

Administration Schedule

	Dose #1	Dose #2	Dose #3	Booster**
PedvaxHIB®	2* months	4 months		12 to 15 months
ActHIB®	2* months	4 months	6 months	12 to 15 months

* Minimum age is 6 weeks.

The number of recommended doses varies if the series is started after age 7 months. See other side of card.

** Hiberix® can be used for the booster dose in children 15 months through 4 years of age.

- **Rules for all Hib vaccines:** Give the last dose (booster dose) at no earlier than 12 months of age and a minimum of 2 months after the previous dose
- If using Pentacel® (DTaP + polio + Hib), give doses at 2, 4, 6, and 12-15 months
- If any other Hib vaccine was used within a primary series or if the brand used is unknown, the 4-dose schedule is recommended, depending on the age of child

Minimum Intervals

- The minimum interval between all primary doses is 4 weeks as long as age restrictions are met

Continued on Next Page

Haemophilus influenzae type b (Hib) Vaccine
(Continued)

<table>
<tr><td>Contraindications</td><td colspan="3">• Serious allergic reaction to prior dose or vaccine component
• Moderate or severe acute illness</td></tr>
<tr><td>Special Considerations</td><td colspan="3">• May give simultaneously with all other vaccines but at a separate injection site
• Hib vaccines are interchangeable; however, if different brands are used or the brand used is unknown, the 4-dose schedule is recommended, depending on the age of the child
• DO NOT restart series, no matter how long since previous dose</td></tr>
<tr><td rowspan="4">Recommended “Catch-Up” Schedule

Use if Hib vaccination is not initiated by 6 months of age</td><td>Age at First Vaccination</td><td>Primary Series</td><td>Booster</td></tr>
<tr><td>7 to 11 months</td><td>Two doses, 4 weeks apart</td><td>At 12 to 15 months, at least 8 weeks after previous dose</td></tr>
<tr><td>12 to 14 months</td><td>1 dose</td><td>8 weeks after previous dose</td></tr>
<tr><td>15 to 59 months</td><td>1 dose</td><td>Not needed</td></tr>
<tr><td colspan="4">• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hib.html
• Standing orders: www.health.mil/standingorders
• Additional education may be found at www.health.mil/hib</td></tr>
</table>

Human Papillomavirus (HPV) Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="4">• Brands: GARDASIL 9®
• Inactivated recombinant 9-valent vaccine
• Contains aluminum and yeast
• See package insert</td></tr>
<tr><td>Dose & Route</td><td colspan="4">• Dose: 0.5 mL
• Route: IM (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)</td></tr>
<tr><td>Indications</td><td colspan="4">• GARDASIL 9® (9vHPV): Females 9-26 years of age (routinely given at 11-12 year old visit) and males 9-21 years of age (routinely given at 11-12 year old visit and may be given to males 22-26 years of age)</td></tr>
<tr><td rowspan="5">Administration Schedule</td><td colspan="2">2 Dose Series
For ages 9-14 years old</td><td colspan="2">3 Dose Series
For ages 15-26 years or 9-26 years with impaired immunity</td></tr>
<tr><td>Dose</td><td>Recommended Interval</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>#1</td><td>Initial dose</td><td>#1</td><td>Initial dose</td></tr>
<tr><td>#2</td><td>6-12 months after initial dose</td><td>#2</td><td>2 months after dose 1</td></tr>
<tr><td colspan="2"></td><td>#3</td><td>6 months after dose 1</td></tr>
<tr><td>Booster</td><td colspan="4">• None</td></tr>
<tr><td>Contraindications</td><td colspan="4">• Serious allergic reaction to prior dose or vaccine component
• Moderate or severe acute illness
• Pregnancy - due to lack of safety studies</td></tr>
<tr><td>Special Considerations</td><td colspan="4">• Syncope has been reported following vaccination; observation for 15 minutes after administration is recommended (see package insert)
• People with impaired immunity should receive the 3-dose series (0,2 &6 months) regardless of age
• Catch-up HPV vaccination is recommended for all persons through age 26 years who are not adequately vaccinated.</td></tr>
<tr><td colspan="5">• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/hpv-gardasil.html
• Standing orders: www.health.mil/standingorders
• Pregnancy registry available at 1-800-986-8999; also notify DHA-IHD
• Additional education may be found at www.health.mil/HPV</td></tr>
</table>

Inactivated Influenza Vaccine

(This information is current for the 2024-25 influenza season)

<table>
<tr><td>Vaccine Description</td><td colspan="3">

As influenza products differ in approved age ranges and dosages, it is imperative to verify with the manufacturer package insert.

Trivalent: Afluria® (IIV3), Fluarix® (IIV3), FluLaval® (IIV3), and Fluzone® (IIV3)
Cell Cultured-Based: Flucelvax® (ccIIV3)

The tip cap and rubber plunger of needleless prefilled syringes may contain dry natural latex rubber (see package inserts); Thimerosal may be found in multi-dose vials. Preservative-free forms are available. Some brands contain minute quantities of egg protein.

</td></tr>
<tr><td rowspan="9">Dose & Route</td><td>Approved age range</td><td>Trade Name</td><td>Dose/Route</td></tr>
<tr><td rowspan="2">6 months to 35 months</td><td>Fluzone® (IIV3)</td><td>0.25 ml or 0.50 ml IM* (See Special Considerations)</td></tr>
<tr><td>Afluria® (IIV3)</td><td>0.25 mL IM*</td></tr>
<tr><td rowspan="3">≥ 6 months</td><td>Fluarix® (IIV3)</td><td>0.5 mL IM*</td></tr>
<tr><td>Flulaval® (IIV3)</td><td>0.5 mL IM*</td></tr>
<tr><td>Flucelvax® (ccIIV3)</td><td>0.5 mL IM*</td></tr>
<tr><td rowspan="2">≥ 3 years</td><td>Fluzone® (IIV3)</td><td>0.5 mL IM*</td></tr>
<tr><td>Afluria® (IIV3)</td><td>0.5 mL IM*</td></tr>
<tr><td colspan="3">*Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy</td></tr>
<tr><td colspan="3">IIV3=egg based trivalent inactivated influenza vaccine (injectable); ccIV3=cell cultured, trivalent inactivated influenza vaccine</td></tr>
<tr><td>Indications</td><td colspan="3">All people 6 months of age and older</td></tr>
<tr><td>Administration Schedule</td><td>Age</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td rowspan="3">6 months through 8 years of age</td><td>6 to 35 months</td><td>Afluria® and Fluzone® 0.25 mL</td><td rowspan="3">Two doses (separated by ≥ 4 weeks) are recommended for children 6 months - 8 years of age if they have not received 2 doses in prior seasons (does not need to be same or consecutive seasons). Both doses should be administered even if the child turns 9 years of age between receipt of dose 1 and dose 2.</td></tr>
<tr><td>≥ 6 months</td><td>Flulaval® 0.5 mL</td></tr>
<tr><td>≥ 3 years</td><td>0.5 mL</td></tr>
<tr><td>≥ 9 years of age</td><td>≥ 9 years</td><td>One dose 0.5 mL</td><td>Annually</td></tr>
</table>

Continued on Next Page

Inactivated Influenza Vaccine
(Continued)

Indications	• All children and teens 6 months of age and older, who do not have a contraindication, should receive the age-appropriate formulation of inactivated influenza vaccine (IIV) each year. (Note: healthy, non-pregnant persons 2 through 49 years of age without high risk health conditions can receive IIV or LAIV*). • A second dose of influenza vaccine is recommended 4 weeks or more after the first dose for children age 6 months through 8 years if they have not received 2 doses in previous years (not necessarily in the same season).
Contraindications	• Do not give influenza vaccine to a child or adolescent who has experienced a serious systemic or anaphylactic reaction to a prior dose of the vaccine or to any of its components (for a list of vaccine components, refer to the manufacturer's package insert (www.health.mil/flu) or go to the CDC Pink Book Appendix B.
Precautions	• Moderate or severe acute illness with or without fever • History of Guillain-Barré syndrome within 6 weeks of a previous influenza vaccination
Special Considerations	• Immunization providers should check Food and Drug Administration-approved seasonal influenza vaccines prescribing information for the most complete and up-to-date information, including (but not limited to) indications, contraindications, warnings, and precautions. Package inserts for U.S. licensed vaccines are available at: www.health.mil/flu. • Once the stopper of the multi-dose vial has been pierced, the vial must be discarded either at the expiration date on the vial or within 28 days — see the package insert for specific guidance. • It is important to review CDC/ACIP guidelines for LAIV use before each flu season. • The FluLaval® (IIV3) 0.5mL dose is the same for adults and children. • Children who are immunocompromised may have reduced immune response. • Fluzone for ages 6-35 months old: The schedule can be completed as two 0.25-mL doses ≥4 weeks apart, two 0.50mL doses ≥4 weeks apart, or any combination of 2 doses (either 0.25 mL or 0.50 mL) administered ≥4 weeks apart. • See Storage and Handling Section

- Patient screening: www.health.mil/fluscreening
- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/flu.html
- Standing orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/flu

Live Attenuated Influenza Vaccine (FluMist®)

(This information is current for the 2024-25 influenza season)

<table>
<tr><td>Vaccine Description</td><td colspan="3">• Brand: FluMist Trivalent®
• Live virus, nasally administered influenza vaccine, contains egg protein, gelatin, and gentamicin. See package insert.
* It is important to review CDC/ACIP guidelines for LAIV use before each flu season.</td></tr>
<tr><td>Dose & Route</td><td colspan="3">• Dose: 0.2 mL (administered as 0.1 mL per nostril)
• See package insert for administration guidance.</td></tr>
<tr><td>Indications</td><td colspan="3">• Healthy non-pregnant persons 2 through 49 years of age
• NOT indicated for immunization of people younger than 2 years or older than 49 years, nor for treatment of influenza, nor will it protect against infection and illness caused by infectious agents other than the included influenza A or B viruses</td></tr>
<tr><td rowspan="3">Administration Schedule</td><td>Age Groups</td><td>Vaccination Status</td><td>Dosage/Schedule</td></tr>
<tr><td>Children ages 2 years through 8 years</td><td>Not previously vaccinated against influenza or did not receive 2 or more doses since July 1, 2010</td><td>Two doses (separated by ≥ 4 weeks) are recommended for children 2 - 8 years of age if they have not received 2 doses in prior seasons (does not need to be same or consecutive seasons). Both doses should be administered even if the child turns 9 years of age between receipt of dose 1 and dose 2.</td></tr>
<tr><td>Children and adults ages 9 through 49 years</td><td>Not applicable</td><td>1 dose (0.2 mL) per season</td></tr>
<tr><td>Contraindications</td><td colspan="3">Do not give influenza vaccine to a child or adolescent (2 to 17 years of age) who has:
• Experienced an anaphylactic reaction to a prior dose of the vaccine or to any of its components. For a list of vaccine components, go to the CDC Pink Book Appendix B or refer to the manufacturer’s package insert at https://health.mil/flu.
• Chronic aspirin or salicylate-containing medication therapy because of the risk for Reye syndrome
• No spleen or a non-functioning spleen
• Known or suspected immune-deficiency diseases, such as combined immunodeficiency, agamma-globulinemia, and thymic abnormalities, or leukemia, lymphoma or malignancy
(continues on next page)</td></tr>
</table>

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Live Attenuated Influenza Vaccine
(Continued)

