Adult Immunization Guide

PharMerica®

2025 - 2026

Last Revised September 4, 2025

Summary of Revisions

PharMerica's Adult Immunization Guide is updated annually to include the most current vaccine guidance, regulations, and research. Although every effort is made to ensure the accuracy of material presented, the guide is subject to further edits when new or updated information is released from government health agencies, including the ACIP, CDC, CMS, and HHS.

A brief overview of revisions has been provided below to assist in quickly identifying new or updated information likely to impact operations.

September 4, 2025

1. ***NEW*** **Billing Guidance – Vaccine CPT Codes and Medicare Part B Reimbursements**
   - 2025-26 CPT codes and reimbursement rates have been provided for influenza, COVID-19, and pneumococcal vaccines.

2. ***NEW*** **Appendix A – Vaccine Clinical Resources**
   - Educational resources from the Immunization Action Coalition and the CDC to assist in vaccine administration efforts.
     a) How to Administer Multiple Intramuscular Vaccines to Adults During One Visit
     b) Administering Vaccines: Dose, Route, Site, and Needle Size
     c) Vaccine Administration: Preventing Vaccine Administration Errors

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Purpose and Scope

This guide is designed to consolidate key vaccine information into a single resource for long-term care (LTC) providers. Herein, you will find information on select vaccines, particularly those subject to regulatory requirements. This guide is for general informational purposes only and is not intended to comment on all potential vaccines for which an individual is eligible. Essential documents to support LTC staff in providing vaccinations are included, such as **Vaccine Information Statements (VIS), Consent Forms and Declination Forms**, and **Recommended Vaccine Schedules**.

As vaccine information is subject to change, links to primary resources are provided throughout the guide. Users are encouraged to access these source materials between publications of this guide, to ensure practices align with current recommendations and regulations.

Prior to administering any vaccine or pharmaceutical product, an individual patient's condition should be discussed with their appropriate medical provider(s) directly involved in their care. Refer to products' package inserts for the full prescribing information of any vaccine or pharmaceutical product.

Acknowledgements

The majority of information collated within this guide is made publicly available through government health agencies. Primarily, the Centers for Disease Control and Prevention (**CDC**), the Advisory Committee on Immunization Practices (**ACIP**), the Department of the U.S. Health and Human Service Department (**HHS**), and the Centers for Medicare and Medicaid Services (**CMS**) were instrumental in our information gathering.

The nature of drug information is that it is constantly evolving due to ongoing research and clinical experience and is often subject to interpretation. While great care has been taken to ensure the accuracy of the information presented, the reader is advised that the authors, editors, reviewers, contributors and publishers cannot be responsible for the continued currency of the information. All readers are advised that decisions regarding drug therapy and treatment must be based on the independent judgment of treating clinicians, current drug information (e.g., as reflected in literature and manufacturer's most current product information), and changing medical practices. The editors are not responsible for any inaccuracy of quotations or for any false or misleading implication that may arise due to the text or formulas as used or due to the quotation of revisions no longer official. PharMerica Corporation does not represent or warrant the accuracy of the information provided in this manual and nothing in this manual is intended to replace the treatment by an established clinician. No official support or endorsement by any federal or state agency or pharmaceutical company is intended or inferred.

CMS Requires INFLUENZA, PNEUMOCOCCAL, and COVID-19 Vaccinations to be Offered in Nursing Homes

The Centers for Medicare and Medicaid Services (CMS) require long-term care facilities (LTCFs) participating in the Medicare and Medicaid programs to **offer** all residents **influenza, pneumococcal, and COVID-19 vaccines**, and to **document** the results.

Residents are to be appropriately vaccinated unless medically contraindicated, the resident or their legal representative refuses vaccination, or the vaccine is not available because of shortage (to be supported with documentation).

This information is to be reported in **Section O** of the CMS Minimum Data Set (MDS 3.0), which tracks nursing home health parameters. Specifically, MDS Items **O0250, O0300, and O0350** of the RAI Version 3.0 Manual refer to influenza, pneumococcal, and COVID-19 vaccination, respectively.

O0250. Influenza Vaccine - Refer to current version of RAI manual for current influenza vaccination season and reporting period

Enter Code ☐

A. Did the **resident receive the influenza vaccine *in this facility*** for this year's influenza vaccination season?
0. **No** → Skip to O0250C, If influenza vaccine not received, state reason
1. **Yes** → Continue to O0250B, Date influenza vaccine received

B. **Date influenza vaccine received** → Complete date and skip to O0300A, Is the resident's Pneumococcal vaccination up to date?
☐☐ - ☐☐ - ☐☐☐☐
Month Day Year

Enter Code ☐

C. **If influenza vaccine not received, state reason:**
1. **Resident not in this facility** during this year's influenza vaccination season
2. **Received outside of this facility**
3. **Not eligible** - medical contraindication
4. **Offered and declined**
5. **Not offered**
6. **Inability to obtain influenza vaccine** due to a declared shortage
9. **None of the above**

O0300. Pneumococcal Vaccine

Enter Code ☐

A. **Is the resident's Pneumococcal vaccination up to date?**
0. **No** → Continue to O0300B, If Pneumococcal vaccine not received, state reason
1. **Yes** → Skip to O0350, Resident's COVID-19 vaccination is up to date

Enter Code ☐

B. **If Pneumococcal vaccine not received, state reason:**
1. **Not eligible** - medical contraindication
2. **Offered and declined**
3. **Not offered**

O0350. Resident's COVID-19 vaccination is up to date

Enter Code ☐

0. **No,** resident is not up to date
1. **Yes,** resident is up to date

According to the CMS State Operations Manual (Guidance under F883), facilities *should* follow the CDC and ACIP recommendations for vaccines.

Influenza and Pneumococcal Vaccinations

Noncompliance related to providing influenza or pneumococcal immunizations may be cited at F-tag 883, which stipulates that facilities develop policies and procedures to ensure residents are offered these vaccines, educated on risks, benefits, and potential side effects of vaccination, and that documentation of the vaccine offer, administration, and any refusals are to be maintained in the resident's medical record.

GENERAL

The facility *must* inform residents or their representatives about the benefits and potential side effects of the vaccines and obtain consent prior to administration. In order for a resident to exercise their right to make informed choices, it is important for the facility to provide the resident or resident representative with education regarding the benefits and potential side effects of immunizations. Facilities are *required* to document the provision of this education and the administration, refusal of the immunization or the medical contraindication of the immunization. There may be clinical indications or other reasons that a resident may not have received immunizations. The resident's record *should* show vaccination administration unless it contains documentation as to why the vaccine was not administered.

Influenza immunizations *must* be offered seasonally. The CDC indicates that administering the vaccine when it becomes available each season, rather than date specific, (i.e., "October 1") is most effective. Facilities *should* administer the influenza vaccine when it becomes available to the facility. Residents admitted late in the influenza season (typically February or March) *should* be offered the influenza vaccine as late season outbreaks do occur. If a resident was admitted outside the influenza season, the facility is not expected to offer the influenza vaccine to the resident, but it *may*, at its discretion.

Pneumococcal immunizations *must* be offered to all residents, unless medically contraindicated or the resident has already been immunized. There *should* be documentation in the medical record if there is reason to believe that pneumococcal vaccine(s) was given previously, but the date cannot be verified, and this had an impact upon the decision regarding administration of the vaccine(s).

Facilities should follow the CDC and ACIP recommendations for vaccines.

COVID-19 Vaccinations

Noncompliance related to providing COVID-19 immunizations may be cited at F-tag 887, which stipulates that facilities develop policies and procedures to ensure residents are offered these vaccines, educated on risks, benefits, and potential side effects of vaccination, and that documentation of the vaccine offer, administration, and any refusals are to be maintained in the resident's medical record.

All residents and/or resident representatives and staff must be educated on the COVID-19 vaccine they are offered, in a manner they can understand, and *should* receive the **CDC Vaccine Information Statement (VIS)*** for FDA approved vaccines, before being offered the vaccine.

For residents and staff who opt to receive the vaccine, vaccination must be conducted in accordance with CDC, ACIP, FDA, and manufacturer guidelines.

***See Essential Documents section of this Adult Immunization Guide for VISs!**

Billing Guidance

BILLING GUIDANCE

Medicare Coverage of Vaccinations

	Vaccine Preventable Disease	Examples of Products Covered
Part B	Influenza	Standard, Recombinant, High-Dose, Adjuvanted
	Pneumococcal	Vaxneuvance, Prevnar 20, Pneumovax 23, CAPVAXIVE
	Hepatitis B[1]	Energix-B, Recombivax HB, Heplisav-B
	COVID-19[2]	Comirnaty (Pfizer), Spikevax (Moderna), mNEXSPIKE (Moderna), Nuvaxovid (Novavax) (and other COVID-19 vaccines under EUA/BLA-approval)
	[1] Patients at Medium to High Risk for infection as designated by Medicare [2] Medicare Part B covers COVID-19 vaccines/boosters, whether you have Original Medicare or a Medicare Advantage Plan.	
Part D[3]	Hep A / Hep B	Twinrix
	Herpes Zoster	Shingrix
	Human Papillomavirus	Gardasil 9
	Diphtheria/Tetanus/Acellular Pertussis	Adacel, Boostrix, Daptacel
	Meningococcal	Menveo, MenQuadfi, Penbraya, Penmenvy, Bexsero, Trumenba
	Measles, Mumps, Rubella	MMR II, Priorix
	Respiratory Syncytial Virus	Arexvy, Abrysvo, mRESVIA
	Others	All commercially available vaccines (not otherwise covered by Part B) when they are reasonable and necessary to prevent illness
	[3] As of January 2023, all Medicare-covered vaccines should be free to beneficiaries (No cost-sharing through copayment, coinsurance, or deductible for covered vaccines)	
Part B with Clinical Review[4]	Anthrax	BioThrax
	Diptheria/Tetanus	Td, TENIVAC
	Hep A	Havrix, VAQTA
	Rabies	Imovax, RabAvert
	Tetanus Toxoid	Tetanus Toxoid
	[4] Vaccines directly related to the treatment of an injury or a direct exposure to a disease or condition, such as rabies and tetanus	

BILLING GUIDANCE

Vaccine CPT Codes and Reimbursements

Table 1. Flu Vaccine CPT-Reimbursement

Adult Influenza Vaccinations					
Approved Age Range for Adults	Older Adults Ages 65+		All Adults Ages 18+		
Brand Names	Fluad	Fluzone HD	Flublok	Flucelvax	Afluria, Fluarix, Flulaval, Fluzone
Vaccine Type	Adjuvanted Trivalent Vaccine (aIIV3)	High-Dose Trivalent Vaccine (HD-IIV3)	Recombinant Trivalent Vaccine (RIV3)	Cell-Cultured Standard Trivalent Vaccine (ccIIV3)	"Standard Trivalent Vaccines (IIV3)"
"Preferentially Recommended in Age 65+?"	✓	✓	✓	×	×
Unique Development	Contains adjuvant "booster" (MF59) to increase immune response	Contains 4x the amount of antigen vs standard trivalent vaccine to increase immune response	Contains 3x the amount of antigen vs standard trivalent vaccine and is produced via recombinant technology (egg free)	Produced using cell cultures (egg free)	-

2025-26 CMS Influenza Vaccine Reimbursements							
Brand Names	Fluad	Fluzone HD	Flublok	Flucelvax		Standard Influenza Vaccines	
Package Type	Prefilled Syringes	Prefilled Syringes	Prefilled Syringes	Prefilled Syringes	Multi-dose Vial	Prefilled Syringes	Multi-dose Vial
2025-2026 CPT Reimbursement Rate	$98.16	$98.16	$98.16	$49.50	$49.50	$23.22	$22.07
2025-2026 CPT Code	90653	90662	90673	90661	90661	90656	90658

BILLING GUIDANCE

Vaccine CPT Codes and Reimbursements, Continued

Table 2. COVID-19 Vaccine CPT-Reimbursement

Adult COVID-19 Vaccinations				
FDA-Approved Age Range	All Adults Ages 65 Years+			
	Ages 6 Months Through 64 Years with ≥1 Underlying Conditions Increasing Risk of Severe Outcomes	Ages 12 Through 64 Years with ≥1 Underlying Conditions Increasing Risk of Severe Outcomes	Ages 5 Through 64 Years with ≥1 Underlying Conditions Increasing Risk of Severe Outcomes	Ages 12 Through 64 Years with ≥1 Underlying Conditions Increasing Risk of Severe Outcomes
Brand Names	SPIKEVAX (2025-26 Formula)	mNEXSPIKE (2025-26 Formula)	COMIRNATY (2025-26 Formula)	NUVAXOVID (2025-26 Formula)
Vaccine Type	mRNA	mRNA	mRNA	Protein Subunit
Manufacturer	Moderna	Moderna	Pfizer-BioNTech	Novavax
FDA-Approved?	✓	✓	✓	✓

2025-26 CMS COVID-19 Vaccine Reimbursements				
Brand Names	SPIKEVAX	mNEXSPIKE	COMIRNATY	NUVAXOVID
Package Type	Prefilled Syringe	Prefilled Syringe	Prefilled Syringe	Prefilled Syringe
2025-2026 CPT Reimbursement Rate	$161.65	$201.91	$168.37	TBD
2025-2026 CPT Code	91322	91323	91320	91304
Admin Fee	$44.95	$44.95	$44.95	$44.95

BILLING GUIDANCE

Vaccine CPT Codes and Reimbursements, Continued

Table 3. Adult Pneumococcal Vaccinations CPT-Reimbursement

Adult Pneumococcal Vaccinations				
Brand Name	Vaxneuvance	Prevnar 20	Capvaxive	Pneumovax 23
Vaccine Type	**PCV15**	**PCV20**	**PCV21**	**PPSV23**
Valent Coverage	Conjugate	Conjugate	Conjugate	Polysaccharide
Manufacturer	15 Valent	20 Valent	21 Valent	23 Valent
FDA-Approved?	✓	✓	✓	✓

2025-26 CMS Pneumococcal Vaccine Reimbursements					
Brand Names	**Vaxneuvance (PCV15)**	**Prevnar 20 (PCV20)**	**Capvaxive (PCV21)**	**Pneumovax 23 (PPSV23)**	
Package Type	Prefilled Syringe	Prefilled Syringe	Prefilled Syringe	Prefilled Syringe	Single-Dose Vial
2025-2026 CPT Reimbursement Rate	$261.15	$312.90	$327.89	$133.47	
2025-2026 CPT Code	90671	90677	90684	90732	

Medicare Billing Guidance for Respiratory Vaccines in LTC

#GET VACCINATED

FOR THE FOUR VACCINES (RSV, INFLUENZA, PNEUMOCOCCAL AND COVID), LONG TERM CARE (LTC) FACILITIES CAN BILL MEDICARE.

All Part B vaccines (e.g., Influenza, Pneumococcal and COVID) are subject to consolidated billing and must be submitted by the Skilled Nursing Facility (SNF) on either a separate inpatient or outpatient Part B claim. It is paid separate from any Part A bundled rate when it is for preventative and not therapeutic purposes.

Part D vaccines (which includes RSV) are covered only under Part D and are not covered by Part A or B. RSV vaccine is also not subject to consolidated billing. It can be billed by any outside pharmacy or other entity regardless of SNF Part A (if preventative) or long-stay status. Therapeutic use of a Part D vaccine (e.g., tetanus for a person exposed) during a Part A stay would be bundled into the Part A per-diem rate (Part A is primary payer) and could not be billed separately to Part D.

So, for the RSV Vaccine that is not covered by Part B benefits but is a covered Part D benefit:

- If administered for preventive purposes: Part D plan would pay any approved entity that administers the vaccine regardless of Part A status (Not subject to SNF consolidated billing).

In March 2024, CMS issued a SNF Fact Sheet to explain how Medicare pays for vaccines administered during a patient's stay in a nursing home. Who administers and bills for the vaccine and how it is reimbursed depends on the type of vaccine and whether the patient is using their Skilled Nursing Facility (SNF) Part A benefit. The CMS document doesn't cover vaccine payment by Medicare Advantage plans, Medicaid or commercial insurance. Providers should contact those payers for guidance.

The Medicare Claims Processing Manual Chapter 6, Section 20.4 Screening and Preventive Services (updated 11-04-2021) are copied on the subsequent pages. Key provisions are highlighted.

Medicare Billing Guidance for Respiratory Vaccines in LTC

#GET VACCINATED

COVID-19 vaccine coverage under Part B is also addressed on CMS (Centers for Medicare &Medicaid Services) webpage: COVID-19 Vaccines & Monoclonal Antibodies - VACCINE PRICING and in a July 13, 2023, CMS Letter to Payors Regarding Coverage of COVID-19 Vaccines.

20.4 - Screening and Preventive Services

(Rev.4163, Issued: 11-02-18, Effective: 12-04-18, Implementation: 12-04-18)

The Part A SNF benefit is limited to services that are reasonable and necessary to "diagnose or treat" a condition that has already manifested itself. Accordingly, this benefit does not encompass screening services (which serve to check an at-risk individual for the possible presence of a specific latent condition, before it manifests any overt symptoms to diagnose or treat) or preventive services (which are aimed at warding off the occurrence of a particular condition altogether rather than diagnosing or treating it once it occurs). Coverage of screening and preventive services (e.g., screening mammography, pneumococcal pneumonia vaccine, influenza vaccine, hepatitis B vaccine) is a separate Part B inpatient benefit when rendered to beneficiaries in a covered Part A stay and is paid outside of the Part A payment rate. For this reason, screening and preventive services must not be included in the global Part A bill. However, screening and preventive services remain subject to consolidated billing and, thus, must be billed separately by the SNF under Part B.

Accordingly, even though the SNF itself must bill for these services, it submits a separate Part B inpatient bill for them rather than including them on its global Part A bill. Screening and preventive services must be billed with a 22X type of bill. Swing Bed providers must use TOB 12x for eligible beneficiaries in a Part A SNF level of care. **NOTE:** For beneficiaries residing in the Medicare non-certified area of the facility, these services should be billed on a 23x type of bill. In transmittals for A/B MAC (A) billing providing the annual update list of HCPCS codes affected by SNF consolidated billing, such services are referred to as "Major Category IV." See §10.1 above for the link to where transmittals providing current lists of HCPCS codes used for Major Category IV can be found.