Contraindications *(continued)*	• Immune suppression or immune compromised due to treatment with systemic corticosteroids, alkylating drugs, antimetabolites, radiation, or other immune suppressing therapies • Pregnancy • Received influenza antivirals (e.g., oseltamivir and zanamivir within the previous 48 hours; peramivir within the previous 5 days; or baloxavir within the previous 17 days) • Children aged 2-4 years diagnosed with asthma or whose caregivers report a wheezing episode w/i the past 12 months • Persons with leak between the CSF and the oropharynx, nasopharynx, nose, or ear or any other cranial CSF leak • Persons with cochlear implants
Precautions	• Moderate or severe acute illness (including nasal congestion) • History of Guillain-Barré Syndrome within 6 weeks of a previous influenza vaccine receipt • Chronic conditions that place children at high risk for complications from influenza illness (e.g., heart disease, diabetes, renal disease, sickle cell anemia) • Asthma in people 5 years and older
Special Considerations	• Give inactivated influenza vaccine (IIV) instead of LAIV to individuals who are in close contact with others who are severely immune-compromised • LAIV may be given at the same time as other live injectable vaccines, including MMR or varicella. But if two live vaccines are not given on the same day, they should be given at least 4 weeks apart. • Defer administration if nasal congestion might prevent LAIV from reaching nasopharyngeal mucosa • See Storage and Handling section

- Patient screening: www.health.mil/fluscreening
- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/flulive.html
- Standing orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/flu

Japanese Encephalitis Vaccine

Vaccine Description	• Brands: Ixiaro® • Inactivated • Contains bovine serum albumin, protamine sulfate • See package insert
Dose and Route	• Dose: ◦ ***0.25 mL*** (for persons 2 months to <3 years of age): must expel and discard half of the volume of the 0.5 mL pre-filled syringe by pushing the plunger stopper to the edge of the red line on the syringe barrel prior to injection. ◦ ***0.5 mL*** (for persons 3 years and older) • Route: IM (Use IM Precautions for persons with bleeding disorders or receiving anticoagulation therapy) • See package insert
Indications	• Individuals 2 months of age and older spending a month or longer in endemic areas (especially rural) during transmission season (determine risk by checking CDC or other travel medicine websites or check your local travel clinic for guidance)
Administration Schedule	• 2 doses at 0 and 28 days NOTE: Last dose should be given at least 7 days before international travel to ensure adequate immunity
Booster	• Individuals 14 months of age and older: A one-time booster dose may be given at least 11 months after completion of the primary immunization series if ongoing exposure or re-exposure to JE virus is expected. Children who get the booster dose before age 3, should get 0.25 mL dose.
Contraindications	• Serious allergic reaction to prior dose of Ixiaro® or other JEV vaccine, vaccine component, including protamine sulfate • Younger than 2 months of age
Precautions	• Moderate or severe acute illness with or without fever. • Altered immunocompetence may result in reduced vaccine effectiveness. • Safety and effectiveness of JE vaccines have not been established in pregnant women; use in pregnancy should be considered with clinical consultation of potential risk and benefit.
Special Considerations	• Suspension for injection supplied in 0.5 mL single dose syringes. For children 3 years of age and younger, ½ of the syringe contents are expelled (to the red line) prior to injection. • See Storage and Handling Section

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/je-ixiaro.html
- Standing orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/JEV

Measles, Mumps, Rubella (MMR) Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brand: M-M-R II®
• Live attenuated combined vaccine
• Contains neomycin, gelatin, (See package insert)
• Also available as combined MMR and varicella (ProQuad) for routine use for children during the 4-6year dose of MMR and Varicella
• See ProQuad® package insert for components</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL
• Route: SC</td></tr>
<tr><td>Indications</td><td colspan="2">• All individuals 12 months of age and older
• In the event of an outbreak, local health authorities may recommend for infants 6 to 12 months of age
• For children who will travel internationally, MMR-containing vaccine may be administered between 6 and 12 months of age.</td></tr>
<tr><td rowspan="3">Administration Schedule</td><td>Dose</td><td>Recommended Age</td></tr>
<tr><td>#1</td><td>12 to 15 months</td></tr>
<tr><td>#2</td><td>4 to 6 years</td></tr>
<tr><td rowspan="3">Minimum Age and Intervals

(Refer to CDC website for catch-up and combination vaccine schedules)</td><td>Dose</td><td>Minimum Interval</td></tr>
<tr><td>#1</td><td>12 months of age [May be administered earlier in an outbreak situation or with pending international travel; however, any dose of MMR containing vaccine administered before 12-months of age should not be counted as one of the two doses recommended in childhood. Revaccination required after 12 months of age]</td></tr>
<tr><td>#2</td><td>Minimum interval is at least 28 days after dose #1. However, 2nd dose of MMR is usually given at 4 to 6 years of age, before school entry.</td></tr>
</table>

Continued on Next Page

Measles, Mumps, Rubella (MMR)
(Continued)

Precautions	• Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product); see CDC Guidelines • History of thrombocytopenia or thrombocytopenic purpura • Moderate or severe acute illness with or without fever. • A personal or family history of seizures is a precaution for MMRV. Because of potential increased risk for febrile seizures after MMRV in children 12-47 months, MMR and Varicella vaccines should be administered separately in this age group.
Contraindications	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Pregnancy (or planned pregnancy in 1 month) • Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised)
Special Considerations	• In mumps outbreak situations, MMR may be recommended for previously vaccinated children, not to exceed a maximum of 3 lifetime doses of MMR. • Tuberculin skin test (TST or PPD) can be applied at same visit as MMR. Delay TST for at least 4 weeks if MMR given first or apply TST first, then give MMR after TST is interpreted. • If another live injected vaccine and MMR are both needed and not administered on the same day, space vaccines at least 4 weeks apart • ProQuad® (MMRV) may be used when both MMR and Varicella vaccines are indicated but, unless the parent or caregiver expresses a preference for MMRV vaccine, separate MMR and Varicella vaccines should be administered for the first dose for children 12 through 47 months of age. • Post vaccination serologic testing to verify an immune response is not routinely recommended • Two documented age appropriate MMR vaccinations are evidence of immunity and supersede subsequent negative serologic testing (MMWR 2013;62(4):8) • See Storage and Handling Section

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mmr.html
- Standing orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/MMR

Meningococcal (A,C,W,Y) Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brands: Menveo® and MenQuadfi®
• Inactivated, bacterial polysaccharide conjugate (MCV4)
• See package insert</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL
• Route: IM (Menveo®, MenQuadfi®) (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)
• See package insert</td></tr>
<tr><td>Indications</td><td colspan="2">• Routine vaccination against meningococcal disease is not recommended for children aged 2 months through 10 years of age.
• All children at age 11 to 12 years and unvaccinated adolescents at subsequent visit
• College freshmen living in dormitories
• Children 2 months and older who:
◦ Have functional or anatomic asplenia, including sickle cell disease
◦ Have certain immune system disorders (complement
◦ Component deficiency)
◦ Are traveling to or living in an endemic area
◦ Have been exposed to meningitis during an outbreak
◦ Have HIV
◦ Are taking a complement inhibitor (e.g., Solaris)
• Menveo® is licensed for use in ages 2 months - 55 years of age; MenQuadfi® is licensed for ages 2 years and older</td></tr>
<tr><td rowspan="3">Administration Schedule

See package insert for vaccine-specific schedule</td><td>Age</td><td>Schedule</td></tr>
<tr><td>INCREASED RISK
2-23 mos of age
(complement deficiency; asplenia; outbreak; HIV; travel)</td><td>Primary vaccination: Menveo:
If first dose at age:
• 2 mos: 4 doses at 2, 4, 6, and 12 mos
• 3–6 mos: 8-week intervals until ≥ 7 months. One additional dose is given ≥7 months followed by 1 dose at least 12 weeks later and after the 1st birthday
• 7–23 mos: 2 doses (second dose ≥12 wks after the first dose and after the 1st birthday)</td></tr>
<tr><td>NO RISK
11-18 yrs of age</td><td>• Give dose #1 of 2-dose MCV4 series. Dose #2 will be due at age 16 years.
• For 1st yr college student (19 - 21 yrs in dorm): 1 dose MCV4 if none prior, or 1 dose (#2) if single dose given before age 16.</td></tr>
</table>

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Meningococcal (A,C,W,Y) Vaccine
(Continued)

<table>
<tr><td rowspan="2">Administration Schedule
(continued)

See package insert for vaccine-specific schedule</td><td>TRAVEL RISK
2-18 yrs of age
(Travel to endemic area or outbreak)</td><td>If unimmunized: 1 dose of MCV4 with booster every 5 years if travel risk persists</td></tr>
<tr><td>HEALTH RISK
2-18 yrs of age (complement deficiency; asplenia, HIV)</td><td>Primary: Menveo or MenQuadfi
• 2 doses ≥8 wks apart
• Boosters (if person remains at increased risk)
• Aged <7 yrs: Single dose at 3 yrs after primary vaccination and every 5 yrs thereafter
• Aged ≥7 yrs: Single dose at 5 yrs after primary vaccination and every 5 yrs thereafter</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to prior dose or vaccine component
• Moderate or severe acute illness
• Children younger than 2 months of age (Menveo®) or 2 years of age (MenQuadfi®)
• Menveo: severe allergic reaction to any diphtheria toxoid or CRM197 containing vaccine
• MenQuadfi: severe allergic reaction to a tetanus toxoid-containing vaccine</td></tr>
<tr><td>Special Considerations</td><td colspan="2">• Menveo® and MenQuadfi® have not been widely studied in pregnant and lactating women and should be given only if clearly indicated.
• *Penbraya (MenABCWY) is licensed as a 2-dose series given 6 months apart, for individuals aged 10-25 years. Pfizer's MenABCWY vaccine may be used when both MenACWY and MenB are indicated at the same visit for:
◦ Healthy individuals age 16 through 23 years (routine schedule) when shared clinical decision-making (SCDM) favors administration of MenB vaccination (requires order from privileged provider).
◦ Individuals age 10 years and older at increased risk of meningococcal disease (e.g., due to persistent complement deficiencies, complement inhibitor use, or functional or anatomic asplenia) due for both vaccines
◦ The MenB component of Penbraya is the MenB vaccine Trumenba. As Trumenba and Bexsero are not interchangeable, a primary series and any future MenB booster doses must be of the same brand.
• See Storage and Handling Section</td></tr>
<tr><td colspan="3">• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening.html
• Standing orders: www.health.mil/standingorders
• Dosing Schedule: www.immunize.org/catg.d/p2018.pdf
• Pregnancy registry for Menactra®: 1-800-822-2463
• Pregnancy registry for Menveo®: 1-877-413-4759; also notify DHA-IHD
• Additional education may be found at www.health.mil/meningococcal</td></tr>
</table>

Meningococcal B Vaccines

Vaccine Description	• Brands: Bexsero® (MenB-4C), Trumenba® (MenB-FHbp) • Inactivated (recombinant) vaccine • MenB-4C contains 3 recombinant cell surface proteins • MenB-FHbp contains 2 FHbp variants • Bexsero®: Tip cap contains natural rubber latex • See package insert
Dose & Route	• Dose: 0.5 mL • Route: IM in deltoid region of upper arm. (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy) • See package insert
Indications	• MenB vaccine is routinely recommended for children 10 years of age and older at increased risk due to: ◦ A serogroup B meningococcal disease outbreak, or ◦ Certain medical conditions such as: ▪ A non-functioning, absent, or removed spleen (asplenia) ▪ A complement (immune) component deficiency (e.g., C5-C9, properdin, factor H, or factor D) ▪ Complement inhibiter use (i.e., Solaris) • The safety and effectiveness of MenB vaccines have not been established in children younger than 10 years of age. • MenB vaccines may be prescribed based on shared decision making for healthy adolescents 16 through 18 years of age anticipating living in residence halls upon entering college or other healthy adolescents. • MenB vaccine is not recommended for children or adolescents who travel to or reside in countries where meningococcal disease is hyperendemic or epidemic (because the risk for meningococcal disease in these countries generally is not caused by serogroup B). • Before administering MenB vaccines, providers should consult the package insert for precautions, warnings, and contraindications.
Administration Schedule	• Trumenba® (MenB-FHbp) and Bexsero® are licensed as both a 2-dose (0 & 6 months) and 3-dose (0, 1-2, & 6 months) series. • For persons at increased risk for meningococcal disease (see indications): administer 3 doses of Trumenba® or Bexsero® at 0, 1-2, and 6 months. • For healthy adolescents not at increased risk: administer 2 doses of Trumenba® or Bexsero® at 0 and 6 months. • The 3-dose series (0, 1-2, 6 months) may be used to optimize rapid protection for healthy individuals who initiate the vaccine series less than 6 months prior to increased risk (e.g., within 6 months of college entry). • Bexsero® and Trumenba® are NOT interchangeable. • May be given with other age-appropriate vaccines, but at different anatomic sites if feasible.