Medicare Billing Guidance for Respiratory Vaccines in LTC

#GET VACCINATED

There are certain limited circumstances in which a vaccine would no longer be considered preventive in nature, and this can affect how the vaccine is covered. For example, while a booster shot of tetanus vaccine would be considered preventive if administered routinely in accordance with a recommended schedule, it would not be considered preventive when administered in response to an actual exposure to the disease (such as an animal bite, or a scratch on a rusty nail).

In the latter situation, such a vaccine furnished to an SNF's Part A resident would be considered therapeutic rather than preventive in nature, as its use is reasonable and necessary for treating an existing condition.

In terms of billing for an SNF's Part A resident, a vaccine that is administered for therapeutic rather than preventive purposes would be included on the SNF's global Part A bill for the resident's covered stay. Alternatively, if a vaccine is preventive in nature and is one of the three types of vaccines (i.e., pneumococcal pneumonia, hepatitis B, or influenza virus) for which a Part B benefit category exists (see §50.4.4.2 of the Medicare Benefit Policy Manual, Chapter 15), then the SNF would submit a separate Part B bill for the vaccine. (Under section 1888(e)(9) of the Social Security Act (the Act) and the implementing regulations at 42 CFR 413.1(g)(2)(ii), payment for an SNF's Part B services is made in accordance with the applicable fee schedule for the type of service being billed (see the Medicare Claims Processing Manual, Chapter 7, §10.5).

However, when these three types of vaccines are furnished in the SNF setting, Part B makes payment in accordance with the applicable instructions contained in the Medicare Claims Processing Manual, Chapter 7, §80.1, and Chapter 18, §10.2.2.1.)

If the resident receives a type of vaccine that is preventive in nature but for which no Part B benefit category exists (e.g., diphtheria), then the vaccine would not be covered under either Parts A or B and, as a consequence, would become coverable under the Part D drug benefit. This is because priority of payment between the various parts of the Medicare law proceeds in alphabetical order: Part A is primary to Part B (see section 1833(d) of the Act), and both Parts A and B are primary to Part D (see section 1860D-2(e)(2)(B) of the Act).

SNF Fact Sheet

Billing Medicare for Respiratory Vaccines

This document explains how Medicare pays for vaccines administered during a patient's stay in a nursing home. Vaccine payment depends on the type of vaccine and whether the patient is using their Skilled Nursing Facility (SNF) Part A benefit. This document doesn't cover vaccine payment by Medicare managed care, Medicaid or commercial insurance.

Medicare billing guidelines

Respiratory syncytial virus (RSV) vaccines

Medicare Part D covers RSV vaccines with no consumer cost-sharing. If the vaccine is covered under a Part D plan, the long-term care (LTC) pharmacy will not bill separately for any administration of the vaccine per Medicare Part D's vaccine administration guidance. If the facility administers the RSV vaccine, the facility may negotiate an administration fee with their LTC pharmacy, but the facility can't bill an administration fee to Medicare or the patient.

For Part A stay residents with Part D (including hospice patients)	■ LTC pharmacy will bill patient's Part D plan for the RSV vaccine if the pharmacy is in-network. If the pharmacy is out-of-network, the pharmacy will bill the patient, who can submit their receipt to their Part D plan for payment. *Note: Vaccine access from an out-of-network pharmacy should be rare given the Part D requirement to provide convenient access to LTC pharmacies.* ■ If an outside vaccinator administers the RSV vaccine, the vaccinator will bill the patient's Part D plan if the vaccinator is in-network. If the vaccinator is out-of-network, they'll bill the patient, who can submit their receipt to their Part D plan for payment.
For non-Part A / long-term stay residents with Part D	■ LTC pharmacy will bill patient's Part D plan for the RSV vaccine if the pharmacy is in-network. If the pharmacy is out-of-network, the pharmacy will bill the patient, who can submit their receipt to their Part D plan for payment. ■ If an outside vaccinator administers the RSV vaccine, the vaccinator will bill the patient's Part D plan if the vaccinator is in-network. If the vaccinator is out-of-network, they'll bill the patient, who can submit their receipt to their Part D plan for payment.
For patients without Part D	■ The LTC pharmacy will bill the patient for the RSV vaccine as an uncovered service.

Flu, pneumococcal & COVID-19 vaccines

Medicare Part B covers influenza, pneumococcal, and COVID-19 vaccines with no consumer cost-sharing. A vaccine may be billed by the facility or the LTC pharmacy, depending on whether the patient is in their Part A stay.

For Part A stay residents (including hospice patients)	■ Facility will bill the vaccine cost and administration fee on single claims using Type of Bill (TOB) 22X, or submit claims on a roster bill for multiple patients at a time. ■ LTC pharmacy isn't allowed to bill directly for these Part B vaccines. *Note: During the COVID-19 public health emergency, outside immunizers could bill Medicare directly for providing flu, pneumococcal, and COVID-19 vaccinations onsite at SNF facilities. This flexibility ended on June 30, 2023.*
For non-Part A / long-term stay residents	■ Facility can bill the vaccine cost and administration fee on single claims using TOB 23X, or submit claims on a roster bill for multiple patients at a time. ■ LTC pharmacy can bill directly for both the vaccine cost and the administration fee.

CMS updates the price and billing codes for vaccines each year.

See 2025-2026 Medicare Vaccine Pricing and Codes

Get more information about Medicare vaccine billing

- Medicare Billing for COVID-19 Vaccine Shot Administration webpage
- Medicare Part D vaccine administration guidelines

March 2024
This product was produced at U.S. taxpayer expense.

Billing for Vaccines in Skilled Nursing Facilities: A Guide

August 2024

Coding

The Centers for Medicare and Medicaid Services and the American Medical Association (AMA) have established codes for billing vaccines.

There are two components to billing any vaccine administered: the vaccine product/ingredients and its administration.

For the most up-to-date information on specific codes, visit the following websites:

Roster Billing:

Roster billing with your MAC:
www.cms.gov/medicare/payment/covid-19/definitions

Medicare Claims Processing Manual, Chapter 6 with consolidated billing guidance:
www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/clm104c06.pdf

Medicare Claims Processing Manual, Chapter 18 with vaccine guidance:
www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/clm104c18pdf.pdf

Specific Codes

Updated COVID-19 CPT codes:
www.ama-assn.org/practice-management/cpt/covid-19-cpt-vaccine-and-immunization-codes

List of CPT/HCPCS codes:
www.cms.gov/medicare/regulations-guidance/physician-self-referral/list-cpt/hcpcs-codes

In skilled nursing facilities, a vaccine may be billed by the facility or the long-term care pharmacy, depending both on whether a resident is in their Part A stay as well as what vaccine is being administered.

Staff

The LTC pharmacy can procure and bill for staff vaccination but it is typically considered out of network and not covered, leaving the facility or individual staff member to cover the bill.

The facility can choose to eat the cost of the vaccine or send staff elsewhere (eg, retail pharmacy or provider office that is a part of the insured staff person's network)

The Bridge Access Program, providing COVID-19 vaccine to uninsured adults, ended in August 2024. Staff who are uninsured will no longer have access to COVID-19 vaccine at retail pharmacies unless paying out of pocket.

For more information, please contact
movingneedles@paltmed.org

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Residents

Influenza, pneumococcal, and COVID-19 vaccines

Influenza, pneumococcal, and COVID-19 vaccines are billed as part of **Medicare Part B**. Hepatitis B vaccine is covered under Part B only if an individual is considered to be at high risk – residents of long term care are considered high risk.

Part A Stay Resident

FACILITY	Vaccine product and administration fee must be billed by facility using roster billing on a Part B claim
PHARMACY	The LTC pharmacy is not allowed to bill directly for Part B vaccines for residents in their Part A stay

Non-Part A/Long-term Stay Resident

FACILITY	Facility can use roster billing for both the vaccine cost and the administration fee on a Part B claim
PHARMACY	Pharmacy can bill directly for both the vaccine cost and the administration fee

If the facility staff administered the vaccine, they can ask the pharmacy to bill the administration fee and provide it back to the facility. This should be written into contracts between facilities and pharmacies.

Hospice

Because vaccinations are not part of the Medicare hospice benefit, hospice claims *(type of bill 81X or 82X)* for vaccine services must be billed on a separate institutional claim and must only include charges for the vaccine and their administration.

COVID-19: For hospice patients under Part B only, include the GW modifier on COVID-19 vaccine administration claims if either of these apply:

1. The vaccine isn't related to the patient's terminal condition.

2. The attending physician administered the vaccine.

Tdap, shingles, and RSV vaccine

Tdap, shingles, and RSV are billed through **Medicare Part D**. Hepatitis B vaccine is covered under Part D if an individual is not at high risk.

Part A Stay Resident

PHARMACY	Pharmacies must provide and bill for the cost of the vaccine product and may bill for the administration fee

Non-Part A/Long-term Stay Resident

PHARMACY	Pharmacies must provide and bill for the cost of the vaccine product and may bill for the administration fee

If the facility staff administered the vaccine, they can ask the pharmacy to bill the administration fee and provide it back to the facility. This should be written into contracts between facilities and pharmacies.

Exceptions and special circumstances

When a vaccine such as Tdap (Part D) is administered therapeutically (i.e., post exposure) instead of preventively, it is included in the Part A global bundled payment for Part A stay residents.

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Payment for Medicare Part B Preventive Vaccines & Their Administration for Rural Health Clinics & Federally Qualified Health Centers

Related CR Release Date: January 16, 2025	**MLN Matters Number:** MM13923
Effective Date: July 1, 2025	**Related Change Request (CR) Number:** CR 13923
Implementation Date: July 7, 2025	**Related CR Transmittal Number:** R13055CP
Related CR Title: Payment for Part B Preventive Vaccines and their Administration on the Claim for Rural Health Clinics (RHCs) and Federally Qualified Health Centers (FQHCs)	

Affected Providers

- Rural health clinics (RHCs)
- Federally Qualified Health Centers (FQHCs)

Action Needed

Make sure your billing staff knows about the vaccine payment policies for RHCs and FQHCs:

- Hepatitis B vaccines are paid like other Part B preventive vaccines starting January 1, 2025
- New claim-based payments for Part B preventive vaccines and their administration are starting July 1, 2025
- Updates to the Medicare Claims Processing Manual, Chapter 18, section 10.2

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Background

Section 1833(a)(3)(A) of the Social Security Act specifies that part B preventive vaccines and their administration are exempt from the RHC and FQHC payment limit of 80% of reasonable costs. Therefore, CMS pays for pneumococcal, influenza, and COVID-19 vaccines and their administration in RHCs and FQHCs at 100% of reasonable costs under section 1833(a)(1)(B) of the Social Security Act. For RHCs, we don't include the costs associated with these vaccines and their administration when we determine the All-Inclusive Rate, and we don't subject them to the payment limit. For FQHCs, we don't include these costs under the FQHC Prospective Payment System.

Starting January 1, 2025, we'll pay for hepatitis B vaccines like we do pneumococcal, influenza, and COVID-19 vaccines in RHCs and FQHCs.

Starting July 1, 2025, RHCs and FQHCs can bill for all 4 types of Part B preventive vaccines—pneumococcal, influenza, hepatitis B, and COVID-19 vaccines and their administration—at the time of service with or without a qualifying visit. RHCs and FQHCs can bill HCPCS code M0201 for an in-home additional payment for Part B preventive vaccine administration only if a home visit meets all the requirements of both 42 CFR 405 Subpart X, for RHCs and FQHCs services provided in the home, and 42 CFR 410.152(h)(3)(iii), for the in-home additional payment for Part B preventive vaccine administration.

RHCs and FQHCs will need to annually reconcile any payments received at the time of service with the facilities' actual vaccine and vaccine administration costs on their cost reports including any in-home additional costs.

We'll pay the claims like other Part B vaccine and vaccine administration claims:

- Vaccine products at 95% of the Average Wholesale Price
- Vaccine administration according to the National Fee Schedule for Medicare Part B vaccine administration

The Part B vaccine administration fee schedule includes locality adjusted payment rate files for codes G0008, G0009, G0010, 90480, and M0201 with the annual update applied for CY 2025. You can find these files on the CMS Vaccine Pricing page under the "Seasonal Flu Vaccine" tab for the influenza, pneumococcal, and hepatitis B payment rates and under the "COVID-19 Vaccines & Monoclonal Antibodies" tab for the COVID-19 vaccine payment rates.

More Information

We issued CR 13923 to your MAC as the official instruction for this change. For more information, find your MAC's website.

Document History

Date of Change	Description
January 16, 2025	Initial article released.

Essential Documents and Sample Forms

ESSENTIAL DOCUMENTS AND SAMPLE FORMS

Overview

This section contains all current **Vaccine Information Statements (VIS)** for **Routine Vaccines** (as of this Guide's publication date). **VIS** are information sheets produced by CDC that explain both the benefits and risks of a vaccine to vaccine recipients. In the case of recipients under 18, they are to be provided to a parent or legal guardian. **Federal law requires** that VISs be offered before each dose of certain vaccinations.

The CDC maintains an active VIS website at https://www.cdc.gov/vaccines/hcp/current-vis/?CDC_AAref_Val=https://www.cdc.gov/vaccines/hcp/vis/current-vis.html.

Here users can also access VISs for **Non-Routine Vaccines** (e.g., cholera, monkeypox, rabies, etc.) as well as any VIS that is updated between publications of this guide. Users are responsible for ensuring they are using the most current version of any recently updated VIS. As a general rule, when changes to a VIS concern the safety of the vaccine (e.g., contraindications or precautions, or adverse events), it is essential that the new edition be used immediately upon publication.

FAQs

Below are some common questions and answers regarding Vaccine Information Statements from the CDC:

Q: Why are the edition dates on some of the VISs so old? Are they obsolete? Why can't they be updated every year?
A: VISs are updated only when they need to be. For instance, a VIS would be updated if there were a change in ACIP recommendations that affects the vaccine's adverse event profile, indications, or contraindications. Knowing that VISs posted on CDC's VIS website are always current should help alleviate any concern. Annually changing the dates on VISs that haven't changed otherwise could be confusing too, because there could be multiple VISs in circulation that are identical but have different dates. Providers using paper VISs shouldn't be required to renew their stocks each year because the date changed.

Q: Some VISs contain recommendations that are at odds with the manufacturer's package insert. Why?
A: VISs are based on the ACIP's recommendations, which occasionally differ from those made by the manufacturer. These differences may involve adverse events. Package inserts generally tend to include all adverse events that were temporally associated with a vaccine during clinical trials, whereas ACIP tends to recognize only those believed to be causally linked to the vaccine.

Q: How early can VISs be provided to parents/legal representatives prior to vaccination?
A: The National Childhood Vaccine Injury Act requires that a current VIS be provided to parents/legal representatives *prior to vaccination*. Although the Act does not specify the amount of time allowed between VIS provision and vaccination, they must be provided as close to the time of vaccination as is programmatically feasible and reasonable, keeping in mind that VISs are designed to inform vaccine recipients (or their parents/legal representatives) about the risks and benefits of specific vaccines, as well as medical eligibility, prior to vaccine receipt.

Immunize.org

Users may be also have need for Vaccine Information Statements in non-English languages. **Immunize.org** (non-profit organization) maintains a freely accessible library of VIS translations in multiple languages: https://www.immunize.org/translations/

You Must Provide Patients with Vaccine Information Statements (VISs) – It's Federal Law!

What are Vaccine Information Statements (VISs)?

Vaccine Information Statements (VISs) are documents produced by the Centers for Disease Control and Prevention (CDC), in consultation with panels of experts and parents, to properly inform vaccinees (or their parents/legal representatives) about the risks and benefits of each vaccine. VISs are not meant to replace interactions with healthcare providers, who should address any questions or concerns that the vaccinee (or parent/legal representative) may have.

Using VISs is legally required!

Federal law (under the National Childhood Vaccine Injury Act, NCIVA) requires a healthcare professional to provide a copy of the current VIS to an adult patient or to a child's parent/legal representative before vaccinating an adult or child with a dose of the following vaccines: diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, hepatitis A, hepatitis B, *Haemophilus influenzae* type b (Hib), influenza, pneumococcal conjugate, meningococcal, rotavirus, human papillomavirus (HPV), or varicella (chickenpox).

Where to get VISs

All available VISs can be downloaded from the websites of Immunize.org at www.immunize.org/vaccines/vis/about-vis/ or CDC at www.cdc.gov/vaccines/hcp/vis/index.html. Ready-to-copy versions may also be available from your state or local health department.

Translations: You can find VISs in more than 40 languages on the Immunize.org website at www.immunize.org/translations.

To obtain translations of VISs in languages other than English, go to www.immunize.org/translations

According to CDC, the appropriate VIS must be given:

- Prior to the vaccination (and prior to each dose of a multi-dose series)
- Regardless of the age of the vaccinee
- Regardless of whether the vaccine is given in a public or private healthcare setting

Top 10 Facts About VISs

FACT 1 It's federal law! You must provide current* VISs to all your patients before vaccinating them.

Federal law requires that VISs must be used for patients of **ALL ages** when administering these vaccines:

- DTaP
- Td and Tdap
- hepatitis A
- hepatitis B
- Hib
- HPV
- influenza (inactivated and live, intranasal)
- MMR and MMRV
- meningococcal (MenACWY, MenB)
- pneumococcal conjugate
- polio
- rotavirus
- varicella (chickenpox)

For the vaccines not covered under NCVIA (i.e., adenovirus, anthrax, COVID-19, dengue, ebola, Japanese encephalitis, pneumococcal polysaccharide, rabies, RSV, smallpox/monkeypox, tick-borne encephalitis, typhoid, yellow fever, and zoster), providers are not required by federal law to use VISs unless they have been purchased under CDC contract. However, CDC recommends that VISs be used whenever these vaccines are given. When administering a vaccine under conditions of an emergency use authorization (EUA), an EUA fact sheet must be used (see www.cdc.gov/vaccines/hcp/eua/index.html).

*Federal law allows up to 6 months for a new VIS to be used.

FACT 2 VISs can be given to patients in a variety of ways.

In most medical settings, VISs are provided to patients (or their parents/legal representatives) in paper form. However, VISs also may be provided using electronic media. Regardless of the format used, the goal is to provide a current VIS just prior to vaccination.

CONTINUED ON THE NEXT PAGE ▶

As of May 29, 2025, the most recent versions of the VISs are:

Adenovirus	1/8/20
Anthrax	1/8/20
COVID-19	1/31/25
Cholera	1/31/25
Dengue	1/31/25
DTaP	8/6/21
Ebola	1/31/25
Hepatitis A	1/31/25
Hepatitis B	1/31/25
Hib	8/6/21
HPV	8/6/21
Influenza	1/31/25
Japanese enceph	8/15/19
MenACWY	1/31/25
MenB	1/31/25
MMR	1/31/25
MMRV	1/31/25
Multi-vaccine	7/24/23
PCV	5/29/25
PPSV23	5/29/25
Polio	1/31/25
Rabies	6/2/22
RSV antibody	9/25/23
RSV vaccine	1/31/25
Rotavirus	10/15/21
Smallpox/monkeypox	1/31/25
Td	8/6/21
Tdap	1/31/25
Tick-borne encephalitis	12/7/23
Typhoid	10/30/19
Varicella	1/31/25
Yellow fever	4/1/20
Zoster	2/4/22

Immunize.org

FOR PROFESSIONALS www.immunize.org / **FOR THE PUBLIC** www.vaccineinformation.org

www.immunize.org/catg.d/p2027.pdf

Item #P2027 (5/29/2025)

Scan for PDF

(For information on special circumstances involving vaccination of a child when a parent/legal representative is not available at the time of vaccination, see CDC's *VIS Frequently Asked Questions* at www.cdc.gov/vaccines/hcp/about-vis/faq.html)

Prior to vaccination, VIS may be:

- Provided as a paper copy
- Offered on a permanent, laminated office copy
- Downloaded by the vaccinee (parent/legal representative) to a smartphone or other electronic device (VISs have been specially formatted for this purpose)
- Made available to be read before the office visit, e.g., by giving the patient or parent a copy to take home during a prior visit, or telling them how to download or view a copy online. These patients must still be offered a copy in one of the formats described previously to read during the immunization visit, as a reminder.

Regardless of the way the patient is given the VIS to read, providers must still offer a copy (which can be an electronic copy) of each appropriate VIS to take home following the vaccination. However, the vaccinee may decline to take the VIS home.

FACT 3 VISs are required in both public and private sector healthcare settings.

Federal law requires the use of VISs in both public and private sector settings, regardless of the source of payment for the vaccine.

FACT 4 You must provide a current VIS *before* a vaccine is administered to the patient.

A VIS provides information about the disease and the vaccine and must be given to the patient **before** a vaccine is administered. It is also acceptable to hand out the VIS well before administering vaccines (e.g., at a prenatal visit or at birth for vaccines an infant will receive during infancy), as long as you still provide a current VIS right before administering vaccines.

FACT 5 You must provide a current VIS for *each* dose of vaccine you administer.

The most current VIS must be provided before **each dose** of vaccine is given, including vaccines given as a series of doses. For example, if 5 doses of a single vaccine are required (e.g., DTaP), the patient or parent/legal representative must have the opportunity to read the information on the VIS before each dose is given.

FACT 6 You must provide VISs whenever you administer combination vaccines.

If you administer a combination vaccine that does not have a stand-alone VIS (e.g., Kinrix, MenABCWY, Quadracel, Pediarix, Pentacel, Twinrix, Vaxelis) you should provide the patient with individual VISs for the component vaccines, or use the Multi-Vaccine VIS.

The Multi-Vaccine VIS may be used in place of the individual VISs for DTaP, Hib, hepatitis B, polio, and pneumococcal when two or more of these vaccines are administered during the same visit. It may be used for infants as well as children through 6 years of age. The Multi-Vaccine VIS should not be used for adolescents or adults.

FACT 7 VISs should be given in a language / format that the recipient can understand, whenever possible.

For patients who don't read or speak English, the law requires that providers ensure all patients (parent/legal representatives) receive a VIS, regardless of their ability to read English. To obtain VISs in more than 40 languages, visit the Immunize.org website at www.immunize.org/vis. Providers can supplement VISs with visual presentations or oral explanations as needed.

FACT 8 Federal law does not require signed consent in order for a person to be vaccinated.

Signed consent is not required by federal law for vaccination (although some states may require it).

FACT 9 To verify that a VIS was given, providers must record in the patient's medical record (or permanent office log or file) the following information:

- The edition date of the VIS (found on the back at the right bottom corner)
- The date the VIS is provided (i.e., the date of the visit when the vaccine is administered)

In addition, providers must record:

- The office address and name and title of the person who administers the vaccine
- The date the vaccine is administered
- The vaccine manufacturer and lot number

FACT 10 VISs should not be altered before giving them to patients, but you can add some information.

Providers should not change a VIS or write their own VISs. However, it is permissible to add a practice's name, address, and contact information to an existing VIS.

Additional resources on VISs and their use are available from the following organizations:

Immunize.org

- *VIS general information and translations in more than 40 languages:* www.immunize.org/vaccines/vis/about-vis/
- *Current Dates of Vaccine Information Statements:* www.immunize.org/catg.d/p2029.pdf

Centers for Disease Control and Prevention

- *Current VISs:* www.cdc.gov/vaccines/hcp/vis
- About *VISs:* www.cdc.gov/vaccines/hcp/about-vis/index.html
- *VIS FAQs:* www.cdc.gov/vaccines/hcp/about-vis/faq.html

Adenovirus Vaccine:
What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 Why get vaccinated?

Adenovirus vaccine can prevent **infection with some types of adenovirus.**

Adenoviruses can cause illness that is usually mild, but can be serious in some cases. People with weakened immune systems, or existing lung or heart disease, are at higher risk of developing severe illness from an adenovirus infection.

Adenovirus infection can cause:
- Common cold or flu-like symptoms
- Fever
- Sore throat
- Acute bronchitis (inflammation of the airways of the lungs, sometimes called a "chest cold")
- Pneumonia (infection of the lungs)
- Diarrhea
- Conjunctivitis (pink eye)

Infection with adenovirus can also rarely lead to more serious problems, such as severe pneumonia or neurologic disease (conditions that affect the brain and spinal cord), and even death. Some people who are infected may have to be hospitalized.

Adenoviruses are usually spread from an infected person to others through close personal contact such as touching or shaking hands, through the air by coughing and sneezing, or through handling objects that an infected person has touched. Some adenoviruses can spread through an infected person's stool, for example, during diaper changing. Adenovirus can also spread through the water, such as in swimming pools, but this is less common.

Certain adenovirus types (including Type 4 and Type 7) have caused severe outbreaks of respiratory illness among military recruits.

2 Adenovirus vaccine

Adenovirus vaccine is only available for United States military personnel. There is currently no adenovirus vaccine available to the general public.

Adenovirus vaccine contains live adenovirus Type 4 and Type 7. It will prevent most illness caused by these two virus types.

The vaccine comes as two tablets, taken orally (by mouth) at the same time. The tablets should be swallowed whole, not chewed or crushed.

The vaccine is approved for military personnel 17 through 50 years of age. It is recommended by the Department of Defense for military recruits entering basic training. It may also be recommended for other military personnel at high risk for adenovirus infection.

Adenovirus vaccine may be given at the same time as other vaccines.

3 Talk with your health care provider

Tell your vaccine provider if the person getting the vaccine:
- Has had an **allergic reaction after a previous dose of adenovirus vaccine**, or has any **severe, life-threatening allergies**.
- Has a **weakened immune system**.
- Is **younger than 17 or older than 50 years**.
- Is **pregnant or nursing**, or planning to become pregnant.
- Is **unable to swallow the vaccine tablets whole** without chewing them.
- Is **currently experiencing vomiting or diarrhea**.

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

In some cases, your health care provider may decide to postpone adenovirus vaccination to a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting adenovirus vaccine.

Virus from the vaccine can be shed in the stool for up to 28 days after vaccination. To minimize the risk of spreading vaccine virus to other people during this period, observe proper **personal hygiene**, such as frequent hand washing, especially following bowel movements. This is especially important if you have close contact with children 7 years of age and younger, with anyone having a weakened immune system, or with pregnant women.

Your health care provider can give you more information.

4 Risks of a vaccine reaction

- Headache, upper respiratory tract infection, stuffy nose, sore throat, abdominal pain, cough, nausea, diarrhea, fever or joint pain can happen after adenovirus vaccine.
- More serious problems including blood in the urine or stool, pneumonia, or inflammation of the stomach or intestines occur rarely after adenovirus vaccination.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5 What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff do not give medical advice.*

6 How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's adenovirus website at **www.cdc.gov/adenovirus**

Anthrax Vaccine:
What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 Why get vaccinated?

Anthrax vaccine can prevent **anthrax**.

People can get anthrax disease from contact with infected animals or contaminated animal products such as wool, meat, or hides. The anthrax bacteria could also be used as a biological weapon.

Anthrax is not spread from person to person. It is spread in one of four ways, and signs and symptoms can vary depending on how anthrax enters the body:

- Through breaks in the skin. Cutaneous anthrax causes blisters or bumps on the skin, swelling around the sore, and a painless skin sore (ulcer) with a black center. The sore is usually on the face, neck, arms, or hands.
- From eating infected meat. Ingestion anthrax can cause fever and chills. It can affect the upper part of the gastrointestinal (GI) tract, the lower part of the GI tract, or both. When it affects the upper part, there is swelling of the neck or neck glands, sore throat, and painful swallowing or difficulty breathing. When it affects the lower GI tract, nausea and vomiting, stomach pain and swelling, and diarrhea may be present. The patient may also look flushed (red), have red eyes, or faint.
- From inhaling spores of the bacteria that causes anthrax. Inhalation anthrax can cause shortness of breath, cough, chest discomfort, confusion, nausea or vomiting, stomachache, sweats, and dizziness.
- From injecting heroin. Injection anthrax can result in swelling at the injection site, nausea and vomiting, and sweats.

All types of anthrax can cause fever, chills, fatigue, and headache. Anthrax can spread throughout the body and cause severe illness, including brain infections and even death, if left untreated.

2 Anthrax vaccine

Anthrax vaccine is approved by the Food and Drug Administration (FDA) and recommended for adults 18 through 65 years of age **who are at risk of exposure to anthrax bacteria**, including:

- Certain laboratory workers who work with *Bacillus anthracis*
- People who handle potentially infected animals or their carcasses
- Some military personnel (determined by the Department of Defense)
- Some emergency and other responders whose response activities might lead to exposure

These people should get 3 doses of anthrax vaccine, followed by booster doses for ongoing protection.

Anthrax vaccine is also recommended for **unvaccinated people of all ages who have been exposed to anthrax**. These people should get 3 doses of anthrax vaccine together with recommended antibiotic drugs.

Anthrax vaccine has not been studied or used in children less than 18 years of age. Because its use in exposed children is not approved by FDA, it must be used under an expanded access Investigational New Drug (IND) program and requires informed consent from a parent or legal guardian.

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

3 Talk with your health care provider

Tell your vaccine provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of anthrax vaccine**, or has any **severe, life-threatening allergies**.
- Is **pregnant** or thinks she might be pregnant.
- Has a **weakened immune system**.
- Has a **history of anthrax disease**.

In some cases, your health care provider may decide to postpone anthrax vaccination to a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting anthrax vaccine.

If you are receiving the vaccine because you have been exposed to anthrax, tell your health care provider if you are not feeling well. You might need immediate medical care.

Your health care provider can give you more information.

4 Risks of a vaccine reaction

After getting a shot of anthrax vaccine, you may have:

- Tenderness, redness, itching, or a lump or bruise where the shot is given
- Muscle aches or short-term trouble moving your arm
- Headaches or fatigue

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5 What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff do not give medical advice.*

6 Countermeasures Injury Compensation Program

The Countermeasures Injury Compensation Program is a federal program that may help pay for costs of medical care and other specific expenses of certain people who have been seriously injured by certain medicines or vaccines. If you have been injured by the anthrax vaccine, you can learn more about this Program by visiting the program's website at **www.hrsa.gov/cicp,** or calling **1-855-266-2427**.

7 How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's anthrax website at **www.cdc.gov/anthrax**

Cholera Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Cholera vaccine can prevent **cholera**.

Cholera is spread through contaminated food or water. It is not usually spread directly from person to person, but it can be spread through contact with the feces of an infected person. Cholera causes severe diarrhea and vomiting. If it isn't treated quickly, it can lead to dehydration and even death.

Cholera is a risk mostly to people traveling to countries where the disease is common (Americas including Hispaniola, parts of Africa, South Asia, and Southeast Asia). While it is rare in the United States, cholera has also occurred among people eating raw or undercooked seafood from the Gulf Coast.

Besides being vaccinated, it is important to follow these five basic steps if you are going to an area where cholera is present:

- Drink and use safe water.
- Wash your hands often with soap and safe water.
- Use toilets when possible. If toilets are not available, bury feces at least 100 feet away from any body of water, including wells.
- Peel raw fruits and vegetables and cook other food thoroughly.
- Clean up safely. Thoroughly clean toilets and other surfaces that might be contaminated with feces.

2. Cholera vaccine

The cholera vaccine used in the United States is an oral (swallowed) vaccine. Only one dose is needed. Booster doses are not recommended.

Most travelers do not need cholera vaccine. Cholera vaccine is recommended for people 2 through 64 years of age who are traveling to an area where people are getting infected with cholera.

Cholera vaccine is not 100% effective against cholera and does not protect from other foodborne or waterborne diseases. Cholera vaccine is not a substitute for being careful about what you eat or drink.

Cholera vaccine is a live, attenuated (weakened) vaccine that can be shed in stool for at least 7 days. Following cholera vaccination, always wash your hands thoroughly after using the bathroom and before preparing or handling food.

3. Talk with your health care provider

Tell your vaccine provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of cholera vaccine**, or has any **severe, life-threatening allergies**.
- Is **pregnant** or thinks she might be pregnant.
- Has a **weakened immune system** or has close contacts (e.g., household contacts) with a weakened immune system.
- Has **recently taken antibiotics**.
- Is **taking oral typhoid vaccine**.
- Is **taking anti-malaria drugs** or plans to start taking them in the next 10 days.

In some cases, your health care provider may decide to postpone cholera vaccination to a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting cholera vaccine.

Your health care provider can give you more information.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

4. Risks of a vaccine reaction

- Tiredness, headache, abdominal pain, nausea, vomiting, lack of appetite, and diarrhea can happen after cholera vaccine.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff do not give medical advice.*

6. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's cholera website at **www.cdc.gov/cholera**

COVID-19 Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

COVID-19 vaccine can prevent **COVID-19 disease**. Vaccination can help reduce the severity of COVID-19 disease if you get sick.

COVID-19 is caused by a coronavirus called SARS-CoV-2 that spreads easily from person to person. COVID-19 can be mild to moderate, lasting only a few days, or it can be severe, requiring hospitalization, intensive care, or a ventilator to help with breathing. COVID-19 can also result in death.

COVID-19 symptoms may appear 2 to 14 days after exposure to the virus. A person can have mild, moderate, or severe symptoms.

- Symptoms can include fever; chills; cough; shortness of breath or difficulty breathing; fatigue (tiredness); muscle or body aches; headache; new loss of taste or smell; sore throat; congestion or runny nose; nausea; vomiting; and diarrhea.
- More serious symptoms can include trouble breathing; persistent pain or pressure in the chest; new confusion; inability to wake or stay awake; and pale, gray, or blue-colored skin, lips, or nail beds (depending on skin tone).

Older adults and people of any age with certain underlying medical conditions (like heart or lung disease or diabetes) are more likely to get very sick with COVID-19.

After COVID-19 illness, some people get Long COVID, a chronic condition with symptoms lasting 3 months or longer. Symptoms of Long COVID may get better, get worse, or stay the same.

People who are up to date with COVID-19 vaccination have a lower risk of severe illness, hospitalization, and death from COVID-19 than people who are not up to date. COVID-19 vaccination is the best way to prevent Long COVID.

Getting a COVID-19 vaccine helps the body learn how to defend itself from the disease and reduces the risk for severe illness and complications. Additionally, COVID-19 vaccines can offer added protection to people who have already had COVID-19, including protection against being hospitalized if they become infected with COVID-19 again.

2. COVID-19 vaccine

Updated 2024–2025 COVID-19 vaccine is recommended for everyone 6 months of age and older. This includes women who are pregnant, breastfeeding, trying to get pregnant now, or who might become pregnant in the future.

2024–2025 COVID-19 vaccines for infants and children 6 months through 11 years of age are available under Emergency Use Authorization from the U. S. Food and Drug Administration (FDA). Please refer to the Fact Sheets for Recipients and Caregivers for more information.

For people 12 years of age and older, 2024–2025 COVID-19 vaccines, manufactured by ModernaTX, Inc. or Pfizer, Inc., are approved by FDA.

Novavax COVID-19 Vaccine Adjuvanted (2024–2025 Formula) vaccine is available under Emergency Use Authorization from FDA for people 12 years and older. Please refer to the Fact Sheet for Recipients and Caregivers for more information.

- **Everyone 6 months of age and older** is recommended to receive an age-appropriate FDA-approved or authorized updated 2024–2025 COVID-19 vaccine.
- **Certain people, such as those who have medical conditions or are taking medications that affect the immune system,** may need additional doses of COVID-19 vaccine. Your health care provider can advise you.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of COVID-19 vaccine** or has any **severe, life-threatening allergies**
- Has had **myocarditis** (inflammation of the heart muscle) or **pericarditis** (inflammation of the lining outside of the heart)
- Has had **multisystem inflammatory syndrome** (called MIS-C in children and MIS-A in adults)

In some cases, your health care provider may decide to postpone COVID-19 vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill, including with COVID-19, should usually wait until they recover.

COVID-19 vaccine may be given at the same time as other vaccines.