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Meningococcal B Vaccines
(Continued)

Booster	• Booster doses for previously vaccinated persons is not routinely recommended unless person becomes or remains at increased risk. A booster dose 1 year after primary series and every 2-3 years can be considered. Administration of booster doses is considered off label.
Contraindications	• Severe allergic reaction to a previous dose of Bexsero® or Trumenba® or any component of the vaccines.
Special Considerations	• Defer administration of MenB vaccine during pregnancy or lactation unless the adolescent is at increased risk for meningococcal B disease and benefits of vaccination outweigh potential risks • If the second dose is administered earlier than 6 months after the first dose, a 3rd dose should be administered ≥4 months after the 2nd dose. • Bexsero® and Trumenba® are NOT interchangeable. • Immediately prior to administration of either vaccine, shake single-dose prefilled syringe well to obtain a homogeneous suspension. • Either MenB vaccine may be administered to immunosuppressed individuals; however, immune response may be reduced. • Storage and Handling: ◦ Bexsero®: 2–8°C; protect from light. Do not freeze; if freezing occurs, discard vaccine. ◦ Trumenba®: 2–8°C. Store syringes horizontally (lying flat) to minimize redispersion time. Do not freeze; if freezing occurs, discard vaccine. • **Penbraya® (MenABCWY) is licensed as a 2-dose series given 6 months apart, for individuals aged 10-25 years. Pfizer's MenABCWY vaccine may be used when both MenACWY and MenB are indicated at the same visit. • The MenB component of Penbraya® is the MenB vaccine Trumenba®. As Trumenba® and Bexsero® are not interchangeable, a primary series and any future MenB booster doses must be of the same brand.
• VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening-serogroup.html • Standing orders: www.health.mil/standingorders • Pregnancy registry for Bexsero®: 1-877-311-8972; also notify DHA-IHD • Additional education may be found at www.health.mil/meningococcal	

Pneumococcal Conjugate Vaccines

Vaccine Description	• **Brand: VAXNEUVANCE™ (PCV15)** • **Brand: Prevnar 20™ (PCV20)** • Inactivated protein-conjugated vaccines • Contain diphtheria protein and aluminum phosphate • See package inserts for more information and full lists of vaccine components
Dose & Route	• Dose: 0.5 mL • Route: IM
Indications	• All persons 2 – 59 months of age • Persons 6 – 18 years of age with certain risk factors: ◦ Cerebrospinal fluid (CSF) leak ◦ Chronic heart disease (especially cyanotic congenital heart disease and cardiac failure) ◦ Chronic kidney disease (excluding maintenance dialysis and nephrotic syndrome, which are included in immunocompromising conditions) ◦ Chronic liver disease ◦ Chronic lung disease (including moderate persistent or severe persistent asthma) ◦ Cochlear implant ◦ Diabetes mellitus ◦ Immunocompromising conditions (e.g., on maintenance dialysis or with nephrotic syndrome; congenital or acquired asplenia or splenic dysfunction; congenital or acquired immunodeficiencies; diseases and conditions treated with immunosuppressive drugs or radiation therapy, including malignant neoplasms, leukemias, lymphomas, Hodgkin disease, and solid organ transplant; HIV infection; and sickle cell disease or other hemoglobinopathies).

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Pneumococcal Conjugate Vaccines
(Continued)

Administration Schedules	• **VAXNEUVANCE™ (PCV15)** ◦ Age 2 - 59 months: four routine doses at ages 2, 4, 6, and 12 - 15 months ◦ An additional dose may be indicated at ages 6 - 18 years. • **Prevnar 20™ (PCV20)** ◦ Age 2 - 59 months: four routine doses at ages 2, 4, 6, and 12 - 15 months ◦ Doses may be indicated at ages 2 - 18 years for persons who only received PCV13 or PCV15. • **See Pneumococcal Vaccine Schedule tables on the following pages for specific dosing and intervals.**
Contraindications	• Serious reaction (e.g., anaphylaxis) after a previous dose of pneumococcal vaccine, to any vaccine containing diphtheria toxoid, or to a vaccine component (including yeast)
Precautions	• Moderate or severe acute illness with or without fever.
Special Considerations	• Pregnancy: provider may consider giving if increased risk for infection or poor outcome from infection. • For individuals with anatomic or functional asplenia and/or HIV: PCV vaccines and Menactra (MenACYW-D) should not be given concomitantly. Administer Menactra ≥ 4 weeks after completion of all PCV doses.

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/pcv.html
- Standing orders: www.health.mil/standingorders
- MMWR: https://www.cdc.gov/mmwr/volumes/72/wr/mm7239a5.htm
- Additional education may be found at www.health.mil/pneumococcal

Pneumococcal Polysaccharide Vaccine

Vaccine Description	• **Brand: PNEUMOVAX 23® (PPSV23)** • Inactivated bacterial polysaccharide vaccine • Contains phenol • See package insert for more information and a full list of vaccine components
Dose & Route	• Dose: 0.5 mL • Route: IM or SC
Indications	• Persons 2 – 18 years of age with certain risk factors (see Pneumococcal Conjugate Vaccines – Pediatric above) who previously received PCV13 or PCV15. • Not indicated for individuals who previously received PCV20.
Administration Schedule	• One or two doses after receipt of PCV13 or PCV15 ◦ When PCV20 is used, no subsequent PPSV23 is recommended. • **See Pneumococcal Vaccine Schedule table on the following page for specific dosing and intervals.**
Contraindications	• Serious reaction (e.g., anaphylaxis) after a previous dose of pneumococcal vaccine or to a vaccine component.
Precautions	• Moderate or severe acute illness with or without fever. • Persons with severely compromised cardiovascular or pulmonary function in whom a systemic reaction would pose a significant risk.
Special Considerations	• Pregnancy: provider may consider giving if increased risk for infection or poor outcomes from infection.

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/ppv.html
- Standing orders: www.health.mil/standingorders
- MMWR: https://www.cdc.gov/mmwr/volumes/72/wr/mm7239a5.htm
- Additional education may be found at www.health.mil/pneumococcal

Continued on Next Page

Pneumococcal Vaccine Schedule (Pediatric)

Do not give pneumococcal conjugate (PCV) and pneumococcal polysaccharide (PPSV) vaccine at the same visit.

Age 2 – 59 months (all individuals)

Routine schedule:

Age:	2 months	4 months	6 months	12 – 15 months
	PCV15 or PCV20	PCV15 or PCV20	PCV15 or PCV20	PCV15 or PCV20

Age 2 – 18 years with any risk condition* and completed all recommended routine PCV doses before age 6 years:

a. Recommended routine PCV doses included ≥ 1 dose PCV20:

No additional doses of **any** pneumococcal vaccine indicated until age ≥ 65 years

b. Recommended routine PCV doses included PCV13 or PCV15 (no PCV20):

Last recommended PCV13 or PCV15 → 8 weeks → PCV20 OR PPSV23

Additional dose for immunocompromising conditions:

- Asplenia or splenic dysfunction
- Chronic renal failure
- Generalized malignancy
- HIV infection
- Hodgkin disease
- Iatrogenic immunosuppression
- Leukemia
- Lymphoma
- Multiple myeloma
- Nephrotic syndrome or on maintenance dialysis
- SCD or other hemoglobinopathies
- Solid organ transplant

→ 5 years → PCV20 OR PPSV23

Age 6 – 18 years with any risk condition* and have not received PCV13, PCV15, or PCV20†:

PCV20 → No additional doses of **any** pneumococcal vaccine indicated until age ≥ 65 years

OR

PCV15 → 8 weeks → PPSV23

If PCV15 and PPSV23 are used instead of PCV20 for children with an immunocompromising condition*, either PCV20 or a second PPSV23 dose is recommended 5 years later (see additional dose after PPSV23 in section b above).

- **Complete all recommended PCV doses before giving PPSV23**
- **No more than two doses of PPSV23 recommended before age 65 years**

Poliovirus Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="3">

Brand: IPOL®
Inactive polio virus (IPV)
Contains neomycin, streptomycin, polymyxin B, and calf serum proteins,
Also available as combined DTaP-HepB-IPV (Pediarix®); combined DTaP-IPV (Kinrix™); combined DTaP-Hib/IPV (Pentacel®); combined DTaP-IPV (Quadracel®)
Contain neomycin, polymyxin B, calf serum proteins, yeast; the tip caps of prefilled syringe may contain natural rubber latex (See package insert)

[Live attenuated oral polio vaccine (OPV) is no longer distributed in the US]
</td></tr>
<tr><td>Dose & Route</td><td colspan="3">

Dose: 0.5 mL
Route: IPOL® is administered SC or IM (Use IM Precautions for persons with bleeding disorders or receiving anticoagulation therapy)
Pediarix®, Kinrix®, Pentacel®, and Quadracel® are administered IM

</td></tr>
<tr><td>Indications</td><td colspan="3">

All infants and children 2 months of age and older
Consider vaccination of travelers to polio-endemic countries

</td></tr>
<tr><td rowspan="5">Routine Administration Schedule

(Refer to CDC website for catch-up and combination vaccine schedules)</td><td>Dose</td><td>Recommended Age</td><td>Minimum Interval (from prior dose)</td></tr>
<tr><td>#1</td><td>2 months</td><td></td></tr>
<tr><td>#2</td><td>4 months</td><td>4 weeks</td></tr>
<tr><td>#3</td><td>6 to 18 months</td><td>4 weeks</td></tr>
<tr><td>#4</td><td>4 to 6 years</td><td>6 months</td></tr>
<tr><td>Contraindications</td><td colspan="3">

Serious allergic reaction to prior dose or vaccine component

</td></tr>
</table>

Continued on Next Page

Poliovirus Vaccine
(Continued)