4. Risks of a vaccine reaction

- Pain, swelling, and redness where the shot is given, fever, tiredness (fatigue), headache, chills, muscle pain, joint pain, nausea, vomiting, and swollen lymph nodes can happen after COVID-19 vaccination.
- Myocarditis (inflammation of the heart muscle) and pericarditis (inflammation of the lining outside the heart) have been seen rarely after COVID-19 vaccination. These risks have been observed most frequently in adolescent and young adult males. The chance of this occurring is low.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

V-Safe is a safety monitoring system that lets you share with CDC how you, or your dependent, feel after getting COVID-19 vaccine. You can find information and enroll in V-Safe at **vsafe.cdc.gov**.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

Seek medical attention right away if the vaccinated person experiences chest pain, shortness of breath, or feelings of having a fast-beating, fluttering, or pounding heart after COVID-19 vaccination. These could be symptoms of myocarditis or pericarditis.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff do not give medical advice.*

6. Countermeasures Injury Compensation Program

The Countermeasures Injury Compensation Program (CICP) is a federal program that may help pay for costs of medical care and other specific expenses of certain people who have been seriously injured by certain medicines or vaccines, including this vaccine. Generally, a claim must be submitted to the CICP within one (1) year from the date of receiving the vaccine. To learn more about this program, visit the program's website at **www.hrsa.gov/cicp**, or call **1-855-266-2427**.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for COVID-19 Fact Sheets, package inserts, and additional information at **www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's COVID-19 vaccines website at **www.cdc.gov/covid/vaccines/index.html**.

Dengue Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Dengue vaccine can help protect against dengue in people who have had dengue in the past.

Dengue is caused by one of four viruses spread through the bite of an infected mosquito. A person can get infected by any of the four dengue viruses. Infection with one dengue virus does not protect against infection with the other three viruses. Each year, up to 400 million people are infected with dengue. Almost half of the world's population lives in areas with a risk of dengue.

Most people infected with dengue have no symptoms or experience mild disease.

Some people who get sick with dengue have sudden onset of fever with nausea, vomiting, a rash, and eye, muscle, joint, or bone aches and pains.

A smaller number of people with dengue will have severe disease. Severe dengue is a medical emergency, requiring immediate medical attention at a hospital. Hospitalization with dengue is most common in older children and adolescents. Warning signs of severe dengue begin 12 to 24 hours after fever goes away and include stomach pain and tenderness, vomiting, bleeding from the nose or gums, blood in vomit or stool, and extreme tiredness or restlessness.

Rarely, dengue can have serious effects on the liver, heart, central nervous system, kidneys, eyes, muscles, or bone marrow. Severe dengue can also lead to death.

2. Dengue vaccine

Dengue vaccine is recommended for **children 9 through 16 years** old who

- Have a history of dengue infection in the past confirmed by a laboratory test
- Live in an area where dengue is common, including the U.S. territories of Puerto Rico, American Samoa, and the U.S. Virgin Islands, and freely associated states including the Federated States of Micronesia, the Republic of Marshall Islands, and the Republic of Palau

Dengue vaccine is **NOT** recommended for travelers.

To receive the vaccine, your child must have had dengue in the past, confirmed by blood testing. The vaccine could increase the risk of severe dengue and hospitalization in children who have not had dengue before if they are infected with dengue after vaccination.

Children need 3 doses of the dengue vaccine. The second dose should be given 6 months after the first dose, the third dose 6 months after the second dose.

Dengue vaccine may be given at the same time as other vaccines.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of dengue vaccine**, or has any **severe, life-threatening allergies**
- Has a **weakened immune system**

If the person getting the vaccine is a woman who is pregnant or breastfeeding, she should discuss benefits and potential risks of dengue vaccination with her health care provider.

In some cases, your health care provider may decide to postpone dengue vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting dengue vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Soreness, redness, or swelling where the shot is given, tiredness or weakness, fever, headache, fatigue, or muscle pain can happen after dengue vaccination.

If a person who has never had dengue in the past gets dengue vaccine, they are at increased risk of severe disease if they become infected with dengue in the future.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/dengue**.

DTaP (Diphtheria, Tetanus, Pertussis) Vaccine: *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

DTaP vaccine can prevent **diphtheria**, **tetanus**, and **pertussis**.

Diphtheria and pertussis spread from person to person. Tetanus enters the body through cuts or wounds.

- **DIPHTHERIA (D)** can lead to difficulty breathing, heart failure, paralysis, or death.
- **TETANUS (T)** causes painful stiffening of the muscles. Tetanus can lead to serious health problems, including being unable to open the mouth, having trouble swallowing and breathing, or death.
- **PERTUSSIS (aP)**, also known as "whooping cough," can cause uncontrollable, violent coughing that makes it hard to breathe, eat, or drink. Pertussis can be extremely serious especially in babies and young children, causing pneumonia, convulsions, brain damage, or death. In teens and adults, it can cause weight loss, loss of bladder control, passing out, and rib fractures from severe coughing.

2. DTaP vaccine

DTaP is only for children younger than 7 years old. Different vaccines against tetanus, diphtheria, and pertussis (Tdap and Td) are available for older children, adolescents, and adults.

It is recommended that children receive 5 doses of DTaP, usually at the following ages:

- 2 months
- 4 months
- 6 months
- 15–18 months
- 4–6 years

DTaP may be given as a stand-alone vaccine, or as part of a combination vaccine (a type of vaccine that combines more than one vaccine together into one shot).

DTaP may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of any vaccine that protects against tetanus, diphtheria, or pertussis**, or has any **severe, life-threatening allergies**
- Has had **a coma, decreased level of consciousness, or prolonged seizures within 7 days after a previous dose of any pertussis vaccine (DTP or DTaP)**
- Has **seizures or another nervous system problem**
- Has ever had **Guillain-Barré Syndrome** (also called "GBS")
- Has had **severe pain or swelling after a previous dose of any vaccine that protects against tetanus or diphtheria**

In some cases, your child's health care provider may decide to postpone DTaP vaccination until a future visit.

Children with minor illnesses, such as a cold, may be vaccinated. Children who are moderately or severely ill should usually wait until they recover before getting DTaP vaccine.

Your child's health care provider can give you more information.

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

4. Risks of a vaccine reaction

- Soreness or swelling where the shot was given, fever, fussiness, feeling tired, loss of appetite, and vomiting sometimes happen after DTaP vaccination.
- More serious reactions, such as seizures, non-stop crying for 3 hours or more, or high fever (over 105°F) after DTaP vaccination happen much less often. Rarely, vaccination is followed by swelling of the entire arm or leg, especially in older children when they receive their fourth or fifth dose.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Ebola Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Ebola vaccine can prevent **Ebola virus disease** (*Zaire ebolavirus*).

Ebola virus disease is a rare disease that most commonly affects people and nonhuman primates (such as monkeys, gorillas, and chimpanzees). Outbreaks of Ebola virus disease occur mostly on the African continent.

Ebola virus spreads through direct contact with the blood, body fluids, and tissues of people or animals who are infected with the virus or who have died of Ebola virus disease.

Health care workers and family and friends in close contact with people with Ebola virus disease are at the highest risk of infection. There is little risk of catching Ebola virus disease for travelers or the general public who have not cared for or been in close contact with someone infected with Ebola virus.

A person can only spread Ebola virus to other people after they develop symptoms. Symptoms of Ebola virus disease may appear between 2 to 21 days after contact with the virus. Early symptoms of Ebola virus disease often include fever, aches, pain, sore throat and fatigue and progress to symptoms such as diarrhea, vomiting, unexplained hemorrhaging, and bleeding. Later, an infected person might experience symptoms of red eyes, skin rash, and hiccups.

Ebola virus disease is often deadly. Recovery depends on good supportive clinical care and the patient's immune response. Treatments that have become available in recent years are also increasing overall survival.

People who survive Ebola virus disease may have health problems after they recover. The most common problems are tiredness, headaches, muscle and joint pain, eye and vision problems (such as blurry vision, pain, redness, and sensitivity to light), weight gain, stomach pain, or loss of appetite. Other health problems can also occur. In some survivors, the virus may be hiding in certain areas of the body after they recover from the disease and can cause symptoms again later.

2. Ebola vaccine

Ebola vaccine is a live virus vaccine that is administered as a single dose by injection into a muscle. The vaccine contains a weakened strain of the vesicular stomatitis virus that has been altered to contain a gene from the Ebola virus. Because the Ebola vaccine only contains a gene from the Ebola virus instead of the whole Ebola virus, it cannot cause Ebola virus disease in the person being vaccinated or in other people who have contact with the person being vaccinated.

Ebola vaccine is recommended by CDC for **adults 18 years and older** at high risk for potential exposure to Ebola virus because they are:

- Responding or planning to respond to an outbreak of Ebola virus disease
- Laboratorians or other staff working at biosafety-level 4 or laboratory response network facilities in the United States that might handle specimens that might contain live Ebola virus
- Health care personnel working at federally or state designated special pathogen treatment centers in the United States involved or expected to be involved in the care and transport of patients with suspected or confirmed Ebola virus disease

A booster dose of Ebola vaccine is available for people at least 6 months after the single dose under an expanded access Investigational New Drug (IND) program. Booster dose eligibility is assessed on an individual basis. Talk with your health care provider if you have questions.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of Ebola vaccine**, or has any **severe, life-threatening allergies**, including to rice protein
- Is or planning to be **pregnant or breastfeeding**
- Has a **weakened immune system** or has **close contact with someone who has a weakened immune system**

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

In some cases, your health care provider may decide to postpone Ebola vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting Ebola vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Pain, swelling, and redness where the shot is given can happen after Ebola vaccination.
- Headache, fever, muscle pain, fatigue or tiredness, nausea, skin rash (including blisters), and abnormal sweating can happen after Ebola vaccination.
- Joint pain or swelling can occur after Ebola vaccination. Although rare, the joint pain or swelling can be severe and long lasting.
- Arthritis or worsening arthritis can occur after Ebola vaccine, most frequently in women and people with a medical history of arthritis.
- Certain white blood cell counts can become lower than normal after Ebola vaccination but are not associated with illness and go back to normal.

Ebola vaccine contains a live virus. It is possible that the vaccine virus might be transmitted to other people. Vaccinated people should take measures to prevent spreading the virus after Ebola vaccination:

- Do not donate blood for at least 6 weeks.
- Avoid sharing needles, razors, toothbrushes, and eating/drinking utensils and dishes and open-mouth kissing for 2 weeks.
- Use effective barrier methods to prevent pregnancy for 2 months.
- Consider avoiding close contact with high-risk people for up to 6 weeks. High-risk people include people with weakened immune systems, women who are pregnant or breastfeeding, and children younger than 1 year old.
- Try to avoid exposing livestock to blood or body fluids for at least 6 weeks.
- If you develop a rash after vaccination, cover the rash with a bandage until healed. Dispose of used bandages in a sealed plastic bag and wash hands with soap and water.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. V*AERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. Countermeasures Injury Compensation Program

The Countermeasures Injury Compensation Program is a federal program that may help pay for costs of medical care and other specific expenses of certain people who have been seriously injured by certain medicines or vaccines. If you have been injured by the Ebola vaccine, you can learn more about this Program by visiting the program's website at **www.hrsa.gov/cicp**, or calling **1-855-266-2427** (**855-266-CICP**).

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vhf/Ebola/index.html**.

Haemophilus influenzae type b (Hib) Vaccine: *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Hib vaccine can prevent ***Haemophilus influenzae* type b (Hib) disease**.

Haemophilus influenzae type b can cause many different kinds of infections. These infections usually affect children under 5 years of age but can also affect adults with certain medical conditions. Hib bacteria can cause mild illness, such as ear infections or bronchitis, or they can cause severe illness, such as infections of the blood. Severe Hib infection, also called "invasive Hib disease," requires treatment in a hospital and can sometimes result in death.

Before Hib vaccine, Hib disease was the leading cause of bacterial meningitis among children under 5 years old in the United States. Meningitis is an infection of the lining of the brain and spinal cord. It can lead to brain damage and deafness.

Hib infection can also cause:
- Pneumonia
- Severe swelling in the throat, making it hard to breathe
- Infections of the blood, joints, bones, and covering of the heart
- Death

2. Hib vaccine

Hib vaccine is usually given in 3 or 4 doses (depending on brand).

Infants will usually get their first dose of Hib vaccine at 2 months of age and will usually complete the series at 12–15 months of age.

Children between 12 months and 5 years of age who have not previously been completely vaccinated against Hib may need 1 or more doses of Hib vaccine.

Children over 5 years old and adults usually do not receive Hib vaccine, but it might be recommended for older children or adults whose spleen is damaged or has been removed, including people with sickle cell disease, before surgery to remove the spleen, or following a bone marrow transplant. Hib vaccine may also be recommended for people 5 through 18 years old with HIV.

Hib vaccine may be given as a stand-alone vaccine, or as part of a combination vaccine (a type of vaccine that combines more than one vaccine together into one shot).

Hib vaccine may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:
- Has had an **allergic reaction after a previous dose of Hib vaccine**, or has any **severe, life-threatening allergies**

In some cases, your health care provider may decide to postpone Hib vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting Hib vaccine.

Your health care provider can give you more information.

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

4. Risks of a vaccine reaction

- Redness, warmth, and swelling where the shot is given and fever can happen after Hib vaccination.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Hepatitis A Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Hepatitis A vaccine can prevent **hepatitis A**.

Hepatitis A is a serious liver disease. It is usually spread through close, personal contact with an infected person or when a person unknowingly ingests the virus from objects, food, or drinks that are contaminated by small amounts of stool (poop) from an infected person.

Most adults with hepatitis A have symptoms, including fatigue, low appetite, stomach pain, nausea, and jaundice (yellow skin or eyes, dark urine, light-colored bowel movements). Most children less than 6 years of age do not have symptoms.

A person infected with hepatitis A can transmit the disease to other people even if he or she does not have any symptoms of the disease.

Most people who get hepatitis A feel sick for several weeks, but they usually recover completely and do not have lasting liver damage. In rare cases, hepatitis A can cause liver failure and death; this is more common in people older than 50 years and in people with other liver diseases.

Hepatitis A vaccine has made this disease much less common in the United States. However, outbreaks of hepatitis A among unvaccinated people still happen.

2. Hepatitis A vaccine

Children need 2 doses of hepatitis A vaccine:
- First dose: 12 through 23 months of age
- Second dose: at least 6 months after the first dose

Infants 6 through 11 months old traveling outside the United States when protection against hepatitis A is recommended should receive 1 dose of hepatitis A vaccine. These children should still get 2 additional doses at the recommended ages for long-lasting protection.

Older children and adolescents 2 through 18 years of age who were not vaccinated previously should be vaccinated.

Adults who were not vaccinated previously and want to be protected against hepatitis A can also get the vaccine.

Hepatitis A vaccine is also recommended for the following people:
- International travelers
- Men who have sexual contact with other men
- People who use injection or non-injection drugs
- People who have occupational risk for infection
- People who anticipate close contact with an international adoptee
- People experiencing homelessness
- People with HIV
- People with chronic liver disease

In addition, a person who has not previously received hepatitis A vaccine and who has direct contact with someone with hepatitis A should get hepatitis A vaccine as soon as possible and within 2 weeks after exposure.

Hepatitis A vaccine may be given at the same time as other vaccines.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of hepatitis A vaccine**, or has any **severe, life-threatening allergies**

In some cases, your health care provider may decide to postpone hepatitis A vaccination until a future visit.

Pregnant or breastfeeding women should be vaccinated if they are at risk for getting hepatitis A. Pregnancy or breastfeeding are not reasons to avoid hepatitis A vaccination.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting hepatitis A vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Soreness or redness where the shot is given, fever, headache, tiredness, or loss of appetite can happen after hepatitis A vaccination.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Hepatitis B Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Hepatitis B vaccine can prevent **hepatitis B**. Hepatitis B is a liver disease that can cause mild illness lasting a few weeks, or it can lead to a serious, lifelong illness.

- **Acute hepatitis B** is a short-term illness that can lead to fever, fatigue, loss of appetite, nausea, vomiting, jaundice (yellow skin or eyes, dark urine, clay-colored bowel movements), and pain in the muscles, joints, and stomach.
- **Chronic hepatitis B** is a long-term illness that occurs when the hepatitis B virus remains in a person's body. Most people who go on to develop chronic hepatitis B do not have symptoms, but it is still very serious and can lead to liver damage (cirrhosis), liver cancer, and death. Chronically infected people can spread hepatitis B virus to others, even if they do not feel or look sick themselves.

Hepatitis B is spread when blood, semen, or other body fluid infected with the hepatitis B virus enters the body of a person who is not infected. People can become infected through:

- Birth (if a pregnant woman has hepatitis B, her baby can become infected)
- Sharing items such as razors or toothbrushes with an infected person
- Contact with the blood or open sores of an infected person
- Sex with an infected partner
- Sharing needles, syringes, or other drug-injection equipment
- Exposure to blood from needlesticks or other sharp instruments

Most people who are vaccinated with hepatitis B vaccine are immune for life.

2. Hepatitis B vaccine

Hepatitis B vaccine is usually given as 2, 3, or 4 shots.

Infants should get their first dose of hepatitis B vaccine at birth and will usually complete the series at 6–18 months of age. **The birth dose of hepatitis B vaccine is an important part of preventing long-term illness in infants and the spread of hepatitis B in the United States.**

Anyone **59 years of age or younger** who has not yet gotten the vaccine should be vaccinated.

Hepatitis B vaccination is recommended for **adults 60 years or older** at increased risk of exposure to hepatitis B who were not vaccinated previously. **Adults 60 years or older** who are not at increased risk and were not vaccinated in the past may also be vaccinated.

Hepatitis B vaccine may be given as a stand-alone vaccine, or as part of a combination vaccine (a type of vaccine that combines more than one vaccine together into one shot).

Hepatitis B vaccine may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of hepatitis B vaccine**, or has any **severe, life-threatening allergies**

In some cases, your health care provider may decide to postpone hepatitis B vaccination until a future visit.