Special Considerations	• DO NOT restart series, no matter how long since previous dose • May give dose #1 as early as 6 weeks of age • The final dose in the IPV series should be administered at age 4 years or older regardless of the number of previous doses • If person previously given OPV, finish series with IPV • 4 doses of any combination of OPV or IPV by 4 to 6 years of age constitutes a complete series • A fourth dose is not needed if the third dose was administered at 4 years of age or older and at least 6 months after the previous dose • Clarification from ACIP: When DTaP-IPV/Hib (Pentacel®) is used to provide 4 doses at ages 2, 4, 6, and 15--18 months, an additional booster dose of age-appropriate IPV-containing vaccine (IPOL® or DTaP-IPV† [Kinrix®]) should be administered at age 4-6 years. This will result in a 5-dose IPV vaccine series, which is considered acceptable by ACIP. DTaP-IPV/Hib is not indicated for the booster dose at age 4--6 years. ACIP recommends that the minimum interval from dose 4 to dose 5 should be at least 6 months to provide an optimum booster response. • If a child misses an IPV dose at age 4--6 years, the child should receive a booster dose as soon as feasible • Quadracel® is to be used as a fifth dose of DTaP and fourth or fifth dose of IPV in children 4 -6 years who received DTaP-Hib/IPV (Pentacel®) and/or DTaP (Daptacel®) vaccine as the first 4 doses. This vaccine should not be administered to children aged <4 years or ≥7 years. • Recently the CDC and WHO issued interim guidance for polio vaccination for travel to and from countries affected by wild poliovirus and includes exit requirements for proof of polio vaccination when leaving the country at borders and airports. Check CDC or other travel medicine websites or check with local travel clinic for guidance.
• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/ipv.html • Standing orders: www.health.mil/standingorders • Additional education may be found at www.health.mil/polio	

Rotavirus Vaccine

Vaccine Description

- Brands: RotaTeq® (RV-5) and Rotarix® (RV-1)
- Live, oral vaccine
- Rotarix® contains latex in the oral applicator
- See package inserts for full list of contents

Dose & Route

- Dose: 2 mL (RotaTeq®); 1 mL (Rotarix® - vial and oral dosing applicator) and 1.5 mL (Rotarix® - oral dosing applicator only)
- Route: Orally
- See package insert

Indications

- Licensed for the prevention of rotavirus gastroenteritis in infants 6 weeks through 32 weeks of age

Administration Schedule

* NOTE: First and final dose recommendation differs slightly from the manufacturers' package inserts

Vaccine	Dose 1	Dose 2	Dose 3
RotaTeq®	2 months	4 months	6 months
Rotarix®	2 months	4 months	

Rules for rotavirus vaccines:

- Minimum of 4 weeks must separate doses
- First dose can be given as early as 6 weeks of age and should be given by 14 weeks and 6 days (per ACIP*); Vaccination should not be initiated for infants 15 weeks and 0 days or older because of insufficient data on safety of dose 1 of the vaccine in older infants.
- The maximum age for the last dose of rotavirus vaccine is 8 months and 0 days (per ACIP*)
- If any dose in series was RV-5 or product is unknown for any dose in the series, a total of 3 doses of rotavirus vaccine should be administered

Contraindications

- Serious allergic reaction to prior dose or vaccine component
- Moderate or severe acute illness
- Immune suppression, including Severe Combined Immunodeficiency Disease (SCID)
- History of intussusception
- Precautions: Altered immunocompetence other than SCID, chronic gastrointestinal disease, RV1 only: spina bifida or bladder exstrophy and moderate or severe acute illness with or without fever

Special Considerations

- DO NOT restart series, no matter how long since previous dose
- If for any reason an incomplete dose is administered, a replacement dose is not recommended
- See Storage and Handling Section

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/rotavirus.html
- Standing orders: www.health.mil/standingorders
- Additional education may be found at www.health.mil/rotavirus

Tick-Borne Encephalitis Vaccine (TBE)

<table>
<tr><td>Vaccine Description</td><td>• TICOVAC™
• Inactivated
• Contains human serum albumin, protamine sulfate, trace amounts of neomycin and gentamicin
• See package insert</td></tr>
<tr><td>Dose & Route</td><td>• Dose: 0.25 mL
• Route: IM (Use IM precautions for persons with bleeding disorders or receiving anticoagulant therapy)</td></tr>
<tr><td>Indications</td><td>• Individuals 1 – 15 years of age
• Recommended for people who are living or traveling overseas to a tick-borne encephalitis (TBE) endemic area and will extensive exposure to ticks based on their planned outdoor activities and itinerary.</td></tr>
<tr><td>Administration Schedule</td><td>• Complete the primary immunization series at least 1 week prior to potential exposure to tick-borne encephalitis virus (TBEV)
<table>
<tr><th>Dose</th><th>Recommended Interval</th></tr>
<tr><td>1</td><td>Day 0</td></tr>
<tr><td>2</td><td>1-3 mo after first vaccination</td></tr>
<tr><td>3</td><td>5-12 mo after second vaccination</td></tr>
</table></td></tr>
<tr><td>Booster</td><td>• 4th dose may be given at least 3 years after completion of primary immunization series if ongoing exposure or re-exposure is expected</td></tr>
<tr><td>Contraindications</td><td>• Severe allergic reaction (e.g. anaphylaxis) to any component of TICOVAC</td></tr>
<tr><td>Precautions</td><td>• Some individuals with altered immunocompetence may have reduced immune response
• Vaccination with TICOVAC™ may not protect all individuals
• There are no adequate and well-controlled studies of TICOVAC™ in pregnant women.</td></tr>
<tr><td>Special Considerations</td><td>• Bring vaccine to room temperature before administration. Shake well prior to administration to thoroughly mix the vaccine suspension. After shaking, the vaccine should be a homogenous off-white, opalescent suspension. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit. Do not administer if particulate matter or discoloration remains after shaking.</td></tr>
<tr><td colspan="2">• VIS: https://www.cdc.gov/vaccines/hcp/vis/vis-statements/tbe.html
• Standing orders: www.health.mil/standingorders
• Additonal education may be found at www.health.mil/TBE</td></tr>
</table>

Typhoid Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brands and types:
◦ Vivotif®: Oral live-attenuated - Ty21a (≥6 years of age and older); Contains lactose
◦ Typhim Vi® : capsular polysaccharide - ViCPS (≥2 years of age and older); Contains phenol
• See package insert; neither product contains latex</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Ty21a dose: 4 capsules Route: Oral
• ViCPS dose: 0.5 mL Route: IM - (Precaution: hemophilia, thrombocytopenia, and anticoagulation therapy)
• See package inserts</td></tr>
<tr><td>Indications</td><td colspan="2">• Ty21a: is approved for persons ≥6 years of age
• ViCPS: is approved for persons ≥2 years of age
• Travelers to areas where a recognized risk of exposure to typhoid exists, particularly ones who will have prolonged exposure to potential contaminated food and water
• Persons with intimate exposure (i.e. continued household contact) to a documented typhoid carrier
• Microbiology laboratorians who work frequently with S. typhi
• DoD Policy. Vaccination is required for personnel who will deploy to typhoid-endemic areas and other areas with poor water sanitation. Typhoid immunization is generally required for members of units designated to be ready to deploy outside of the U.S. within 10 days of notification.</td></tr>
<tr><td rowspan="3">Administrative Schedule</td><td>Dose</td><td>Recommended Interval</td></tr>
<tr><td>Oral Ty21a: 1 capsule x 4 doses</td><td>1 capsule every 48 hours taken 1 hour before meal. Take only with cool or luke- warm fluids</td></tr>
<tr><td>ViCPS: 1 dose 0.5 mL IM</td><td>Not Applicable</td></tr>
<tr><td rowspan="2">Booster

If repeated or continued exposure to the typhi organism</td><td>Oral Ty21a</td><td>Every 5 years</td></tr>
<tr><td>ViCPS</td><td>Every 2 years</td></tr>
</table>

Continued on Next Page

Typhoid Vaccine
(Continued)

Contraindications	• Serious allergic reaction to prior dose or vaccine component • Moderate or severe acute illness • Do not administer Ty21a to people with moderate or severe gastrointestinal illness • Do not administer Ty21a to people who are immunocompromised • Do not administer Ty21a to people who have taken antibiotics or sulfonamides during prior 3 days. • Pregnancy: Do not administer Ty21a; refer to provider to determine if ViCPS should be given
Special Considerations	• Avoid oral antibiotics use with Ty21a (may compromise immune response to vaccine bacteria) • Give Ty21a only if 10 days or more have elapsed since the final dose of Proguanil for malaria prophylaxis was ingested. See package insert under "Drug-Interactions". • Caution travelers that typhoid vaccination is not a substitute for careful selection of food and drink • Do NOT restart oral typhoid 4-dose series unless an interval extends greater than 3 weeks (consult a provider) • See Storage and Handling Section
• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/typhoid.html • Standing orders: www.health.mil/standingorders • Additional education may be found at www.health.mil/typhoid	

Varicella Vaccine

<table>
<tr><td>Vaccine Description</td><td colspan="2">• Brand: Varivax®
• Live attenuated virus
• Contains gelatin, neomycin (see package insert)
• Also available as combined MMR and varicella (ProQuad) for routine use for children during the 4-6 year dose of MMR and Varicella</td></tr>
<tr><td>Dose & Route</td><td colspan="2">• Dose: 0.5 mL
• Route: SC or IM
• See package insert</td></tr>
<tr><td>Indications</td><td colspan="2">• All children 12 months of age and older, including all adolescents without evidence of immunity should receive two doses
• May use as post-exposure prophylaxis. Ideally, the vaccine should be given within 3-5 days after exposure. Even if >5 days, still offer vaccine</td></tr>
<tr><td rowspan="3">Administration Schedule</td><td>Dose</td><td>Recommended Age</td></tr>
<tr><td>#1</td><td>12 to 15 months</td></tr>
<tr><td>#2</td><td>4 to 6 years</td></tr>
<tr><td rowspan="3">Minimum Intervals</td><td>Dose</td><td>Minimum Interval</td></tr>
<tr><td>#1</td><td>Must be at least 12 months of age</td></tr>
<tr><td>#2</td><td>Ages 1-12 years:
3 months after dose #1
Ages 13 years and older:
4 weeks after dose #1</td></tr>
<tr><td>Contraindications</td><td colspan="2">• Serious allergic reaction to prior dose or vaccine component
• Moderate or severe acute illness
• Pregnancy, or possibility of pregnancy within one month
• Immune suppression (see ACIP recommendations).
• Active, untreated tuberculosis
• Can give to people with isolated humoral immune deficiency, but NOT to those with cellular immune deficiency; immunology consultation recommended
• Recent receipt of blood product (see CDC guidelines)
• For use in children taking salicylates, consult ACIP recommendations</td></tr>
</table>

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Varicella Vaccine
(Continued)

Special Considerations	• If other live injected vaccines are needed and not administered on the same day, space them at least 4 weeks apart • Apply Tuberculin skin test (TST or PPD) either before/simultaneously with vaccination or delay at least 1 month after the administration of the live-virus vaccine • 4% to 6% of recipients (1% to 2% after 2nd dose) get a "varicella-like" rash within 3 weeks. While rare, individuals may be at risk if they have no immunity or are at high risk for complications (HIV, etc.). • Avoid use of salicylates (aspirin) for 6 weeks following administration due to risk for Reye syndrome • DO NOT restart series, no matter how long since 1st dose • Note: Discard if not used within 30 minutes after reconstitution; See Storage and Handling Section • ProQuad® (MMRV) may be used when both MMR and varicella vaccines are indicated for children 12 months through 12 years of age. Note: Unless the parent or caregiver expresses a preference for MMRV vaccine, separate MMR and varicella vaccines should be administered for the first dose for children 12 through 47 months of age.

- VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/varicella.html
- Standing Orders: www.health.mil/standingorders
- Pregnancy monitoring: 1-877-888-4231 (Merck); also notify DHA-IHD
- Additional education may be found at www.health.mil/chickenpox

Yellow Fever

Vaccine Description	• Brand: YF-VAX® • Live attenuated virus vaccine • Contains egg protein, sorbitol and gelatin • See package insert for more information and a full list of vaccine components
Dose & Route	• Dose: 0.5 mL • Route: SC
Indications	• Persons ≥ 9 months of age living or traveling in endemic areas (consult CDC website, other travel medical website, or local travel clinic for specific travel vaccine needs) • Laboratory personnel who might be exposed to yellow fever (YF) virus • Deploying personnel per CCMD guidance (typically AFRICOM and SOUTHCOM AORs)
Administration Schedule	• One dose ≥ 10 days prior to exposure or entrance to country requiring YF vaccine receipt
Booster	• A single primary dose of YF vaccine provides long-lasting protection and is adequate for most travelers. • Additional (booster) doses of YF vaccine may be recommended for certain individuals who continue to be at risk (requires a written order from a privileged provider): ◦ Persons who were pregnant when they received their initial dose of YF vaccine ◦ Persons who received a stem cell transplant after YF vaccine receipt (once they are sufficiently immunocompetent) ◦ Persons who were infected with HIV when they received their last dose of YF vaccine ◦ Individuals who received their last YF vaccine dose ≥ 10 years ago and will be in a higher-risk setting based on season, location, activities, or travel duration • Laboratory personnel who routinely handle wild-type YF virus should have titers every 10 years to determine the need for additional doses.

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Yellow Fever
(Continued)

Contraindications	• Age < 6 months • Acute hypersensitivity reaction to a previous dose or a vaccine component, including eggs, egg products, chicken proteins, gelatin, or latex • HIV infection (symptomatic) or CD4 T lymphocyte counts < 200/mL (or < 15% of total lymphocytes in children aged < 6 years) • Primary immunodeficiencies or use of immunosuppressive or immunomodulatory therapies • Malignant neoplasms • Thymus disorder associated with abnormal immune cell function • Transplantation (until they are sufficiently immunocompetent)
Precautions	• Moderate or severe acute illness with or without fever • Age 6–8 months (may be given only if travel and exposure cannot be avoided; consult provider) • HIV infection (asymptomatic) and CD4 T lymphocyte counts 200–499/mL (or 15%–24% of total lymphocytes in children aged < 6 years) • Pregnancy or breastfeeding (may be given only if travel and exposure cannot be avoided; consult provider)
Special Considerations	• YF vaccine should be given at the same time as other live vaccines or separated by ≥ 30 days. • Must be used within one hour of reconstitution (see Storage and Handling section) • Receipt must be documented on a CDC 731 and must contain an official yellow fever uniform stamp. • Pregnancy should be avoided for ≥ 30 days after receipt.
• VIS: http://www.cdc.gov/vaccines/hcp/vis/vis-statements/yf.html • Standing orders: www.health.mil/standingorders • Additional education may be found at www.health.mil/yellowfever	

Vaccine Storage and Handling

Defense Health Agency
Immunization Healthcare Division
(DHA-IHD)

This content is based on manufacturer product inserts, DoD resources, DHA-IHD resources, and Centers for Disease Control and Prevention (CDC) resources.

Storage and Handling Resources

DHA-IHD: Contact your regional Immunization Healthcare Specialist (IHS) to discuss training needs, policy, or assistance with storage and handling issues. IHS contact information and areas of responsibility can found at www.health.mil/ContactYourIHS.

For vaccine storage and handling questions, contact the DHA-IHD Monday through Friday (0700-1800 ET) at (877) GET-VACC (438-8222) or DSN 761-4245, Option 2, or email DoDvaccines@mail.mil.

Visit DHA-IHD on the web at www.health.mil/coldchain.

United States Army Medical Material Agency/Distribution Operation Center (USAMMA/DOC): is the designated agent within the Department of Defense (DoD) responsible for managing and coordinating the distribution of Anthrax, Smallpox, and Adenovirus vaccines.

For vaccine or other CCM questions during the hours of 0700-1600 EST, call (301) 619-4318/3017.

For URGENT after-hour issues only, call (301) 676-1184.

Reach USAMMA-DOC by email at usarmy.detrick.usamma.mbx.doc@army.mil.

Visit USAMMA-DOC on the web at https://www.amlc.army.mil/USAMMA/Distribution-Operations-Center-Vaccine/

D**efense Logistics Agency - Troop Support Medical (DLA-TSM):** is the disposition authority for Influenza and Japanese Encephalitis vaccines, and will provide disposition guidance for most other cold chain materials (to include pharmaceuticals, vaccines, and laboratory supplies).

For information about cold chain management, contact the CCM team during the hours of 0730-1800 EST at (215) 737-5537/5365, DSN: 444-5537/5365.

For URGENT after-hour issues only, call (267) 738-2854.

Reach DLA-TSM by email at paacoldchainteam@dla.mil or DSCPColdChain@dla.mil.

Visit DLA-TSM on the web at https://www.medical.dla.mil/WAM/Home/consent

Centers for Disease Control and Prevention (CDC):
Website: https://www.cdc.gov/vaccines/hcp/admin/storage/

Immunization Action Coalition (IAC):
Website: https://www.immunize.org/clinic/storage-handling.asp

Vaccine Storage and Handling

Vaccine-preventable disease rates decreased in part because of proper storage and handling. Storage and handling errors decrease potency and reduce effectiveness and protection, cost thousands of dollars in wasted vaccine and revaccination, and loss of patient confidence. It is better to not vaccinate than to administer a dose of vaccine that has been mishandled.

Cold chain management is the process of maintaining required temperatures from the time the vaccine leaves the manufacturer until administration of the vaccine to the patient. This is a shared responsibility among manufacturers, distributors, logistics personnel, immunization staff and healthcare providers.

Staff Training and Education:

- Assign responsibilities to a primary vaccine coordinator
- Designate at least one alternative (back-up) vaccine coordinator
- Provide training to staff who handle or administer vaccines, deliver or accept vaccine shipments, and have access to vaccine storage unit(s)
- Provide training and continuing education to new or temporary staff, during orientation, when new vaccines are stocked and when changes to storage and handling guidelines occur.

Storage and Handling Standard Operating Procedures (SOPs):

Develop and maintain written ROUTINE SOPs for:

- Ordering and accepting vaccine deliveries
- Storing and handling vaccines
- Managing inventory
- Managing potentially compromised vaccines

Develop and maintain written EMERGENCY vaccine retrieval and storage plan:

- Back-up storage location with appropriate storage units, temperature monitoring capability, and back-up generator that can maintain power to the vaccine storage units
- Adequate supply of packing materials and portable refrigerators and freezers or qualified containers and packaging material

Storage and Handling Equipment:

- Must be able to maintain required temperature range throughout the year and large enough to hold year's largest vaccine inventory without crowding (including flu vaccine)
- Pharmaceutical grade, stand-alone refrigerator(s) and freezer(s) are recommended for storage of vaccines. They can vary in size from compact, counter-top or under-the-counter to large pharmaceutical grade
- If a household-grade, combination refrigerator/frost-free freezer unit is used, only use the refrigerator compartment for storing vaccines. Use a separate stand-alone freezer to store frozen vaccines
- Dormitory-style refrigerators are not recommended for vaccine storage under any circumstances, even temporary
- Label outside of storage unit as "Refrigerator-For Vaccine Storage" and "Freezer-For Vaccine Storage"

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Vaccine Storage and Handling
(Continued)

Storage Unit Preventative Measures:

- Place the storage unit to promote good air circulation around the unit. Place in a well-ventilated room, allow for space on all sides and top, and allow at least 4 inches between storage unit and wall.
- Plug storage units directly into the wall outlet. Do not plug into outlets that can be activated by a wall switch or outlets with built in circuit switches (may have a reset button). Do not use extension cords, multi-outlet power strips or surge protectors.
- Secure the storage unit plug to the electrical outlet by using a safety-lock plug, an outlet cover, or a cover outlet with a cage.
- Post highly visible "DO NOT UNPLUG" signs at outlets and on each storage unit.
- Label circuit breaker fuses to alert personnel not to turn off the power and include information on who to contact if the power to the storage units will be turned off due to construction or other electrical work.
- Post warning signs indicating who to contact in case the temperature needs adjusting.
- Connect the vaccine storage units to a red emergency outlet, back-up battery power source or back-up generator to ensure proper storage conditions are maintained during commercial power interruptions.
- Use an alarm system to alert staff to after-hour emergencies, such as power failures or out-of-range temperatures in vaccine storage units. Take immediate corrective action when there is a problem.
- Use water bottles in refrigerator and frozen water bottles in freezer to stabilize temperature.
- Storage unit must be dedicated to the storage of biologics only. If other biologics, other than vaccines, must be stored in the same unit, store them below the vaccines to avoid contamination.
- Never store food and beverages in the same unit with vaccines.
- Physically check storage units throughout the duty day and prior to leaving, to confirm that the doors are securely closed and to verify equipment is working properly.
- Conduct and document required preventive maintenance on all storage unit equipment per the manufacturer's instructions.

Temperature Monitoring Devices:

- Each storage unit must have its own calibrated temperature monitoring device (TMD) with a certificate of calibration testing (Report of Calibration) from an accredited laboratory.
- The recommended TMD is a Digital Data Logger (DDL). Use DDLs with a detachable probe in a thermal buffered material (e.g., glycol, glass beads, sand, and Teflon) that record and store temperature information at 30-minute intervals for 24-hour temperature monitoring rather than non-continuous temperature monitoring.
- Place the temperature probe in close proximity to the vaccine being stored, in the middle, center of the storage compartment.
- Review the recorded DDL temperature data (via software or website information) at least weekly to ensure proper temperature recording and to identify any temperature trends that may require action.

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Vaccine Storage and Handling
(Continued)

Required Storage Temperatures and Temperature Monitoring:

- Refrigerated vaccine storage: between 2°C to 8°C (36°F to 46°F); average 5°C (40°F)
- Freezer vaccine storage: -50°C to -15°C (-58°F to +5°F)
- Physically check and record storage unit minimum and maximum temperatures at the start of each workday. The minimum/maximum temperatures should be those obtained since the last workday when the minimum/maximum temperatures were reset.
- If the TMD used does not display minimum/maximum temperatures, then check and record the current temperature a minimum of two times (at the start and end of the workday).
- Twice-daily physical checks should be done even if there is an electronic monitoring system installed.
- Place a temperature monitoring log sheet on each storage unit door, and document the following information: minimum/maximum temperature or current temperature if no minimum/maximum temperature is available, ambient room temperature, date, time, and name or initials of person who checked and recorded the temperatures. Record date and time of any temperature excursion and actions taken to correct the problem.
- For storage units located in restricted access areas, ensure the temperature can be checked and recorded and that a light or audible alarm is installed to indicate when the storage unit temperature is out of range, without having to physically enter the restricted area.
- Keep temperature log sheets and data for 3 years unless local rules require a longer period.

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DHA TEMPERATURE LOG FOR REFRIGERATOR - CELSIUS DAYS 1-15

Month/Year _____ Facility Name _____

Monitor temperatures closely!

1. Write your initials below in "Staff Initials," and note the time in "Exact Time."
2. Record temps twice each workday.
3. Record the min/max temps once each workday - preferably in the morning.
4. Put an "X" in the row that corresponds to the refrigerator's temperature.
5. If any out-of-range temp, see instructions to the right.
6. Reminder to perform monthly alarm system testing and document the temperature in the"out- of-range" block below and complete the remaining portion on the back.