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Pregnant or breastfeeding women who were not vaccinated previously should be vaccinated. Pregnancy or breastfeeding are not reasons to avoid hepatitis B vaccination.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting hepatitis B vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Soreness where the shot is given, fever, headache, and fatigue (feeling tired) can happen after hepatitis B vaccination.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

HPV (Human Papillomavirus) Vaccine: *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

HPV (human papillomavirus) vaccine can prevent infection with some types of human papillomavirus.

HPV infections can cause certain types of cancers, including:

- cervical, vaginal, and vulvar cancers in women
- penile cancer in men
- anal cancers in both men and women
- cancers of tonsils, base of tongue, and back of throat (oropharyngeal cancer) in both men and women

HPV infections can also cause anogenital warts.

HPV vaccine can prevent over 90% of cancers caused by HPV.

HPV is spread through intimate skin-to-skin or sexual contact. HPV infections are so common that nearly all people will get at least one type of HPV at some time in their lives. Most HPV infections go away on their own within 2 years. But sometimes HPV infections will last longer and can cause cancers later in life.

2. HPV vaccine

HPV vaccine is routinely recommended for adolescents at 11 or 12 years of age to ensure they are protected before they are exposed to the virus. HPV vaccine may be given beginning at age 9 years and vaccination is recommended for everyone through 26 years of age.

HPV vaccine may be given to adults 27 through 45 years of age, based on discussions between the patient and health care provider.

Most children who get the first dose before 15 years of age need 2 doses of HPV vaccine. People who get the first dose at or after 15 years of age and younger people with certain immunocompromising conditions need 3 doses. Your health care provider can give you more information.

HPV vaccine may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of HPV vaccine**, or has any **severe, life-threatening allergies**
- Is **pregnant**—HPV vaccine is not recommended until after pregnancy

In some cases, your health care provider may decide to postpone HPV vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting HPV vaccine.

Your health care provider can give you more information.

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

4. Risks of a vaccine reaction

- Soreness, redness, or swelling where the shot is given can happen after HPV vaccination.
- Fever or headache can happen after HPV vaccination.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

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7. How can I learn more?

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- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Influenza (Flu) Vaccine (Inactivated or Recombinant): *What you need to know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Influenza vaccine can prevent **influenza (flu)**.

Flu is a contagious disease that spreads around the United States every year, usually between October and May. Anyone can get the flu, but it is more dangerous for some people. Infants and young children, people 65 years and older, pregnant women, and people with certain health conditions or a weakened immune system are at greatest risk of flu complications.

Pneumonia, bronchitis, sinus infections, and ear infections are examples of flu-related complications. If you have a medical condition, such as heart disease, cancer, or diabetes, flu can make it worse.

Flu can cause fever and chills, sore throat, muscle aches, fatigue, cough, headache, and runny or stuffy nose. Some people may have vomiting and diarrhea, though this is more common in children than adults.

In an average year, **thousands of people in the United States die from flu**, and many more are hospitalized. Flu vaccine prevents millions of illnesses and flu-related visits to the doctor each year.

2. Influenza vaccines

CDC recommends everyone 6 months and older get vaccinated every flu season. **Children 6 months through 8 years of age** may need 2 doses during a single flu season. **Everyone else** needs only 1 dose each flu season.

It takes about 2 weeks for protection to develop after vaccination.

There are many flu viruses, and they are always changing. Each year a new flu vaccine is made to protect against the influenza viruses believed to be likely to cause disease in the upcoming flu season.

Even when the vaccine doesn't exactly match these viruses, it may still provide some protection.

Influenza vaccine **does not cause flu**.

Influenza vaccine may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of influenza vaccine**, or has any **severe, life-threatening allergies**
- Has ever had **Guillain-Barré Syndrome** (also called "GBS")

In some cases, your health care provider may decide to postpone influenza vaccination until a future visit.

Influenza vaccine can be administered at any time during pregnancy. Women who are or will be pregnant during influenza season should receive inactivated influenza vaccine.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting influenza vaccine.

Your health care provider can give you more information.

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4. Risks of a vaccine reaction

- Soreness, redness, and swelling where the shot is given, fever, muscle aches, and headache can happen after influenza vaccination.
- There may be a very small increased risk of Guillain-Barré Syndrome (GBS) after inactivated influenza vaccine (the flu shot).

Young children who get the flu shot along with pneumococcal vaccine (PCV13) and/or DTaP vaccine at the same time might be slightly more likely to have a seizure caused by fever. Tell your health care provider if a child who is getting flu vaccine has ever had a seizure.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

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7. How can I learn more?

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- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/flu**.

Influenza (Flu) Vaccine (Live, Intranasal): *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Influenza vaccine can prevent **influenza (flu)**.

Flu is a contagious disease that spreads around the United States every year, usually between October and May. Anyone can get the flu, but it is more dangerous for some people. Infants and young children, people 65 years of age and older, pregnant women, and people with certain health conditions or a weakened immune system are at greatest risk of flu complications.

Pneumonia, bronchitis, sinus infections, and ear infections are examples of flu-related complications. If you have a medical condition, such as heart disease, cancer, or diabetes, flu can make it worse.

Flu can cause fever and chills, sore throat, muscle aches, fatigue, cough, headache, and runny or stuffy nose. Some people may have vomiting and diarrhea, though this is more common in children than adults.

In an average year, **thousands of people in the United States die from flu**, and many more are hospitalized. Flu vaccine prevents millions of illnesses and flu-related visits to the doctor each year.

2. Live, attenuated influenza vaccine

CDC recommends everyone 6 months and older get vaccinated every flu season. **Children 6 months through 8 years of age** may need 2 doses during a single flu season. **Everyone else** needs only 1 dose each flu season.

Live, attenuated influenza vaccine (called "LAIV") is a nasal spray vaccine that may be given to men and non-pregnant women **2 through 49 years of age**.

It takes about 2 weeks for protection to develop after vaccination.

There are many flu viruses, and they are always changing. Each year a new flu vaccine is made to protect against the influenza viruses believed to be likely to cause disease in the upcoming flu season. Even when the vaccine doesn't exactly match these viruses, it may still provide some protection.

Influenza vaccine **does not cause flu**.

Influenza vaccine may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Is **younger than 2 years or older than 49 years** of age
- Is **pregnant**. Live, attenuated influenza vaccine is not recommended for pregnant women
- Has had an **allergic reaction after a previous dose of influenza vaccine**, or has any **severe, life-threatening allergies**
- Is a **child or adolescent 2 through 17 years of age who is receiving aspirin or aspirin- or salicylate-containing products**
- Has a **weakened immune system**
- Is a **child 2 through 4 years old who has asthma or a history of wheezing** in the past 12 months
- Is **5 years or older and has asthma**
- Has **taken influenza antiviral medication** in the last 3 weeks
- **Cares for severely immunocompromised people** who require a protected environment
- Has other **underlying medical conditions** that can put people at higher risk of serious

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flu complications (such as **lung disease, heart disease, kidney disease like diabetes, kidney or liver disorders, neurologic or neuromuscular or metabolic disorders**)
- Does **not have a spleen**, or has a **non-functioning spleen**
- Has a **cochlear implant**
- Has a **cerebrospinal fluid leak** (a leak of the fluid that surrounds the brain to the nose, throat, ear, or some other location in the head)
- Has had **Guillain-Barré Syndrome** within 6 weeks after a previous dose of influenza vaccine

In some cases, your health care provider may decide to postpone influenza vaccination until a future visit.

For some patients, a different type of influenza vaccine (inactivated or recombinant influenza vaccine) might be more appropriate than live, attenuated influenza vaccine.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting influenza vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Runny nose or nasal congestion, wheezing, and headache can happen after LAIV vaccination.
- Vomiting, muscle aches, fever, sore throat, and cough are other possible side effects.

If these problems occur, they usually begin soon after vaccination and are mild and short-lived.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

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7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/flu**.

Japanese Encephalitis Vaccine

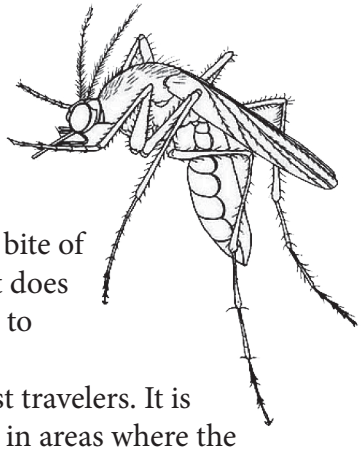
What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 Why get vaccinated?

Japanese encephalitis (JE) vaccine can prevent **Japanese encephalitis**.



- Japanese encephalitis occurs mainly in many parts of Asia and the Western Pacific, particularly in rural areas.
- It is spread through the bite of an infected mosquito. It does not spread from person to person.
- Risk is very low for most travelers. It is higher for people living in areas where the disease is common, or for people traveling there for long periods of time.
- Most people infected with JE virus don't have any symptoms. Others might have symptoms as mild as a fever and headache, or as serious as encephalitis (swelling of the brain).
- A person with encephalitis can experience fever, neck stiffness, seizures, and coma. About 1 person in 4 with encephalitis dies. Up to half of those who don't die have permanent disability (for example, brain damage).
- It is believed that infection in a pregnant woman could harm her unborn baby.

2 JE vaccine

Japanese encephalitis vaccine is approved for people 2 months of age and older.

It is recommended for people who:

- Plan to live in a country where JE occurs,
- Plan to visit a country where JE occurs for long periods (e.g., one month or more), or
- Frequently travel to countries where JE occurs.

It should also be considered for travelers spending less than one month in a country where JE occurs, if they:

- Will visit rural areas and have an increased risk for mosquito bites,
- Are not sure of their travel plans.

Many laboratory workers at risk for exposure to JE virus will also require vaccination.

The vaccine is given as a 2-dose series. A booster dose is recommended after a year for people who remain at risk.

NOTE: *The best way to prevent JE is to avoid mosquito bites*. Your health care provider can advise you.

3 Talk with your health care provider

Tell your vaccine provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of JE vaccine**, or has any **severe, life-threatening allergies**.
- Is **pregnant**. Pregnant women should usually not get JE vaccine.
- Will be **traveling for fewer than 30 days and only traveling to urban areas**. You might not need the vaccine.

In some cases, your health care provider may decide to postpone JE vaccination to a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting JE vaccine.

Your health care provider can give you more information.

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Centers for Disease Control and Prevention

4 Risks of a vaccine reaction

- Pain, tenderness, redness, or swelling where the shot was given are common after JE vaccine.
- Fever sometimes happens (more often in children).
- Headache or muscle aches can occur (mainly in adults).

Studies have shown that severe reactions to JE vaccine are very rare.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5 What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff do not give medical advice.*

6 How can I learn more?

- Ask your healthcare provider.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's JE website at **www.cdc.gov/japaneseencephalitis/**

Meningococcal ACWY Vaccine:
What You Need to Know

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1. Why get vaccinated?

Meningococcal ACWY vaccine can help protect against **meningococcal disease** caused by serogroups A, C, W, and Y. A different meningococcal vaccine is available that can help protect against serogroup B.

Meningococcal disease can cause meningitis (infection of the lining of the brain and spinal cord) and infections of the blood. Even when it is treated, meningococcal disease kills 10 to 15 infected people out of 100. And of those who survive, about 10 to 20 out of every 100 will suffer disabilities such as hearing loss, brain damage, kidney damage, loss of limbs, nervous system problems, or severe scars from skin grafts.

Meningococcal disease is rare and has declined in the United States since the 1990s. However, it is a severe disease with a significant risk of death or lasting disabilities in people who get it.

Anyone can get meningococcal disease. Certain people are at increased risk, including:

- Infants younger than one year old
- Adolescents and young adults 16 through 23 years old
- People with certain medical conditions that affect the immune system
- Microbiologists who routinely work with isolates of *N. meningitidis*, the bacteria that cause meningococcal disease
- People at risk because of an outbreak in their community

2. Meningococcal ACWY vaccine

Adolescents need 2 doses of a meningococcal ACWY vaccine:

- First dose: 11 or 12 years of age
- Second (booster) dose: 16 years of age

In addition to routine vaccination for adolescents, meningococcal ACWY vaccine is also recommended for **certain groups of people**:

- People at risk because of a serogroup A, C, W, or Y meningococcal disease outbreak
- People with HIV
- Anyone whose spleen is damaged or has been removed, including people with sickle cell disease
- Anyone with a rare immune system condition called "complement component deficiency"
- Anyone taking a type of drug called a "complement inhibitor," such as eculizumab (also called "Soliris"®) or ravulizumab (also called "Ultomiris"®)
- Microbiologists who routinely work with isolates of *N. meningitidis*
- Anyone traveling to or living in a part of the world where meningococcal disease is common, such as parts of Africa
- College freshmen living in residence halls who have not been completely vaccinated with meningococcal ACWY vaccine
- U.S. military recruits

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3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of meningococcal ACWY vaccine**, or has any **severe, life-threatening allergies**

In some cases, your health care provider may decide to postpone meningococcal ACWY vaccination until a future visit.

There is limited information on the risks of this vaccine for pregnant or breastfeeding women, but no safety concerns have been identified. A pregnant or breastfeeding woman should be vaccinated if indicated.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting meningococcal ACWY vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Redness or soreness where the shot is given can happen after meningococcal ACWY vaccination.
- A small percentage of people who receive meningococcal ACWY vaccine experience muscle pain, headache, or tiredness.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

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7. How can I learn more?

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- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
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  - Visit CDC's website at **www.cdc.gov/vaccines**.

Meningococcal B Vaccine:

What You Need to Know

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1. Why get vaccinated?

Meningococcal B vaccine can help protect against **meningococcal disease** caused by serogroup B. A different meningococcal vaccine is available that can help protect against serogroups A, C, W, and Y.

Meningococcal disease can cause meningitis (infection of the lining of the brain and spinal cord) and infections of the blood. Even when it is treated, meningococcal disease kills 10 to 15 infected people out of 100. And of those who survive, about 10 to 20 out of every 100 will suffer disabilities such as hearing loss, brain damage, kidney damage, loss of limbs, nervous system problems, or severe scars from skin grafts.

Meningococcal disease is rare and has declined in the United States since the 1990s. However, it is a severe disease with a significant risk of death or lasting disabilities in people who get it.

Anyone can get meningococcal disease. Certain people are at increased risk, including:

- Infants younger than one year old
- Adolescents and young adults 16 through 23 years old
- People with certain medical conditions that affect the immune system
- Microbiologists who routinely work with isolates of *N. meningitidis*, the bacteria that cause meningococcal disease
- People at risk because of an outbreak in their community

2. Meningococcal B vaccine

For best protection, more than 1 dose of a meningococcal B vaccine is needed. There are two meningococcal B vaccines available. The same vaccine must be used for all doses.

Meningococcal B vaccines are recommended for people 10 years or older who are at increased risk for serogroup B meningococcal disease, including:

- People at risk because of a serogroup B meningococcal disease outbreak
- Anyone whose spleen is damaged or has been removed, including people with sickle cell disease
- Anyone with a rare immune system condition called "complement component deficiency"
- Anyone taking a type of drug called a "complement inhibitor," such as eculizumab (also called "Soliris"®) or ravulizumab (also called "Ultomiris"®)
- Microbiologists who routinely work with isolates of *N. meningitidis*

These vaccines may also be given to anyone 16 through 23 years old to provide short-term protection against most strains of serogroup B meningococcal disease, based on discussions between the patient and health care provider. The preferred age for vaccination is 16 through 18 years.

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3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of meningococcal B vaccine**, or has any **severe, life-threatening allergies**
- Is **pregnant or breastfeeding**

In some cases, your health care provider may decide to postpone meningococcal B vaccination until a future visit.

Meningococcal B vaccination should be postponed for pregnant women unless the woman is at increased risk and, after consultation with her health care provider, the benefits of vaccination are considered to outweigh the potential risks.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting meningococcal B vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Soreness, redness, or swelling where the shot is given, tiredness, headache, muscle or joint pain, fever, or nausea can happen after meningococcal B vaccination. Some of these reactions occur in more than half of the people who receive the vaccine.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

MMR Vaccine (Measles, Mumps, and Rubella): *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

MMR vaccine can prevent **measles, mumps**, and **rubella**.

- **MEASLES (M)** causes fever, cough, runny nose, and red, watery eyes, commonly followed by a rash that covers the whole body. It can lead to seizures (often associated with fever), ear infections, diarrhea, and pneumonia. Rarely, measles can cause brain damage or death.
- **MUMPS (M)** causes fever, headache, muscle aches, tiredness, loss of appetite, and swollen and tender salivary glands under the ears. It can lead to deafness, swelling of the brain and/or spinal cord covering, painful swelling of the testicles or ovaries, and, very rarely, death.
- **RUBELLA (R)** causes fever, sore throat, rash, headache, and eye irritation. It can cause arthritis in up to half of teenage and adult women. If a woman gets rubella while she is pregnant, she could have a miscarriage or the baby could be born with serious birth defects.

Most people who are vaccinated with MMR will be protected for life. Vaccines and high rates of vaccination have made these diseases much less common in the United States.

2. MMR vaccine

Children need 2 doses of MMR vaccine, usually:

- First dose at age 12 through 15 months
- Second dose at age 4 through 6 years

Infants who will be traveling outside the United States when they are between 6 and 11 months of age should get a dose of MMR vaccine before travel. These children should still get 2 additional doses at the recommended ages for long-lasting protection.

Older children, adolescents, and **adults** also need 1 or 2 doses of MMR vaccine if they are not already immune to measles, mumps, and rubella. Your health care provider can help you determine how many doses you need.

A third dose of MMR might be recommended for certain people in mumps outbreak situations.