Take action if temp is out of range --too warm (*above 8˚C*) or too cold (*below 2˚C*).

1. Do not leave vaccine/TSMP in non-functioning storage unit or in inappropriate storage conditions. Immediately move the vaccine/TSMP to a working storage unit at proper temperature.
2. Label exposed vaccine/TSMP "do not use," and place them in a separate container apart from other products in the storage unit.
3. Do not discard vaccine/TSMP unless directed to by *DLA-TSM and/or *USAMMA-DOC.
4. Notify your TSMP coordinator, and call your Immunization Healthcare Specialist for guidance.
5. Document the action taken on a PC-TSMP worksheet (*DHA 177*). A link to the form can be found at www.health.mil/coldchain.

Day of Month	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15	
Staff Initials																														
Exact Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Min/Max Temp (*since previous reading*)	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Danger! Temps above 8˚C are too warm! Write any out-of-range temps and room temp on the lines below and contact DLA-TSM and/or USAMMA -DOC immediately!																														
Temperatures Acceptable 8˚C																														
7˚C																														
6˚C																														
Aim for 5˚ 5˚C																														
4˚C																														
3˚C																														
2˚C																														
Danger! Temps below 2˚C are too cold! Write any out-of-range temps and room temp on the lines below and contact DLA-TSM and/or USAMMA-DOC immediately!																														
Action: Write any out-of-range temps (*above 8˚C or below 2˚C*) here.																														
Action: Room Temperature*																														

*Place storage units in a well ventilated room at an ambient room temperature of 68˚F-77˚F/20˚C-25˚C. If you have a vaccine/TSMP storage issue, also complete a PC-TSMP worksheet (*DHA Form 177*). A link to the form can be found at www.health.mil/coldchain.

*DLA-TSM CCM Team Phone: (215) 737-5537/5365, DSN (444), Urgent after hours: (215) 284-6586, email: DSCPColdChain@dla.mil or paacoldchainteam@dla.mil

*USAMMA/DOC Phone: (301) 619-4318/3017, DSN (343), Urgent after hours: (301) 676-1184/0808, email: usarmy.detrick.usamma.mbx.doc@army.mil

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DHA TEMPERATURE LOG FOR FREEZER - CELSIUS DAYS 1-15

Month/Year		Facility Name	

Monitor temperatures closely!

1. Write your initials below in "Staff Initials," and note the time in "Exact Time."
2. Record temps twice each workday.
3. Record the min/max temps once each workday - preferably in the morning.
4. Put an "X" in the row that corresponds to the refrigerator's temperature.
5. If any out-of-range temp, see instructions to the right.
6. Reminder to perform monthly alarm system testing and document the temperature in the"out- of-range" block below and complete the remaining portion on the back.

Take action if temp is out of range --too warm (*above -15˚C*) or too cold (*below -50˚C*).

1. Do not leave vaccine/TSMP in non-functioning storage unit or in inappropriate storage conditions. Immediately move the vaccine/TSMP to a working storage unit at proper temperature.
2. Label exposed vaccine/TSMP "do not use," and place them in a separate container apart from other products in the storage unit.
3. Do not discard vaccine/TSMP unless directed to by *DLA-TSM and/or *USAMMA-DOC.
4. Notify your TSMP coordinator, and call your Immunization Healthcare Specialist for guidance.
5. Document the action taken on a PC-TSMP worksheet (*DHA 177*). A link to the form can be found at www.health.mil/coldchain.

Day of Month	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15	
Staff Initials																														
Exact Time	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Min/Max Temp (*since previous reading*)	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max

Danger! Temps above -15˚C are too warm! Write any out-of-range temps and room temp on the lines below and contact DLA-TSM and/or USAMMA -DOC immediately!

Acceptable Temperatures	-15˚C																													
	-16˚C																													
	-17˚C																													
	-18˚C																													
	-19˚C																													
	-20˚C																													
	-21˚C																													
	-22˚C																													
	-50˚C to -23˚C																													
Action	Write any out-of-range temps (*above -15˚C or below-50˚C*) here.																													
	Room Temperature*																													

*Place storage units in a well ventilated room at an ambient room temperature of 68˚F-77˚F/20˚C-25˚C. If you have a vaccine/TSMP storage issue, also complete a PC-TSMP worksheet (*DHA Form 177*). A link to the form can be found at www.health.mil/coldchain.
*DLA-TSM CCM Team Phone: (215) 737-5537/5365, DSN (444), Urgent after hours: (215) 284-6586, email: DSCPColdChain@dla.mil or paacoldchainteam@dla.mil
*USAMMA/DOC Phone: (301) 619-4318/3017, DSN (343), Urgent after hours: (301) 676-1184/0808, email: usarmy.detrick.usamma.mbx.doc@army.mil

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Vaccine Storage and Handling
(Continued)

Vaccine and Diluent Placement and Labeling:

Set up your vaccine storage unit to maintain proper temperatures, to ensure vaccines can be located quickly, and to prevent mistaking one vaccine for another vaccine.

- Store vaccines away from walls, coils, cooling vents, top shelf, ceiling, door, floor, and back of unit. Do not store vaccines in storage unit doors, on the top shelf, on the floor, or in deli vegetable or fruit crisper drawers.
- Keep vaccines and diluents in original packaging with lids on to protect from light.
- Arrange vaccines in rows or use trays, uncovered containers, or perforated bins, allowing space between rows to promote air circulation. Do not pack storage unit too tightly.
- Place vaccines and diluents with the earliest expiration dates in the front of those with later expiration dates.
- Store pediatric and adult vaccines on different shelves.
- Use labels with vaccine type, age and gender indications or color coding.
- Do not store sound-alike and look-alike vaccines next to each other.
- Store refrigerated diluent with corresponding vaccine (may contain vaccine antigen).
- Label diluent to avoid inadvertent use of the wrong diluent when reconstituting a vaccine.
- Never store diluents in the freezer.

Vaccine Delivery and Inventory:

- Notify vaccine coordinator or alternate (back-up) coordinator when delivery arrives.
- Avoid having people accept deliveries who may not understand the importance of storage at appropriate temperatures upon arrival.
- Immediately upon receipt of vaccine delivery: verify the temperatures were in proper range throughout shipment; check the contents against the packing list to confirm they match; and unpack the vaccine and place in the appropriate storage unit.
- If there are concerns, label vaccines "Do Not Use", store under appropriate conditions, and separate from other vaccines.
- Contact Immunization Healthcare Specialist (IHS), USAMMA-DOC or DLA-TSM for guidance.
- Order vaccine based on projected demand, storage capacity, average waste (turn-in) and current vaccine supply. Avoid overstocking.
- Conduct a vaccine and diluent inventory at a minimum monthly.
- Ensure vaccines are stored in original packaging. Place rubber bands around boxes of like lot numbers to alert staff to a change in vaccine lot number.
- Rotate stock so that vaccines and diluents with soonest expiration dates are moved to the front and are used first.
- Check vaccine and diluent expiration dates a minimum of weekly to remove expired items from usable stock. Never use expired vaccine or diluent.

Continued on Next Page

Vaccine Storage and Handling
(Continued)

Vaccine Delivery and Inventory: *(continued)*

- If normal in appearance and stored and handled properly, product can be used through end of day indicated if expiration date is mm/dd/yyyy (e.g., 12/15/2018) and through end of month indicated if expiration date is mm/yyyy (e.g., 12/2018).
- An opened multi-dose vial (MDV) of vaccine that has been stored and handled properly and is normal in appearance can be used through the expiration date printed on the vial unless there is a "beyond use date" (BUD) noted in the package insert (e.g., 28 days after opening). The BUD is the date or time after which an opened MDV cannot be used. Note any change in expiration date/time on vial.
- For reconstituted MDVs, the BUD will vary by product; check the manufacturer package insert for details. Note any change in expiration date/time on vial.

Vaccine Preparation and Handling:

- Take vaccines out of the storage unit only when ready to administer. Always double check that you have the correct vaccine before removing the cap. Remove the cap only when you are ready to administer the vaccine.
- Single-dose vials and manufacturer-filled syringes contain one dose of vaccine and are to be used one time for one individual. Do not open a single-dose vial or remove the tip cap and attached a needle to the syringe until just prior to administration. Discard all single-dose vials without protective caps or manufacturer-filled syringes without tip caps and/or needle attached at the end of the duty day.
- Multi-dose vials (MDV) contain more than one dose of vaccine and can be entered or punctured more than once. Always use aseptic technique when withdrawing vaccine from an MDV. Only the number of doses indicated in the manufacturer's package insert should be withdrawn from the vial.
- Mark MDVs with date, time, and initials when first reconstituted and/or when the first dose is withdrawn and with a revised "beyond use date" if required and always return the unused vaccine to the storage unit immediately after drawing up a dose.
- Vaccines should be prepared in a designated area away from any space where potentially contaminated items are placed.
- Use only the specific diluent provided by the manufacturer for each type of vaccine.
- Do not mix individual vaccines in the same syringe unless specifically licensed for such use. Do not transfer vaccine between syringes. Use a separate needle and syringe for each injection.
- Administer vaccine shortly after withdrawal from single-dose or multi-dose vial, in accordance with the manufacturer's package insert. Discard vaccine and diluents when stored or handled inappropriately or expired.
- Prefilling syringes is highly discouraged because of the increased risk of administration errors and possible bacterial growth in vaccines that do not contain preservatives. Syringes other than those filled by the manufacturer are designed for immediate use and not for vaccine storage.
- In certain circumstances in which a single vaccine type is being used, such as during an influenza vaccination campaign, filling a small number of syringes, no more than 10 doses, may be considered.
- Label filled syringe with the type of vaccine, lot number, and date of filling, unless the vaccine is administered immediately after being drawn into the syringe by the same person administering the vaccine.
- Discard any vaccine in pre-drawn syringes remaining at the end of the duty day and report as a loss.

Continued on Next Page

Vaccine	Trade Name	Where to store	Acceptable Temperature Range	Diluent Storage	Specific Expiration after Opened/Reconstituted	Protect from Light	Other Comments
Adenovirus	Adenovirus Type 4 and Type 7	Refrigerator	2°C to 8°C (36°F to 46°F)		May be used until expiration date.		Keep bottles tightly closed and protect from moisture. Do NOT remove desiccant canister from bottles.
Anthrax	BioThrax®	Refrigerator	2°C to 8°C (36°F to 46°F)		Once the stopper of the multi-dose vial has been pierced the vial must be discarded within 28 days.		Shake well before use.
Covid-19	Novavax	Refrigerator	2°C to 8°C (36°F to 46°F)		Discard punctured vial and any remaining vaccine after 6 hours.	Yes	If not used immediately, store refrigerated between 2°C to 8°C (36°F to 46°F) and administer within 6 hours.
	Moderna (Bivalent)	Freezer or Refrigerator	Unpunctured vials: - May be stored between -50°C to -15°C (-58°F to 5°F) until the expiration date. - May be stored between 2°C to 8°C (36°F to 46°F) for up to 30 days.		Punctured bivalent vaccine vials for ages 6 months through 5 years may be stored between 2°C and 25°C (36°F and 77°) for up to 8 hours. All other Moderna products for up to 12 hours.	Yes	Store vials upright in the tray or box protected from light. Do NOT refreeze thawed vaccine. Thawed vials can be handled in room light conditions. Total storage at 8°C to 25°C (46°F to 77°F) must not exceed 24 hours.
	Pfizer (Bivalent)	Ultra-cold Freezer or Refrigerator	Unpunctured vials: - May be stored between -90°C to -60°C (-130°F to -76°F) until the expiration date. - May be stored between 2°C to 8°C (36°F to 46°F) for up to 10 weeks.	Yes – some formulations require reconstitution. Store in refrigerator or at room temperature	Punctured vials may be stored between 2°C and 25°C (36°F and 77°) for up to 12 hours. Discard vial and any remaining vaccine after 12 hours.	Yes	Store vials upright in the tray or box protected from light. Do NOT refreeze thawed vaccine.
Cholera	Vaxchora®	*Temporarily unavailable*					
Dengue	Dengvaxia®	Refrigerator	2°C to 8°C (36°F to 46°F)	Yes – store in refrigerator	Use within 30 minutes of reconstitution.	Yes	