MMR vaccine may be given at the same time as other vaccines. Children 12 months through 12 years of age might receive MMR vaccine together with varicella vaccine in a single shot, known as MMRV. Your health care provider can give you more information.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of MMR or MMRV vaccine**, or has any **severe, life-threatening allergies**
- Is **pregnant** or thinks she might be pregnant—pregnant women should not get MMR vaccine
- Has a **weakened immune system**, or has a **parent, brother, or sister with a history of hereditary or congenital immune system problems**
- Has ever had a **condition that makes him or her bruise or bleed easily**
- Has recently **had a blood transfusion or received other blood products**
- Has **tuberculosis**
- Has **gotten any other vaccines in the past 4 weeks**

In some cases, your health care provider may decide to postpone MMR vaccination until a future visit.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting MMR vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Sore arm from the injection or redness where the shot is given, fever, and a mild rash can happen after MMR vaccination.
- Swelling of the glands in the cheeks or neck or temporary pain and stiffness in the joints (mostly in teenage or adult women) sometimes occur after MMR vaccination.
- More serious reactions happen rarely. These can include seizures (often associated with fever) or temporary low platelet count that can cause unusual bleeding or bruising.
- In people with serious immune system problems, this vaccine may cause an infection that may be life-threatening. People with serious immune system problems should not get MMR vaccine.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
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MMRV Vaccine (Measles, Mumps, Rubella, and Varicella): *What You Need to Know*

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Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

MMRV vaccine can prevent **measles, mumps, rubella**, and **varicella**.

- **MEASLES (M)** causes fever, cough, runny nose, and red, watery eyes, commonly followed by a rash that covers the whole body. It can lead to seizures (often associated with fever), ear infections, diarrhea, and pneumonia. Rarely, measles can cause brain damage or death.
- **MUMPS (M)** causes fever, headache, muscle aches, tiredness, loss of appetite, and swollen and tender salivary glands under the ears. It can lead to deafness, swelling of the brain and/or spinal cord covering, painful swelling of the testicles or ovaries, and, very rarely, death.
- **RUBELLA (R)** causes fever, sore throat, rash, headache, and eye irritation. It can cause arthritis in up to half of teenage and adult women. If a woman gets rubella while she is pregnant, she could have a miscarriage or the baby could be born with serious birth defects.
- **VARICELLA (V)**, also called "chickenpox," causes an itchy rash, in addition to fever, tiredness, loss of appetite, and headache. It can lead to skin infections, pneumonia, inflammation of the blood vessels, swelling of the brain and/or spinal cord covering, and infection of the blood, bones, or joints. Some people who get chickenpox get a painful rash called "shingles" (also known as herpes zoster) years later.

Most people who are vaccinated with MMRV will be protected for life. Vaccines and high rates of vaccination have made these diseases much less common in the United States.

2. MMRV vaccine

MMRV vaccine may be given to **children 12 months through 12 years of age**, usually:

- First dose at age 12 through 15 months
- Second dose at age 4 through 6 years

MMRV vaccine may be given at the same time as other vaccines. Instead of MMRV, some children might receive separate shots for MMR (measles, mumps, and rubella) and varicella. Your health care provider can give you more information.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of MMRV, MMR, or varicella vaccine**, or has any **severe, life-threatening allergies**
- Is **pregnant** or thinks she might be pregnant—pregnant women should not get MMRV vaccine
- Has a **weakened immune system**, or has a **parent, brother, or sister with a history of hereditary or congenital immune system problems**
- Has ever had a **condition that makes him or her bruise or bleed easily**
- Has a **history of seizures**, or has a **parent, brother, or sister with a history of seizures**
- Is **taking or plans to take salicylates** (such as aspirin)
- Has recently **had a blood transfusion or received other blood products**
- Has **tuberculosis**
- Has **gotten any other vaccines in the past 4 weeks**

In some cases, your health care provider may decide to postpone MMRV vaccination until a future visit or may recommend that the child receive separate MMR and varicella vaccines instead of MMRV.

People with minor illnesses, such as a cold, may be vaccinated. Children who are moderately or severely ill should usually wait until they recover before getting MMRV vaccine.

Your health care provider can give you more information.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

4. Risks of a vaccine reaction

- Sore arm from the injection, redness where the shot is given, fever, and a mild rash can happen after MMRV vaccination.
- Swelling of the glands in the cheeks or neck or temporary pain and stiffness in the joints sometimes occur after MMRV vaccination.
- Seizures, often associated with fever, can happen after MMRV vaccine. The risk of seizures is higher after MMRV than after separate MMR and varicella vaccines when given as the first dose of the two-dose series in younger children. Your health care provider can advise you about the appropriate vaccines for your child.
- More serious reactions happen rarely, including temporary low platelet count, which can cause unusual bleeding or bruising.
- In people with serious immune system problems, this vaccine may cause an infection that may be life-threatening. People with serious immune system problems should not get MMRV vaccine.

If a person develops a rash after MMRV vaccination, it could be related to either the measles or the varicella component of the vaccine. The varicella vaccine virus could be spread to an unprotected person. Anyone who gets a rash should stay away from infants and people with a weakened immune system until the rash goes away. Talk with your health care provider to learn more.

Some people who are vaccinated against chickenpox get shingles (herpes zoster) years later. This is much less common after vaccination than after chickenpox disease.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

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7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Pneumococcal Conjugate Vaccine: *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Pneumococcal conjugate vaccine can prevent **pneumococcal disease**.

Pneumococcal disease refers to any illness caused by pneumococcal bacteria. These bacteria can cause many types of illnesses, including:

- Pneumonia (infection of the lungs)
- Ear infections
- Sinus infections
- Meningitis (infection of the tissue covering the brain and spinal cord)
- Bacteremia (bloodstream infection)

Anyone can get pneumococcal disease, but young children, older adults, and people with certain risk factors are at the highest risk.

Most pneumococcal infections are mild. However, some can result in long-term problems, such as brain damage or hearing loss. Meningitis, bacteremia, and pneumonia caused by pneumococcal disease can lead to death.

2. Pneumococcal conjugate vaccine

Pneumococcal conjugate vaccine helps protect against bacteria that cause pneumococcal disease. There are several pneumococcal conjugate vaccines (PCVs). The specific PCV and number of doses recommended are based on a person's age, vaccination history, and medical status. Your health care provider can help you determine which type of PCV, and how many doses, should be received.

- **Infants and young children** usually need 4 doses of PCV. These doses are recommended at 2, 4, 6, and 12–15 months of age.
- Certain **older children and adolescents** who did not receive the recommended doses as infants or young children need PCV. This depends on age and medical conditions, or other risk factors.
- **Adults 19 through 49 years old** who have not received PCV and have certain medical conditions or other risk factors should receive PCV. Some adults in this group who have already received PCV might be recommended to receive another dose.
- **Adults 50 years or older** who have not previously received PCV should receive a PCV vaccine. Some adults in this group who have already received PCV might be recommended to receive another dose.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of any type of PCV, or to any vaccine containing diphtheria toxoid** (for example, DTaP), or has any **severe, life-threatening allergies**

In some cases, your health care provider may decide to postpone PCV until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover.

Your health care provider can give you more information.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

4. Risks of a vaccine reaction

- Redness, swelling, pain, or tenderness where the shot is given; fever; loss of appetite; fussiness (irritability); tiredness; headache; muscle aches; joint pain; or chills can happen after pneumococcal conjugate vaccination.

Young children may be at increased risk for seizures caused by fever after a PCV if it is administered at the same time as inactivated influenza vaccine. Ask your health care provider for more information.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

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7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Pneumococcal Polysaccharide Vaccine (PPSV23): *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Pneumococcal polysaccharide vaccine (PPSV23) can prevent **pneumococcal disease**.

Pneumococcal disease refers to any illness caused by pneumococcal bacteria. These bacteria can cause many types of illnesses, including:

- Pneumonia (infection of the lungs)
- Ear infections
- Sinus infections
- Meningitis (infection of the tissue covering the brain and spinal cord)
- Bacteremia (bloodstream infection)

Anyone can get pneumococcal disease, but young children, older adults, and people with certain risk factors are at the highest risk.

Most pneumococcal infections are mild. However, some can result in long-term problems, such as brain damage or hearing loss. Meningitis, bacteremia, and pneumonia caused by pneumococcal disease can lead to death.

2. PPSV23

PPSV23 helps protect against 23 types of bacteria that cause pneumococcal disease.

PPSV23 is recommended as an option for some children and adolescents with certain medical conditions or risk factors.

For adults, PPSV23 is recommended following a dose of 15-valent pneumococcal conjugate vaccine (PCV15).

Your health care provider can give you more information.

3. Talk with your health care provider

Tell your vaccine provider if the person getting the vaccine:

- Has had **an allergic reaction after a previous dose of PPSV23,** or has any **severe, life-threatening allergies**.

In some cases, your health care provider may decide to postpone PPSV23 vaccination to a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting PPSV23.

Your health care provider can give you more information.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

4. Risks of a vaccine reaction

- Redness, swelling, pain, or tenderness where the shot is given; tiredness; headache; fever; chills; or muscle aches can happen after PPSV23.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. How can I learn more?

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Polio Vaccine:
What You Need to Know

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1. Why get vaccinated?

Polio vaccine can prevent **polio**.

Polio (or poliomyelitis) is a disabling and life-threatening disease caused by poliovirus, which can infect a person's spinal cord, leading to paralysis.

Most people infected with poliovirus have no symptoms, and many recover without complications. Some people will experience sore throat, fever, tiredness, nausea, headache, or stomach pain.

A smaller group of people will develop more serious symptoms that affect the brain and spinal cord:
- Paresthesia (feeling of pins and needles in the legs),
- Meningitis (infection of the covering of the spinal cord and/or brain), or
- Paralysis (can't move parts of the body) or weakness in the arms, legs, or both.

Paralysis is the most severe symptom associated with polio because it can lead to permanent disability and death.

Improvements in limb paralysis can occur, but in some people new muscle pain and weakness may develop 15 to 40 years later. This is called "post-polio syndrome."

Polio has been eliminated from the United States, but it still occurs in other parts of the world. The best way to protect yourself and keep the United States polio-free is to maintain high immunity (protection) in the population against polio through vaccination.

2. Polio vaccine

Children should usually get 4 doses of polio vaccine at ages 2 months, 4 months, 6–18 months, and 4–6 years.

Most **adults** do not need polio vaccine because they were already vaccinated against polio as children. Some adults are at higher risk and should consider polio vaccination, including:
- People traveling to certain parts of the world
- Laboratory workers who might handle poliovirus
- Health care workers treating patients who could have polio
- Unvaccinated people whose children will be receiving oral poliovirus vaccine (for example, international adoptees or refugees)

Polio vaccine may be given as a stand-alone vaccine, or as part of a combination vaccine (a type of vaccine that combines more than one vaccine together into one shot).

Polio vaccine may be given at the same time as other vaccines.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of polio vaccine**, or has any **severe, life-threatening allergies**

In some cases, your health care provider may decide to postpone polio vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting polio vaccine.

Not much is known about the risks of this vaccine for pregnant or breastfeeding women. However, polio vaccine can be given if a pregnant woman is at increased risk for infection and requires immediate protection.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- A sore spot with redness, swelling, or pain where the shot is given can happen after polio vaccination.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

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7. How can I learn more?

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Rabies Vaccine:
What You Need to Know

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1. Why get vaccinated?

Rabies vaccine can prevent **rabies**.

Rabies is a serious illness that almost always results in death.

Rabies virus infects the central nervous system. Symptoms may occur from days to years after exposure to the virus and include delirium (confusion), abnormal behavior, hallucinations, hydrophobia (fear of water), and insomnia (difficulty sleeping), which precede coma and death.

People can get rabies if they have contact with the saliva or neural tissue of an infected animal, for example through a bite or scratch, and do not receive appropriate medical care, including rabies vaccine.

2. Rabies vaccine

Certain **people with a higher risk for rabies exposures, such as those who work with potentially infected animals, are recommended to receive vaccine** to help prevent rabies if an exposure happens. If you are at higher risk of exposure to the rabies virus:

- You should receive 2 doses of rabies vaccine given on days 0 and 7.
- Depending on your level of risk, you may be advised to have one or more blood tests or receive a booster dose within 3 years after the first 2 doses. Your health care provider can give you more details.

Rabies vaccine can prevent rabies if given to a person after an exposure. After an exposure or potential exposure to rabies, the wound site should be thoroughly cleaned with soap and water. If your health care provider or local health department recommend vaccination, the vaccine should be given as soon as possible after an exposure but may be effective any time before symptoms begin. Once symptoms begin, rabies vaccine is no longer helpful in preventing rabies.

- If you have not been vaccinated against rabies in the past, you need 4 doses of rabies vaccine over 2 weeks (given on days 0, 3, 7, and 14). You should also get another medication called rabies immunoglobulin on the day you receive the first dose of rabies vaccine or soon afterwards.
- If you have received rabies vaccination in the past, you typically need only 2 doses of rabies vaccine after an exposure.

Rabies vaccine may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of rabies vaccine**, or has any **severe, life-threatening allergies**
- Has a **weakened immune system**
- Is **taking or plans to take chloroquine or a drug related to chloroquine**
- Has **received rabies vaccine in the past** (your provider will need to know when you received any rabies vaccine doses in the past)

In some cases, your health care provider may decide to postpone routine (pre-exposure) rabies vaccination until a future visit. Or your health care provider may perform a blood test before or after rabies vaccines are given to determine your level of immunity against rabies.

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

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting a routine (pre-exposure) dose of rabies vaccine. **If you have been exposed to rabies virus, you should get vaccinated regardless of concurrent illnesses, pregnancy, breastfeeding, or weakened immune system.**

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Soreness, redness, swelling, or itching at the site of the injection, and headache, nausea, abdominal pain, muscle aches, or dizziness can happen after rabies vaccine.
- Hives, pain in the joints, or fever sometimes happen after booster doses.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636 (1-800-CDC-INFO)** or
  - Visit CDC's rabies website at **www.cdc.gov/rabies**

Recombinant Zoster (Shingles) Vaccine: *What You Need to Know*

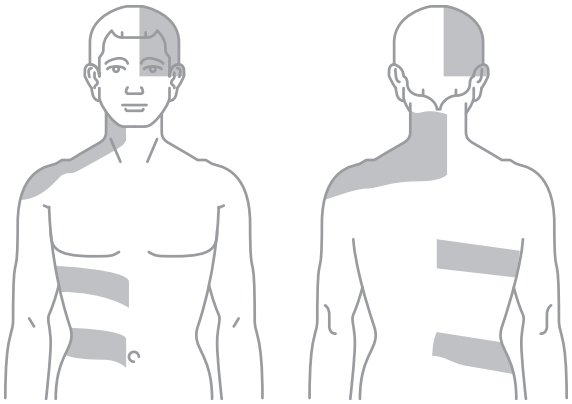
Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Recombinant zoster (shingles) vaccine can prevent **shingles**.

Shingles (also called herpes zoster, or just zoster) is a painful skin rash, usually with blisters. In addition to the rash, shingles can cause fever, headache, chills, or upset stomach. Rarely, shingles can lead to complications such as pneumonia, hearing problems, blindness, brain inflammation (encephalitis), or death.



The risk of shingles increases with age. The most common complication of shingles is long-term nerve pain called postherpetic neuralgia (PHN). PHN occurs in the areas where the shingles rash was and can last for months or years after the rash goes away. The pain from PHN can be severe and debilitating.

The risk of PHN increases with age. An older adult with shingles is more likely to develop PHN and have longer lasting and more severe pain than a younger person.

People with weakened immune systems also have a higher risk of getting shingles and complications from the disease.

Shingles is caused by varicella-zoster virus, the same virus that causes chickenpox. After you have chickenpox, the virus stays in your body and can cause shingles later in life. Shingles cannot be passed from one person to another, but the virus that causes shingles can spread and cause chickenpox in someone who has never had chickenpox or has never received chickenpox vaccine.

2. Recombinant shingles vaccine

Recombinant shingles vaccine provides strong protection against shingles. By preventing shingles, recombinant shingles vaccine also protects against PHN and other complications.

Recombinant shingles vaccine is recommended for:

- **Adults 50 years and older**
- **Adults 19 years and older who have a weakened immune system** because of disease or treatments

Shingles vaccine is given as a two-dose series. For most people, the second dose should be given 2 to 6 months after the first dose. Some people who have or will have a weakened immune system can get the second dose 1 to 2 months after the first dose. Ask your health care provider for guidance.

People who have had shingles in the past and people who have received varicella (chickenpox) vaccine are recommended to get recombinant shingles vaccine. The vaccine is also recommended for people who have already gotten another type of shingles vaccine, the live shingles vaccine. There is no live virus in recombinant shingles vaccine.

Shingles vaccine may be given at the same time as other vaccines.

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

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of recombinant shingles vaccine**, or has any **severe, life-threatening allergies**
- Is **currently experiencing an episode of shingles**
- Is **pregnant**

In some cases, your health care provider may decide to postpone shingles vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting recombinant shingles vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- A sore arm with mild or moderate pain is very common after recombinant shingles vaccine. Redness and swelling can also happen at the site of the injection.
- Tiredness, muscle pain, headache, shivering, fever, stomach pain, and nausea are common after recombinant shingles vaccine.

These side effects may temporarily prevent a vaccinated person from doing regular activities. Symptoms usually go away on their own in 2 to 3 days. You should still get the second dose of recombinant shingles vaccine even if you had one of these reactions after the first dose.

Guillain-Barré syndrome (GBS), a serious nervous system disorder, has been reported very rarely after recombinant zoster vaccine.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Rotavirus Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Rotavirus vaccine can prevent **rotavirus disease**.

Rotavirus commonly causes severe, watery diarrhea, mostly in babies and young children. Vomiting and fever are also common in babies with rotavirus. Children may become dehydrated and need to be hospitalized and can even die.

2. Rotavirus vaccine

Rotavirus vaccine is administered by putting drops in the child's mouth. Babies should get 2 or 3 doses of rotavirus vaccine, depending on the brand of vaccine used.

- The first dose must be administered before 15 weeks of age.
- The last dose must be administered by 8 months of age.

Almost all babies who get rotavirus vaccine will be protected from severe rotavirus diarrhea.

Another virus called "porcine circovirus" can be found in one brand of rotavirus vaccine (Rotarix). This virus does not infect people, and there is no known safety risk.

Rotavirus vaccine may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of rotavirus vaccine**, or has any **severe, life-threatening allergies**
- Has a **weakened immune system**
- Has **severe combined immunodeficiency** (SCID)
- Has had a type of bowel blockage called "**intussusception**"

In some cases, your child's health care provider may decide to postpone rotavirus vaccination until a future visit.

Infants with minor illnesses, such as a cold, may be vaccinated. Infants who are moderately or severely ill should usually wait until they recover before getting rotavirus vaccine.

Your child's health care provider can give you more information.

4. Risks of a vaccine reaction

- Irritability or mild, temporary diarrhea or vomiting can happen after rotavirus vaccine.

Intussusception is a type of bowel blockage that is treated in a hospital and could require surgery. It happens naturally in some infants every year in the United States, and usually there is no known reason for it. There is also a small risk of intussusception from rotavirus vaccination, usually within a week after the first or second vaccine dose. This additional risk is estimated to range from about 1 in 20,000 U.S. infants to 1 in 100,000 U.S. infants who get rotavirus vaccine. Your health care provider can give you more information.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

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

5. What if there is a serious problem?

For intussusception, look for signs of stomach pain along with severe crying. Early on, these episodes could last just a few minutes and come and go several times in an hour. Babies might pull their legs up to their chest. Your baby might also vomit several times or have blood in the stool, or could appear weak or very irritable. These signs would usually happen during the first week after the first or second dose of rotavirus vaccine, but look for them any time after vaccination. If you think your baby has intussusception, contact a health care provider right away. If you can't reach your health care provider, take your baby to a hospital. Tell them when your baby got rotavirus vaccine.

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

RSV (Respiratory Syncytial Virus) Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

RSV vaccine can prevent lower respiratory tract disease caused by **respiratory syncytial virus (RSV)**. RSV is a common respiratory virus that usually causes mild, cold-like symptoms.

RSV can cause illness in people of all ages but may be especially serious for infants and older adults.

- RSV is the most common cause of hospitalization in U.S. infants. Infants up to 12 months of age (especially those 6 months and younger) and children who were born prematurely, or who have chronic lung or heart disease, or a weakened immune system, are at increased risk of severe RSV disease.
- RSV infections can be dangerous for certain adults. Adults at highest risk for severe RSV disease include older adults, especially those with chronic heart or lung disease, a weakened immune system, certain other chronic medical conditions, or who live in nursing homes.

RSV spreads through direct contact with the virus, such as when droplets from an infected person's cough or sneeze contact your eyes, nose, or mouth. It can also be spread by someone touching a surface, such as a doorknob, that has the virus on it, and then touching your face.

Symptoms of RSV infection may include runny nose, decreased appetite, coughing, sneezing, fever, or wheezing. In very young infants, symptoms of RSV may also include irritability (fussiness), decreased activity, or apnea (pauses in breathing for more than 10 seconds).

Most people recover in a week or two, but RSV can be more serious, resulting in shortness of breath and low oxygen levels. RSV can cause bronchiolitis (inflammation of the small airways in the lung) and pneumonia (infection of the lungs). RSV can also lead to worsening of other medical conditions such as asthma, chronic obstructive pulmonary disease (a chronic disease of the lungs that makes it hard to breathe), or heart failure (when the heart cannot pump enough blood and oxygen throughout the body).

Infants and older adults who get very sick from RSV may need to be hospitalized. Some may even die.

2. RSV vaccine

There are two immunization options available for protecting infants against RSV: maternal vaccine for the pregnant woman or preventive antibodies given to the baby. Only one of these options is needed for most babies to be protected.

CDC recommends a one-time dose of RSV vaccine for **pregnant women from week 32 through week 36 of pregnancy** for the prevention of RSV disease in their infants during the first 6 months of life. This vaccine is recommended to be given from September through January for most of the United States. However, in some locations (for example, the territories, Hawaii, Alaska, and parts of Florida), the timing of vaccination may differ based on the time of year when RSV circulates in the area.

CDC recommends a one-time-dose of RSV vaccine for **everyone 75 years and older** and for **adults 60 through 74 years of age who are at increased risk of severe RSV disease**. Adults 60 through 74 years old who are at increased risk include those with chronic heart or lung disease, a weakened immune system, or certain other chronic medical conditions, and those who are residents of nursing homes.

RSV vaccine may be given at the same time as other vaccines.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of RSV vaccine**, or has any **severe, life-threatening allergies**

In some cases, your health care provider may decide to postpone RSV vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting RSV vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Pain, redness, and swelling where the shot is given, fatigue (feeling tired), fever, headache, nausea, diarrhea, and muscle or joint pain can happen after RSV vaccination.

Serious neurologic conditions, including Guillain-Barré syndrome (GBS), have been reported after RSV vaccination in some older adults. At this time, an increased risk of GBS following RSV vaccine among persons aged 60 years and older cannot be confirmed or ruled out.

Preterm birth and high blood pressure during pregnancy, including pre-eclampsia, have been reported among pregnant women who received RSV vaccine. It is unclear whether these events were caused by the vaccine.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

V-Safe is a safety monitoring system that lets you share with CDC how you, or your dependent, feel after getting RSV vaccine. You can find information and enroll in V-Safe at **vsafe.cdc.gov**.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff do not give medical advice.*

6. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

VACCINE INFORMATION STATEMENT

Smallpox/Monkeypox Vaccine (JYNNEOS™): *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Smallpox/monkeypox vaccine (JYNNEOS™) can help protect against smallpox, monkeypox, and other diseases caused by orthopoxviruses, including vaccinia virus.

Smallpox is a very serious disease caused by variola virus. Some people continue to be at risk of exposure to the virus that causes smallpox, including people who work in emergency preparedness and some laboratory workers. The virus can spread from person to person, causing symptoms including fever and a skin rash. Many people who had smallpox in the past recovered, but about 3 out of every 10 people with the disease died.

Monkeypox is a rare disease with symptoms that are similar to but milder than the symptoms of smallpox. However, monkeypox can cause death. Monkeypox is an emerging infection in Africa and outbreaks of imported cases of monkeypox sometimes happen in other countries, including the United States.

Vaccinia virus can cause disease when people are exposed to infected people (such as exposure to someone who has recently been vaccinated with ACAM2000®, another type of smallpox vaccine) or animals. People who work with vaccinia virus in laboratories can be accidentally exposed to the virus, and if they become infected, they can get sick. However, most vaccinia virus infections resolve on their own without treatment.

2. Smallpox/monkeypox vaccine (JYNNEOS™)

Smallpox/monkeypox vaccine (JYNNEOS™) is made using weakened live vaccinia virus and cannot cause smallpox, monkeypox, or any other infectious disease.

JYNNEOS™ is approved by the Food and Drug Administration (FDA) for prevention of smallpox and monkeypox disease in **adults 18 years or older at high risk for smallpox or monkeypox infection**.

- CDC recommends JYNNEOS™ for certain laboratory workers and emergency response team members who might be exposed to the viruses that cause orthopoxvirus infections.
- CDC recommends consideration of the vaccine for people who administer ACAM2000®, or who care for patients infected with orthopoxviruses.

JYNNEOS™ is usually administered as a series of 2 injections, 4 weeks apart. People who have received smallpox vaccine in the past might only need 1 dose.

Booster doses are recommended every 2 or 10 years if a person remains at continued risk for exposure to smallpox, monkeypox, or other orthopoxviruses. Your health care provider can give you more information.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of smallpox vaccine**, or has any **severe, life-threatening allergies**
- Has a **weakened immune system**
- Is pregnant or thinks she might be **pregnant** or is **breastfeeding**

In some cases, your health care provider may decide to postpone routine (pre-exposure) smallpox/monkeypox vaccination with JYNNEOS™ until a future visit.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting a routine (pre-exposure) dose of JYNNEOS™. **If you have been recommended to receive JYNNEOS™ due to an exposure to monkeypox virus, you should be vaccinated regardless of concurrent illnesses, pregnancy, breastfeeding, or weakened immune system.**

JYNNEOS™ may typically be given without regard to timing of other vaccines. However, certain people at increased risk of a condition called myocarditis (swelling of the heart muscle), including adolescent or young adult males, might consider waiting 4 weeks after JYNNEOS™ vaccination before getting certain COVID-19 vaccines. **If you have been recommended to receive JYNNEOS™ due to an exposure to monkeypox virus, you should be vaccinated even if you have recently received a COVID-19 vaccine.**

4. Risks of a vaccine reaction

- Redness, soreness, swelling, and itching where the shot is given are the most common things that happen after vaccination with JYNNEOS™.
- Fatigue (tiredness), headache, and muscle pain can also sometimes happen after vaccination with JYNNEOS™.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

You can enroll in v-safe after receiving any dose of JYNNEOS™ vaccine by using your smartphone and going to vsafe.cdc.gov. V-safe is a safety monitoring system that lets you share with CDC how you, or your dependent, feel after getting a JYNNEOS™ vaccine. For more information visit www.cdc.gov/vsafe.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at www.vaers.hhs.gov or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. Countermeasures Injury Compensation Program

The Countermeasures Injury Compensation Program is a federal program that may help pay for costs of medical care and other specific expenses of certain people who have been seriously injured by certain medicines or vaccines. If you have been injured by smallpox/monkeypox vaccine, you can learn more about this Program by visiting the program's website at www.hrsa.gov/cicp, or calling **1-855-266-2427 (855-266-CICP)**.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at www.fda.gov/vaccines-blood-biologics/vaccines.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636 (1-800-CDC-INFO)** or
  - Visit CDC's website at www.cdc.gov/poxvirus/monkeypox.

Td (Tetanus, Diphtheria) Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Td vaccine can prevent **tetanus** and **diphtheria**.

Tetanus enters the body through cuts or wounds. Diphtheria spreads from person to person.

- **TETANUS (T)** causes painful stiffening of the muscles. Tetanus can lead to serious health problems, including being unable to open the mouth, having trouble swallowing and breathing, or death.
- **DIPHTHERIA (D)** can lead to difficulty breathing, heart failure, paralysis, or death.

2. Td vaccine

Td is only for children 7 years and older, adolescents, and adults.

Td is usually given as a **booster dose every 10 years**, or after 5 years in the case of a severe or dirty wound or burn.

Another vaccine, called "Tdap," may be used instead of Td. Tdap protects against pertussis, also known as "whooping cough," in addition to tetanus and diphtheria.

Td may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of any vaccine that protects against tetanus or diphtheria**, or has any **severe, life-threatening allergies**
- Has ever had **Guillain-Barré Syndrome** (also called "GBS")
- Has had **severe pain or swelling after a previous dose of any vaccine that protects against tetanus or diphtheria**

In some cases, your health care provider may decide to postpone Td vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting Td vaccine.

Your health care provider can give you more information.

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

4. Risks of a vaccine reaction

- Pain, redness, or swelling where the shot was given, mild fever, headache, feeling tired, and nausea, vomiting, diarrhea, or stomachache sometimes happen after Td vaccination.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Tdap (Tetanus, Diphtheria, Pertussis) Vaccine: *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Tdap vaccine can prevent **tetanus, diphtheria**, and **pertussis**.

Diphtheria and pertussis spread from person to person. Tetanus enters the body through cuts or wounds.

- **TETANUS (T)** causes painful stiffening of the muscles. Tetanus can lead to serious health problems, including being unable to open the mouth, having trouble swallowing and breathing, or death.
- **DIPHTHERIA (D)** can lead to difficulty breathing, heart failure, paralysis, or death.
- **PERTUSSIS (aP),** also known as "whooping cough," can cause uncontrollable, violent coughing that makes it hard to breathe, eat, or drink. Pertussis can be extremely serious especially in babies and young children, causing pneumonia, convulsions, brain damage, or death. In teens and adults, it can cause weight loss, loss of bladder control, passing out, and rib fractures from severe coughing.

2. Tdap vaccine

Tdap is only for children 7 years and older, adolescents, and adults.

Adolescents should receive a single dose of Tdap, preferably at age 11 or 12 years.

Pregnant women should get a dose of Tdap during every pregnancy, preferably during the early part of the third trimester, to help protect the newborn from pertussis. Infants are most at risk for severe, life-threatening complications from pertussis.

Adults who have never received Tdap should get a dose of Tdap.

Also, **adults should receive a booster dose of either Tdap or Td** (a different vaccine that protects against tetanus and diphtheria but not pertussis) **every 10 years**, or after 5 years in the case of a severe or dirty wound or burn.

Tdap may be given at the same time as other vaccines.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of any vaccine that protects against tetanus, diphtheria, or pertussis**, or has any **severe, life-threatening allergies**
- Has had a **coma, decreased level of consciousness, or prolonged seizures within 7 days after a previous dose of any pertussis vaccine (DTP, DTaP, or Tdap)**
- Has **seizures or another nervous system problem**
- Has ever had **Guillain-Barré Syndrome** (also called "GBS")
- Has had **severe pain or swelling after a previous dose of any vaccine that protects against tetanus or diphtheria**

In some cases, your health care provider may decide to postpone Tdap vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting Tdap vaccine.

Your health care provider can give you more information.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

4. Risks of a vaccine reaction

- Pain, redness, or swelling where the shot was given, mild fever, headache, feeling tired, and nausea, vomiting, diarrhea, or stomachache sometimes happen after Tdap vaccination.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Tick-borne Encephalitis (TBE) Vaccine: *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Tick-borne encephalitis vaccine can prevent **tick-borne encephalitis**.

Tick-borne encephalitis, or TBE, is caused by a virus that is spread through the bite of an infected tick. TBE virus can be found in parts of Europe and Asia. TBE virus is not found in the United States. TBE is a rare disease in travelers, but people traveling overseas to areas where the virus is found might be at risk for infection. The ticks that spread the virus usually live in wooded areas and are most active between April and November. Taking part in activities like hiking, camping, fishing, or trail running increases the risk for exposure to ticks. Occasionally, TBE virus can be spread through other ways such as eating or drinking raw milk or cheese from infected goats, sheep, or cows. Laboratory infections with TBE virus have sometimes occurred.

Many people infected with TBE virus have no symptoms, but some get very sick. Early symptoms can include fever, headache, nausea, vomiting, or weakness. Later, a person might develop an infection of the brain (encephalitis) or lining of the brain and spinal cord (meningitis).

- Symptoms of encephalitis can include drowsiness, confusion, or problems with motor abilities, such as paralysis.
- Symptoms of meningitis can include fever, headache, and a stiff neck.

Some people who recover from TBE have long-term problems, such as difficulties with memory or concentration or more severe problems like paralysis of arms or legs or difficulty speaking.

In very severe cases, TBE can lead to death.

2. Tick-borne encephalitis vaccine

TBE vaccine is recommended for people who are moving or traveling outside the United States to a place where TBE virus spreads and will have extensive exposure to ticks based on their planned outdoor activities and itinerary.

TBE vaccine may also be considered for people moving or traveling to a place where TBE virus spreads and might take part in activities in areas ticks are likely to be found. In this case, the decision about vaccination should be based on factors like where the person is traveling, their planned activities, any risk factors for more severe disease, and personal perception and tolerance of risk.

TBE vaccine is recommended for many laboratory workers who might be exposed to the TBE virus.

TBE vaccine is given as three-dose primary series. People 1 through 15 years of age get a smaller dose (0.25 mL) than people 16 years and older (0.5 mL).

- **Infants, children, and adolescents** 1 through 15 years of age should get their second dose 1 to 3 months after the first dose, with the third dose 5 to 12 months after the second dose.
- **Older adolescents and adults** 16 years and older should get the second dose 14 days to 3 months after the first dose, and the third dose 5 to 12 months after the second dose.

A booster dose (fourth dose) may be given at least 3 years after the third dose for people who are at risk of ongoing exposure or re-exposure to TBE virus.

TBE vaccine may be given at the same time as other vaccines.

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

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of TBE vaccine**, or has **any severe, life-threatening allergies**

In some cases, your health care provider may decide to postpone TBE vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting TBE vaccine.

Your health care provider can give you more information.

4. Risks of a vaccine reaction

- Soreness or pain where the shot is given can happen.
- Headache, fever, or restlessness were some of the most common reactions in infants, children, and adolescents 1 through 15 years of age.
- Tiredness, headache, and muscle aches were some of the most common reactions in people 16 years of age and older.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the Food and Drug Administration (FDA) website for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/tick-borne-encephalitis/index.html**.

Typhoid Vaccine:
What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 Why get vaccinated?

Typhoid vaccine can prevent **typhoid fever**.

People who are actively ill with typhoid fever and people who are carriers of the bacteria that cause typhoid fever can both spread the bacteria to other people. When someone eats or drinks contaminated food or drink, the bacteria can multiply and spread into the bloodstream, causing typhoid fever.

Typhoid fever can be a life-threatening disease. Symptoms of infection include persistent high fever, weakness, stomach pain, headache, diarrhea or constipation, cough, and loss of appetite.

People who do not get treatment can continue to have fever for weeks or months. As many as 30% of people who do not get treatment die from complications of typhoid fever. There are fewer antibiotic treatment options as drug-resistant typhoid bacteria has become more common in many parts of the world.

Typhoid fever is common in many regions of the world, including parts of East and Southeast Asia, Africa, the Caribbean, and Central and South America. Typhoid fever is not common in the United States.

2 Typhoid vaccine

There are two vaccines to prevent typhoid fever. One is an inactivated (killed) vaccine and the other is a live, attenuated (weakened) vaccine. Your health care provider can help you decide which type of typhoid vaccine is best for you.

- **Inactivated typhoid vaccine** is administered as an injection (shot). It may be given to people 2 years and older. One dose is recommended at least 2 weeks before travel. Repeated doses are recommended every 2 years for people who remain at risk.
- **Live typhoid vaccine** is administered orally (by mouth). It may be given to people 6 years and older. One capsule is taken every other day, for a total of 4 capsules. The last dose should be taken at least 1 week before travel. Each capsule should be swallowed whole (not chewed) about an hour before meals with cold or lukewarm water. A booster vaccine is needed every 5 years for people who remain at risk. **Important: live typhoid vaccine capsules must be stored in a refrigerator** (not frozen).