Continued on Next Page

Vaccine	Trade Name	Where to store	Acceptable Temperature Range	Diluent Storage	Specific Expiration after Opened/Reconstituted	Protect from Light	Other Comments
All DTaP vaccines	Daptacel®	Refrigerator	2°C to 8°C (36°F to 46°F)				Shake well before use.
	Infanrix®						
	Kinrix®						
	Pediarix®						
	Pentacel®			Yes – store in refrigerator	Use immediately after reconstitution.		
	Quadracel®						
	Vaxelis®					Yes	
Hepatitis A	Havrix®	Refrigerator	2°C to 8°C (36°F to 46°F)				Shake well before use.
	VAQTA®						
Hepatitis B	Engerix-B®	Refrigerator	2°C to 8°C (36°F to 46°F)				Shake well before use.
	Heplisav-B®						
	PrevHevbrio®					Yes	Shake well before use.
	Recombivax HB®					Yes	Shake well before use.
Hepatitis A-B	Twinrix®	Refrigerator	2°C to 8°C (36°F to 46°F)				Shake well before use.
Hib vaccines	ActHIB®	Refrigerator	2°C to 8°C (36°F to 46°F)	Yes – store in refrigerator	Use within 24 hours of reconstitution.		If the vaccine is not administered immediately, shake the solution well again before administration.
	Hiberix®			Yes – store in refrigerator or at room temperature	Use within 24 hours of reconstitution.	Yes	If the vaccine is not administered immediately, shake the solution well again before administration.
	PedvaxHIB®						Shake well before use.
HPV	Gardasil 9®	Refrigerator	2°C to 8°C (36°F to 46°F)			Yes	Shake well before use. Administer as soon as possible after being removed from refrigeration.
Influenza (LAIV)	FluMist®	Refrigerator	2°C to 8°C (36°F to 46°F)			Yes	A single temperature excursion up to 25°C (77°F) for 12 hours has been shown to have no adverse impact on the vaccine.
Influenza (IIV)	Fluad®, Fluarix®, Flublok®, Flucelvax®, Flulaval®	Refrigerator	2°C to 8°C (36°F to 46°F)		Multi-dose vials may be used until expired unless contaminated.	Yes	Shake well before use. Between uses, return the multi-dose vial to the recommended storage conditions.
	Afluria®	Refrigerator	2°C to 8°C (36°F to 46°F)		Once the stopper of the multi-dose vial has been pierced the vial must be discarded within 28 days. The number of needle punctures should not exceed 20 per multi-dose vial.	Yes	Shake well before use. Between uses, return the multi-dose vial to the recommended storage conditions.

Continued on Next Page

Vaccine	Trade Name	Where to store	Acceptable Temperature Range	Diluent Storage	Specific Expiration after Opened/Reconstituted	Protect from Light	Other Comments
	Fluzone®	Refrigerator	2°C to 8°C (36°F to 46°F)		A maximum of 10 doses can be withdrawn from the multi-dose vial.	Yes	Shake well before use. Between uses, return the multi-dose vial to the recommended storage conditions.
JEV	Ixiaro®	Refrigerator	2°C to 8°C (36°F to 46°F)			Yes	Shake well before use.
Meningococcal	Menactra®	Refrigerator	2°C to 8°C (36°F to 46°F)				
	*Menveo®			*Yes – store in refrigerator	*Use within 8 hours of reconstitution.	Yes	*Menveo is supplied as either two vials (gray and orange caps) that require reconstitution or one vial (pink cap) that does not require reconstitution before use.
	MenQuadfi®						
	Bexero®					Yes	Shake well before use.
	Trumenba®						Shake well before use. Store syringes in the refrigerator horizontally (lying flat on the shelf) to minimize the re-dispersion time.
MMR	M-M-R II®	Freezer (preferred) or Refrigerator	-50°C to -15°C (-58°F to +5°F) (preferred) or 2°C to 8°C (36°F to 46°F)	Yes – store in refrigerator or at room temperature	Use within 8 hours of reconstitution and continue to protect from light.	Yes	
	Priorix®	Refrigerator	2°C to 8°C (36°F to 46°F)	Yes – store in refrigerator or at room temperature	Use within 8 hours of reconstitution.	Yes	If not used immediately, store refrigerated between 2°C to 8°C (36°F to 46°F) and administer within 8 hours.
MMRV	Proquad®	Freezer	-50°C to -15°C (-58°F to +5°F)	Yes – store in refrigerator or at room temperature	Use within 30 minutes of reconstitution and continue to protect from light.	Yes	
Pneumococcal	Pneumovax23®	Refrigerator	2°C to 8°C (36°F to 46°F)				
	Prevnar 13®						Shake well before use.
	Prevnar 20®						Shake well before use. Syringes should be stored in refrigerator horizontally to minimize the resuspension time. Administer as soon as possible after being removed from refrigeration.
	Vaxneuvance®					Yes	Shake well before use.
Polio (IPV)	IPOL®	Refrigerator	2°C to 8°C (36°F to 46°F)		Multi-dose vials may be used until expired unless contaminated.	Yes	

Continued on Next Page

Vaccine	Trade Name	Where to store	Acceptable Temperature Range	Diluent Storage	Specific Expiration after Opened/Reconstituted	Protect from Light	Other Comments
Rabies	Imovax®	Refrigerator	2°C to 8°C (36°F to 46°F)	Yes – store in refrigerator	Use immediately after reconstitution.		
	Rabavert®					Yes	
Respiratory Syncytial Virus (RSV)	Abrysvo™	Refrigerator	2°C to 8°C (36°F to 46°F)	Yes – store in refrigerator	Discard reconstituted vaccine if not used within 4 hours.		After reconstitution, administer immediately or store at room temperature [15°C to 30°C (59°F to 86°F)] and use within 4 hours. Do not store reconstituted vaccine under refrigerated conditions [2°C to 8°C (36°F to 46°F)].
	Arexvy®				Discard reconstituted vaccine if not used within 4 hours.	Yes	Administer immediately or store in the refrigerator between 2°C and 8°C (36°F to 46°F) or at room temperature [up to 25°C (77°F)] for up to 4 hours prior to use.
Rotavirus	*Rotarix®	Refrigerator	2°C to 8°C (36°F to 46°F)	*Yes – store in refrigerator or at room temperature	*Use within 24 hours of reconstitution.	Yes	*Rotarix is supplied as either a vial and oral dosing applicator presentation that requires reconstitution or an oral dosing applicator only that does not require reconstitution.
	RotaTeq®					Yes	Administer as soon as possible after removal from refrigeration.
Tetanus and Diphtheria Toxoid and Tdap	Adacel®	Refrigerator	2°C to 8°C (36°F to 46°F)				Shake well before use.
	Boostrix®						
	DT®						
	Tenivac®						
Smallpox/ Monkeypox	ACAM2000®	Refrigerator	2°C to 8°C (36°F to 46°F)	Yes – store at room temperature	Use within 30 days of reconstitution.		Between uses, return the multi-dose vial to the recommended storage conditions.
	Jynneos®	Freezer	-25°C to -15°C (-13°F to +5°F).			Yes	Allow the vaccine to thaw and reach room temperature before use. Once thawed, the vaccine may be kept at +2°C to +8°C (+36°F to +46°F) for 4 weeks. Do not refreeze. Swirl the vial gently before use for at least 30 seconds.
Tick-Borne Encephalitis	Ticovac®	Refrigerator	2°C to 8°C (36°F to 46°F)			Yes	Bring vaccine to room temperature before administration. Shake well before use.
Typhoid	Typhim Vi®	Refrigerator	2°C to 8°C (36°F to 46°F)		Multi-dose vials may be used until expired unless contaminated.		

Continued on Next Page

Vaccine	Trade Name	Where to store	Acceptable Temperature Range	Diluent Storage	Specific Expiration after Opened/Reconstituted	Protect from Light	Other Comments
	Vivotif®	*Temporarily unavailable*					
Varicella/ Chickenpox	Varivax®	Freezer	-50°C to -15°C (-58°F to +5°F)	Yes – store in refrigerator or at room temperature	Use within 30 minutes of reconstitution.	Yes	May be stored in refrigerator, 2°C to 8°C/36°F to 46°F, for up to 72 hours prior to reconstitution. Vaccine stored at 2°C to 8°C which is not used within 72 hours of removal from -15°C/+5°F storage should be discarded.
Yellow Fever	YF-VAX®	Refrigerator	2°C to 8°C (36°F to 46°F)	Yes – store in refrigerator or at room temperature	Use within 60 minutes of reconstitution.		Allow the reconstituted vaccine to sit for one to two minutes and then carefully swirl mixture until a uniform suspension is achieved. Avoid vigorous shaking as this tends to cause foaming of the suspension.
Zoster/Shingles	Shingrix®	Refrigerator	2°C to 8°C (36°F to 46°F)	Yes – store in refrigerator	Use within 6 hours of reconstitution.	Yes	

Temperature Excursion

If stored vaccines have been exposed to temperatures outside recommended ranges:

- Do not leave vaccine in a nonfunctioning storage unit-immediately move vaccine to a properly functioning storage unit.
- Label potentially compromised vaccine as "Do Not Use" and place them in a separate container apart from other products in the storage unit.
- Complete the Potentially Compromised-Temperature Sensitive Medical Products (PC-TSMP) Worksheet to document the circumstances surrounding the event. Contact Immunization Healthcare Specialist for guidance.
- Do not destroy, discard or use vaccine until released by USAMMA-DOC and/or DLA-TSM.
- Once disposition is provided, place the vaccine back into inventory or discard the vaccine per local guidance.

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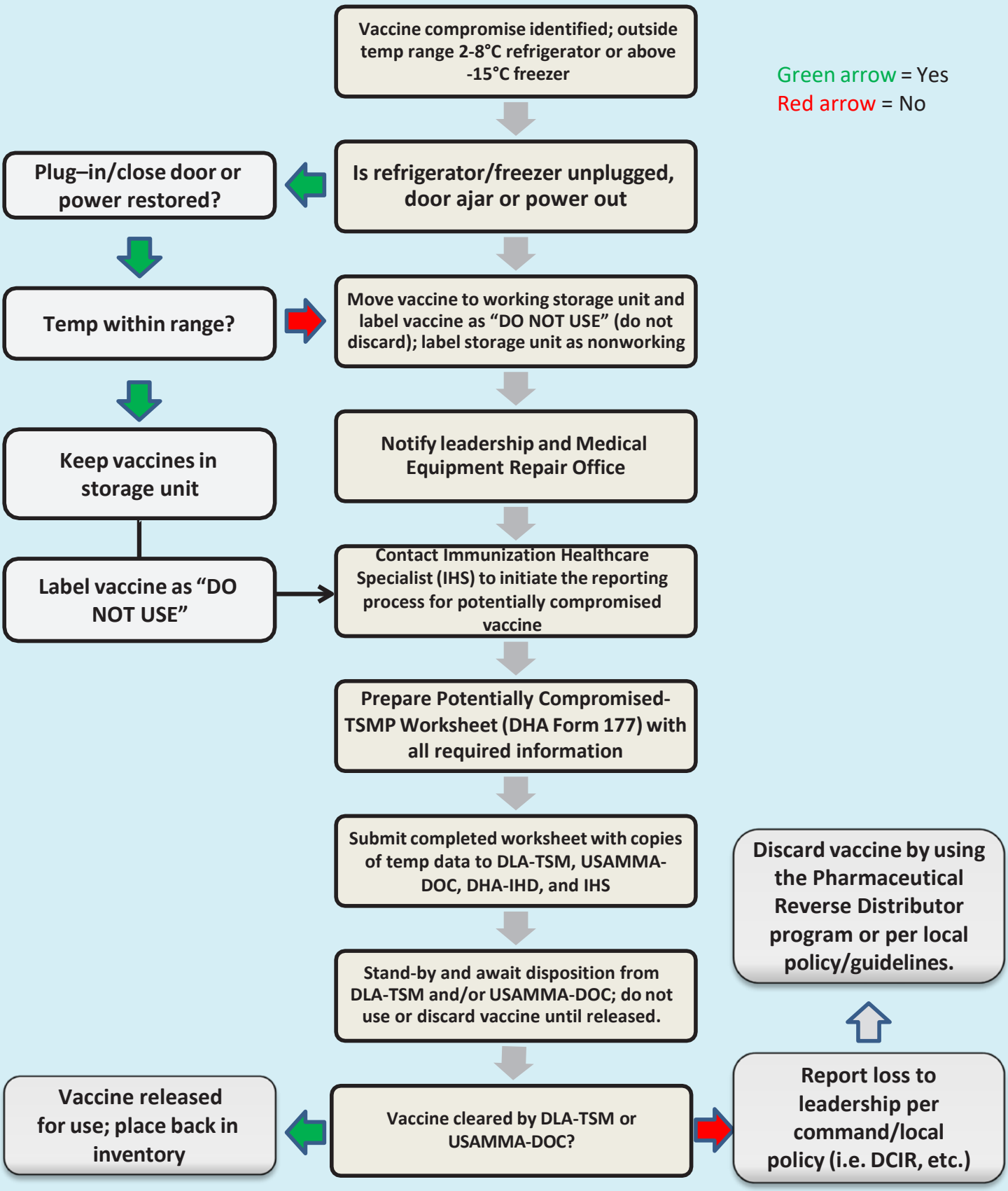
Steps to take for Potentially Compromised Vaccine Event



Potentially Compromised -TSMP worksheet (DHA Form 177) can be found at the following: www.health.mil/coldchain

POTENTIALLY COMPROMISED TEMPERATURE SENSITIVE MEDICAL PRODUCT WORKSHEET

Steps to follow in response to a Potentially Compromised (PC) Temperature Sensitive Medical Product (TSMP)* Event

* TSMP collectively refers to: vaccines, some pharmaceuticals, temperature sensitive laboratory supplies, and other temperature sensitive medical items.

Step 1. Activate Site/Clinic Emergency Response Plan:

a. Do not leave TSMP in non-functioning storage unit. Immediately move the TSMP to a working storage unit at proper temperature (*refrigerator: 2-8°C/36-46°F, freezer: below -15°C/5°F, ultra-cold freezer: below -80° C/-112°F*).

b. Label exposed TSMP as "DO NOT USE," and place them in a separate container apart from other products in the storage unit.

c. DO NOT destroy, discard, or use TSMP until released by:

- Defense Logistics Agency Troop Support Medical (DLA-TSM) for all vaccines (*other than those covered by USAMMA-DOC below*)/and all other TSMP.
- U.S. Army Medical Materiel Agency Distribution Operations Center (USAMMA-DOC) for anthrax, smallpox, or adenovirus.

d. Notify your local leadership of the potential loss.

e. For incidents that involve vaccines, contact your Defense Health Agency-Immunization Healthcare Specialist (IHS) for assistance with reporting the potential loss: www.health.mil/ContactYourIHS

Step 2. Complete the PC-TSMP Worksheet:

a. Complete **ALL** required information on the attached PC-TSMP worksheet, this will reduce the possibility of delays in receiving disposition for your products.

b. Save document as "PC-TSMP_enter clinic name and location_enter current date" using the following example: PC-TSMP_NBHC Key West FL_01 AUG 23.

c. For vaccines only, when possible, send completed worksheet along with copies of your temperature logs to your IHS for review to confirm all information is appropriately documented.

d. Click the "Submit by email" button, ensure the "Desktop Email Application" button is selected and click "OK".

e. Attach temperature logs/data and click the send button; it will forward completed worksheet directly to the DHA-PH-IHD, DLA-TSM and USAMMA-DOC organizational mailboxes:

dha.ncr.pub-health.mbx.vaccine@health.mil, DSCPColdchain@dla.mil, paacoldchainteam@dla.mil, and usarmy.detrick.usamma.mbx.doc@army.mil.

f. For vaccines only, include your IHS's email address (*if known*) on the "To" line when the message opens up.

g. If the "Submit by email" button does not work at your location, add all the above email addresses to the "To" line, attach temperature logs/data, and click the send button.

h. Standby for further instructions from DLA-TSM and/or USAMMA-DOC. They will provide disposition for your TSMP.

i. Contact DLA-TSM, USAMMA-DOC and/or your IHS (*vaccines only*) if disposition has not been received within 48-hours of submitting the completed worksheet.

j. Contact information for DLA-TSM and USAMMA-DOC:

- DLA-TSM Cold Chain Team: (215) 737-5537/5365, DSN: 444-5537/5365, or for URGENT after-hours issues only: (267) 738-2854. E-mail: **DSCPColdchain@dla.mil**, **paacoldchainteam@dla.mil**
- USAMMA DOC: (301) 619-4318/3017, after hours: (301) 676-1184/0808.

NOTE: If your product or COVID-19 vaccine is not listed in the drop-down menu on page 4, manually enter the product information to include the brand name, NDC/part number, manufacturer and the cost per dose.

1. FACILITY NAME: (SELECT FROM DROP-DOWN OR ENTER REQUIRED INFORMATION)	2. SERVICE:	3. COMPONENT:	4. DATE *(YYYYMMDD)*:
5. TSMP STORAGE LOCATION:	6. IMMUNIZATION HEALTHCARE SPECIALIST (IHS):		
7. POC:	8. EMAIL:	9. TELEPHONE:	

REQUIRED TEMPERATURE AND STORAGE UNIT INFORMATION:

10. **Room temperature** where TSMP located: _____

a. TSMP left out of refrigerator or freezer?	b. Stored in transport container?	c. TSMP stored in proper storage unit (*refer vs. freezer*)?
☐ YES ☐ NO	☐ YES ☐ NO	☐ YES ☐ NO

d. If the answer to **'a'** and **'b'** is YES or **'c'** is NO, how long? _____ hrs

11. **Prior to event:** date/time of last manual temp check when temps were within normal range?

a. DATE *(YYYYMMDD)*: _____ b. TIME *(HHMM)*: _____ c. REFER TEMP: _____ d. FREEZER TEMP: _____

12. **Post event:** date/time when TSMP were back within normal temp range?

a. DATE *(YYYYMMDD)*: _____ b. TIME *(HHMM)*: _____ c. REFER TEMP: _____ d. FREEZER TEMP: _____

13. Are TSMP located in refrigerator and/or freezer during this event? ☐ YES *(complete a. - e.)* ☐ NO

a. Water bottles in refer? ☐ YES ☐ NO

b. Water bottles or ice packs in freezer? ☐ YES ☐ NO

c. REFER TEMP: current: _____ warmest: _____ coldest: _____

d. FREEZER TEMP: current: _____ warmest: _____ coldest: _____

e. Estimated # of **hours** TSMP were exposed to temps outside the recommended range: REFER: _____ hrs FREEZER: _____ hrs

14. PACKING PROCEDURES INFORMATION

a. Product removed from nonworking unit & transported to working storage unit?	☐ YES	☐ NO	☐ N/A
b. Proper packing procedures used for transport (*e.g., CDC*)?	☐ YES	☐ NO	☐ N/A
c. Refrigerated coolant packs used to pack refrigerated TSMP?	☐ YES	☐ NO	☐ N/A
d. Frozen coolant packs used to pack frozen TSMP?	☐ YES	☐ NO	☐ N/A
e. Dry ice used to pack ultra-cold COVID-19 frozen vaccine?	☐ YES	☐ NO	☐ N/A
f. Temperature monitoring device placed in transport container near vaccine(s)/TSMP?	☐ YES	☐ NO	☐ N/A

g. Transport container temperature: _____

15. If **M-M-R** was affected, was it stored in the freezer? ☐ YES ☐ NO ☐ N/A

16. Prior to this current temp excursion, were these same vaccine(*s*)/TSMP exposed to temps outside the recommended range at anytime? Provide prior excursion data in block 17 below. ☐ YES ☐ NO

17. Did a patient receive a dose of the potentially compromised vaccine? Y/N. If yes, contact your Immunization Healthcare Care Specialist for situational awareness. ☐ YES ☐ NO

18. Document in the space below the circumstances surrounding the potential compromise. Include date, time, current location of TSMP, personnel notified, and actions taken once incident was identified. List all products affected on following page.

Continued on Next Page

19. Please select all event types that apply:

a. Non-preventable loss:

b. Personnel Error:

c. Process Failure:

USAMMA-DOC/DLA-TSM Use Only:

Brand Name, NDC/Part #, and Manufacturer	Lot Number	Expiration Date *(YYYYMMDD)*	Quantity *(Number of doses)*	Cost/ Dose of TSMP	Cost of TSMP	Number MDV* Open	Disposition *(DLA/USAMMA Use Only)*
(SELECT VACCINE(S) FROM DROP-DOWN)							(select one)

TOTAL COST of Potentially Compromised TSMP: $0.00

TOTAL COST of Discarded TSMP:

**MDV = multi-dose vial. Indicate # of vials opened.*

Submit by Email

Reset Form

Vaccine and Diluent Disposal

- Dispose of empty, preservative-free vaccine vials, syringes without needles and oral applicators into the trash.
- Dispose of empty manufacturer-filled syringes and end user-filled syringes with needle attached in a sharps disposal container.
- Multi-dose vials that contain thimerosal as a preservative are considered hazardous waste. As a result, all empty or partially used multi-dose vials and syringes containing vaccine drawn from multi-dose vials that contain thimerosal should be disposed of in a marked hazardous waste container.
- Use the DLA contracted Prime Vendor pharmaceutical reverse distributor program for all Prime Vendor purchased unopened and unused single-dose vials, multi-dose vials, and manufacturer-filled syringes of vaccine and diluent (expired and/or compromised) for possible credit. Vaccines not ordered through the Prime Vendor program cannot be disposed of using this contract.
- Dispose of vaccines not ordered through the Prime Vendor (e.g., Influenza, Japanese Encephalitis, etc.) in accordance with the local environmental regulations and through enterprise or local regulated or hazardous medical contracts. Sites can create a local pharmaceutical returns service contract for disposal of vaccines. These contracts are unit funded.

Medical/Reference

Immunization Tool Kit
Design and Development (1999-2019)

Immunization Healthcare Division
Defense Health Agency
Defense Health Headquarters
7700 Arlington Boulevard, Suite 5143
Falls Church, VA 22042

www.health.mil/vaccines