Routine typhoid vaccination is not recommended in the United States, but typhoid vaccine is recommended for:

- Travelers to parts of the world where typhoid is common. (NOTE: typhoid vaccine is not 100% effective and is not a substitute for being careful about what you eat or drink.)
- People in close contact with a typhoid carrier.
- Laboratory workers who work with Salmonella typhi bacteria.

Typhoid vaccine may be given at the same time as other vaccines.

3 Talk with your health care provider

Tell your vaccine provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of typhoid vaccine**, or has any **severe, life-threatening allergies**.
- Has a **weakened immune system**.
- Is **pregnant or breastfeeding**, or thinks she might be pregnant.
- Is **taking or has recently taken antibiotics or anti-malarial drugs**.

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

In some cases, your health care provider may decide to postpone typhoid vaccination to a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting typhoid vaccine.

Your health care provider can give you more information.

4 Risks of a vaccine reaction

- Pain from the shot, redness, or swelling at the site of the injection, fever, and headache, and general discomfort can happen after inactivated typhoid vaccine.
- Fever, headache, abdominal pain, diarrhea, nausea, and vomiting can happen after live typhoid vaccine.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5 What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff do not give medical advice.*

6 How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's typhoid website at **www.cdc.gov/typhoid-fever/typhoid-vaccination.html**

Varicella (Chickenpox) Vaccine:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Varicella vaccine can prevent **varicella**.

Varicella, also called "chickenpox," causes an itchy rash that usually lasts about a week. It can also cause fever, tiredness, loss of appetite, and headache. It can lead to skin infections, pneumonia, inflammation of the blood vessels, swelling of the brain and/or spinal cord covering, and infections of the bloodstream, bone, or joints. Some people who get chickenpox get a painful rash called "shingles" (also known as herpes zoster) years later.

Chickenpox is usually mild, but it can be serious in infants under 12 months of age, adolescents, adults, pregnant women, and people with a weakened immune system. Some people get so sick that they need to be hospitalized. It doesn't happen often, but people can die from chickenpox.

Most people who are vaccinated with 2 doses of varicella vaccine will be protected for life.

2. Varicella vaccine

Children need 2 doses of varicella vaccine, usually:
- First dose: age 12 through 15 months
- Second dose: age 4 through 6 years

Older children, adolescents, and **adults** also need 2 doses of varicella vaccine if they are not already immune to chickenpox.

Varicella vaccine may be given at the same time as other vaccines. Also, a child between 12 months and 12 years of age might receive varicella vaccine together with MMR (measles, mumps, and rubella) vaccine in a single shot, known as MMRV. Your health care provider can give you more information.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:
- Has had an **allergic reaction after a previous dose of varicella vaccine**, or has any **severe, life-threatening allergies**
- Is **pregnant** or thinks she might be pregnant—pregnant women should not get varicella vaccine
- Has a **weakened immune system**, or has a **parent, brother, or sister with a history of hereditary or congenital immune system problems**
- **Is taking salicylates** (such as aspirin)
- Has recently **had a blood transfusion or received other blood products**
- Has **tuberculosis**
- Has **gotten any other vaccines in the past 4 weeks**

In some cases, your health care provider may decide to postpone varicella vaccination until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting varicella vaccine.

Your health care provider can give you more information.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

4. Risks of a vaccine reaction

- Sore arm from the injection, redness or rash where the shot is given, or fever can happen after varicella vaccination.
- More serious reactions happen very rarely. These can include pneumonia, infection of the brain and/or spinal cord covering, or seizures that are often associated with fever.
- In people with serious immune system problems, this vaccine may cause an infection that may be life-threatening. People with serious immune system problems should not get varicella vaccine.

It is possible for a vaccinated person to develop a rash. If this happens, the varicella vaccine virus could be spread to an unprotected person. Anyone who gets a rash should stay away from infants and people with a weakened immune system until the rash goes away. Talk with your health care provider to learn more.

Some people who are vaccinated against chickenpox get shingles (herpes zoster) years later. This is much less common after vaccination than after chickenpox disease.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**) or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Yellow Fever Vaccine:

What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 Why get vaccinated?

Yellow fever vaccine can prevent **yellow fever**. Yellow fever is a serious disease caused by the yellow fever virus. There is no medicine to treat or cure yellow fever.

Yellow fever virus is spread by the bite of an infected mosquito. It is found in parts of Africa and South America.

The majority of people with yellow fever virus infections will either not have symptoms, or have mild disease and completely recover. But some people will develop severe disease.

Symptoms and signs of yellow fever include:
- Sudden onset of fever and chills
- Headache, back pain, or general body aches
- Nausea or vomiting

More severe symptoms of yellow fever can include:
- Jaundice (yellow skin or eyes)
- Bleeding from multiple body sites
- Shock (life-threatening condition in which the body is not getting enough blood flow)
- Liver, kidney, or other organ failure

Severe yellow fever can cause death in 30% to 60% of affected people.

In addition to getting vaccinated, you can also protect yourself from yellow fever by avoiding mosquito bites:
- Use insect repellent
- Wear long-sleeved shirts and long pants
- Stay in well-screened or air-conditioned areas

2 Yellow fever vaccine

Yellow fever vaccine is a live vaccine containing weakened, live yellow fever virus. It is given as a single shot. One dose provides lifelong protection for most people.

Yellow fever vaccine is recommended for:
- **People 9 months through 59 years of age who are traveling to or living in areas at risk for yellow fever virus activity**, or traveling to a country with an entry requirement for vaccination. (People younger than 9 months or older than 59 years who are at increased risk might receive yellow fever vaccine in some situations. Ask your health care provider for more information.)
- **Laboratory personnel** who might be exposed to yellow fever virus or vaccine virus.

Yellow fever vaccine is given only at designated vaccination centers. After getting the vaccine, you will be given an "International Certificate of Vaccination or Prophylaxis" (ICVP, sometimes called the "yellow card"). You will need this card as proof of vaccination to enter certain countries. If you don't have it, you might be required to get yellow fever vaccine upon entering the country, or be forced to wait for up to 6 days to make sure you are not infected.

Do not donate blood for 14 days after vaccination, because there is a risk of passing vaccine virus to others during that period.

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

3 Talk with your health care provider

Discuss your itinerary with your health care provider before you get your yellow fever vaccination. You can visit CDC's Travelers' Health website at **www.cdc.gov/travel** to learn if yellow fever vaccination is recommended or required based on your travel location.

Tell your vaccine provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of yellow fever vaccine, or has any severe, life-threatening allergies**.
- Has a **weakened immune system**.
- Has had **their thymus removed** or been **diagnosed with a thymus disorder**.
- Is **pregnant** or **breastfeeding**.
- Has **gotten any other vaccines in the past 4 weeks**.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting yellow fever vaccine.

In some cases, your health care provider may decide to postpone yellow fever vaccination to a future visit.

If you cannot get yellow fever vaccine for medical reasons and you are traveling to a country with a yellow fever vaccination entry requirement, your doctor will need to fill out the Medical Contraindications to Vaccination section of your yellow card. In addition, your doctor should give you a waiver letter. If you plan to use a waiver, you can contact the embassies of countries you plan to visit for more information.

4 Risks of a vaccine reaction

- Soreness, redness, or swelling where the shot was given are common after yellow fever vaccine.
- Fever sometimes happens.
- Headache and muscle aches can occur.
- More serious reactions happen rarely after yellow fever vaccine. These can include:
  - Nervous system reactions such as inflammation of the brain (encephalitis) and/or spinal cord covering (meningitis), or Guillain-Barré Syndrome (GBS), among others.
  - Life-threatening severe illness with organ dysfunction or failure.

People 60 years and older and people with weakened immune systems might be more likely to experience serious reactions to yellow fever vaccine.

People sometimes faint after medical procedures, including vaccination. Tell your provider if you feel dizzy or have vision changes or ringing in the ears.

As with any medicine, there is a remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5 What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff do not give medical advice.*

6 How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636** (**1-800-CDC-INFO**), or
  - Visit CDC's Yellow Fever website at **www.cdc.gov/yellowfever/vaccine/index.html**

Vaccine Information Statement

Yellow Fever Vaccine

Office use only

04/01/2020

Your Child's First Vaccines:
What You Need to Know

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

The vaccines included on this statement are likely to be given at the same time during infancy and early childhood. There are separate *Vaccine Information Statements* for other vaccines that are also routinely recommended for young children (measles, mumps, rubella, varicella, rotavirus, influenza, and hepatitis A)

Your child is getting these vaccines today:

☐ DTaP ☐ Hib ☐ Hepatitis B ☐ PCV ☐ Polio

(Provider: Check appropriate boxes.)

1. Why get vaccinated?

Vaccines can prevent disease. Childhood vaccination is essential because it helps provide immunity before children are exposed to potentially life-threatening diseases.

Diphtheria, tetanus, and pertussis (DTaP)

- **Diphtheria (D)** can lead to difficulty breathing, heart failure, paralysis, or death.
- **Tetanus (T)** causes painful stiffening of the muscles. Tetanus can lead to serious health problems, including being unable to open the mouth, having trouble swallowing and breathing, or death.
- **Pertussis (aP)**, also known as "whooping cough," can cause uncontrollable, violent coughing that makes it hard to breathe, eat, or drink. Pertussis can be extremely serious, especially in babies and young children, causing pneumonia, convulsions, brain damage, or death.

Hib (*Haemophilus influenzae* type b) disease

***Haemophilus influenzae* type b** can cause many different kinds of infections. Hib bacteria can cause mild illness, such as ear infections or bronchitis, or they can cause severe illness, such as infections of the blood. Hib infection can also cause pneumonia; severe swelling in the throat, making it hard to breathe; and infections of the blood, joints, bones, and covering of the heart. Severe Hib infection, also called "invasive Hib disease," requires treatment in a hospital and can sometimes result in death.

Hepatitis B

Hepatitis B is a liver disease that can cause mild illness lasting a few weeks, or it can lead to a serious, lifelong illness. Acute hepatitis B infection is a short-term illness that can lead to fever, fatigue, loss of appetite, nausea, vomiting, jaundice (yellow skin or eyes, dark urine, clay-colored bowel movements), and pain in the muscles, joints, and stomach. Chronic hepatitis B infection is a long-term illness that occurs when the hepatitis B virus remains in a person's body. Most people who go on to develop chronic hepatitis B do not have symptoms, but it is still very serious and can lead to liver damage (cirrhosis), liver cancer, and death.

Pneumococcal disease (PCV)

Pneumococcal disease refers to any illness caused by pneumococcal bacteria. These bacteria can cause many types of illnesses, including pneumonia, which is an infection of the lungs. Besides pneumonia, pneumococcal bacteria can also cause ear infections, sinus infections, meningitis (infection of the tissue covering the brain and spinal cord), and bacteremia (infection of the blood). Most pneumococcal infections are mild. However, some can result in long-term problems, such as brain damage or hearing loss. Meningitis, bacteremia, and pneumonia caused by pneumococcal disease can be fatal.

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

Polio

Polio (or poliomyelitis) is a disabling and life-threatening disease caused by poliovirus, which can infect a person's spinal cord, leading to paralysis. Most people infected with poliovirus have no symptoms, and many recover without complications. Some people infected with poliovirus will experience sore throat, fever, tiredness, nausea, headache, or stomach pain, and most people with these symptoms will also recover without complications. A smaller group of people will develop more serious symptoms: paresthesia (feeling of pins and needles in the legs), meningitis (infection of the covering of the spinal cord and/or brain), or paralysis (can't move parts of the body) or weakness in the arms, legs, or both. Paralysis can lead to permanent disability and death.

2. DTaP, Hib, hepatitis B, pneumococcal conjugate, and polio vaccines

Infants and children usually need:

- 5 doses of **diphtheria, tetanus, and acellular pertussis vaccine (DTaP)**
- 3 or 4 doses of **Hib vaccine**
- 3 doses of **hepatitis B vaccine**
- 4 doses of **pneumococcal conjugate vaccine (PCV)**
- 4 doses of **polio vaccine**

Some children might need fewer or more than the usual number of doses of some vaccines to have the best protection because of their age at vaccination or other circumstances.

Older children, adolescents, and adults with certain health conditions or other risk factors or who did not get vaccinated earlier might also be recommended to receive 1 or more doses of some of these vaccines.

These vaccines are given as either stand-alone vaccines or as part of a combination vaccine (a type of vaccine that combines more than one vaccine together into one shot).

3. Talk with your health care provider

Tell your vaccination provider if the child getting the vaccine:

For all of these vaccines:

- Has had an **allergic reaction after a previous dose of the vaccine**, or has any **severe, life-threatening allergies**

For DTaP:

- Has had an **allergic reaction after a previous dose of any vaccine that protects against diphtheria, tetanus, or pertussis**
- Has had a **coma, decreased level of consciousness, or prolonged seizures within 7 days after a previous dose of any pertussis vaccine (DTP or DTaP)**
- Has **seizures or another nervous system problem**
- Has ever had **Guillain-Barré syndrome** (also called "GBS")
- Has had **severe pain or swelling after a previous dose of any vaccine that protects against diphtheria or tetanus**

For PCV:

- Has had an **allergic reaction after a previous dose of any type of pneumococcal conjugate vaccine (PCV13, PCV15, PCV20, or an earlier pneumococcal conjugate vaccine known as PCV7), or to any vaccine containing diphtheria toxoid** (for example, DTaP)

In some cases, your child's health care provider may decide to postpone vaccination until a future visit.

Children with minor illnesses, such as a cold, may be vaccinated. Children who are moderately or severely ill should usually wait until they recover before being vaccinated.

Your child's health care provider can give you more information.

4. Risks of a vaccine reaction

For all of these vaccines:

- Soreness, redness, swelling, warmth, pain, or tenderness where the shot is given can happen after vaccination.

For DTaP vaccine, Hib vaccine, hepatitis B vaccine, and PCV:

- Fever can happen after vaccination.

For DTaP vaccine:

- Fussiness, feeling tired, loss of appetite, and vomiting sometimes happen after DTaP vaccination.
- More serious reactions, such as seizures, non-stop crying for 3 hours or more, or high fever (over 105°F) after DTaP vaccination happen much less often. Rarely, vaccination is followed by swelling of the entire arm or leg, especially in older children when they receive their fourth or fifth dose.

For PCV:

- Loss of appetite, fussiness (irritability), feeling tired, headache, and chills can happen after PCV vaccination.
- Young children may be at increased risk for seizures caused by fever after a pneumococcal conjugate vaccine if it is administered at the same time as inactivated influenza vaccine. Ask your health care provider for more information.

As with any medicine, there is a very remote chance of a vaccine causing a severe allergic reaction, other serious injury, or death.

5. What if there is a serious problem?

An allergic reaction could occur after the vaccinated person leaves the clinic. If you see signs of a severe allergic reaction (hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, or weakness), call **9-1-1** and get the person to the nearest hospital.

For other signs that concern you, call your health care provider.

Adverse reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your health care provider will usually file this report, or you can do it yourself. Visit the VAERS website at **www.vaers.hhs.gov** or call **1-800-822-7967**. *VAERS is only for reporting reactions, and VAERS staff members do not give medical advice.*

6. The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines. Claims regarding alleged injury or death due to vaccination have a time limit for filing, which may be as short as two years. Visit the VICP website at **www.hrsa.gov/vaccinecompensation** or call **1-800-338-2382** to learn about the program and about filing a claim.

7. How can I learn more?

- Ask your health care provider.
- Call your local or state health department.
- Visit the website of the Food and Drug Administration (FDA) for vaccine package inserts and additional information at **www.fda.gov/vaccines-blood-biologics/vaccines**.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636 (1-800-CDC-INFO)** or
  - Visit CDC's website at **www.cdc.gov/vaccines**.

Vaccine Consent Form

Resident: _____ Birth Date: _____

ID Number: _____ Nursing Care Center: _____

Living Unit: _____ Physician: _____

Resident/Caregiver Education Provided By: _____ ☐ Check here if reviewed with family remotely

If checked, second staff signature: _____

SPECIAL PRECAUTIONS:

- Consult with a prescriber for use in children under 3 years of age and pregnant people.
- Consult with a prescriber for use in individuals who are allergic to eggs, chicken feather, or chicken dander. Note: Beginning with the 2023-24 influenza season, ACIP voted that people with egg-allergy may receive any **flu** vaccine (egg-based or non-egg based) that is otherwise appropriate for their age and health status. Additional safety measures are no longer recommended beyond those recommended for receipt of any vaccine.
- Persons with fever should not receive this vaccine until no longer considered acutely ill.
- Persons who have received another type of vaccine within the past fourteen days should see their prescriber before receiving this vaccine.
- If you have a reaction, see your prescriber immediately. If you have any questions, please ask.

Has the person receiving the vaccine ever had a severe allergic (hypersensitivity) reaction to eggs, latex, thimerosal, or any vaccine component? _____*YES _____ NO
*Specify _____

Does the person receiving the vaccine have a history of Guillain-Barre syndrome or a persistent neurological illness? _____YES _____NO

Has the person received a live vaccine within the past 30 days (i.e. MMR, Rotarix) _____*YES _____ NO
*If YES - recommended to space live vaccines by > 4 weeks for full efficacy

Is the person receiving the vaccine currently sick with a fever? _____YES _____NO

Is the person receiving the vaccine currently receiving radiation, chemotherapy, or immunosuppressive therapy? _____YES _____NO

For women of childbearing age: Is the person receiving the vaccine pregnant or considering becoming pregnant in the next month? _____YES _____NO

For COVID-19 vaccination: Have you had thrombocytopenia syndrome (TTS), myocarditis, or pericarditis after COVID-19 vaccination? _____YES _____NO

I have read the above information and VIS/EUA Factsheet for my requested vaccination and have had an opportunity to ask questions. I understand the benefits and risks of my requested vaccination(s) as described. I request that the vaccine be given to me or to the person named below for whom I am authorized to sign.

_____ Influenza Vaccine (standard, recombinant, high-dose, adjuvanted)

_____ Pneumococcal Vaccine (e.g., PPSV23 [Pneumovax 23], PCV15 [Vaxneuvance], PCV20 [Prevnar 20], PCV21 [CAPVAXIVE])

_____ Herpes Zoster (Shingles) Vaccine (Shingrix)

_____ Respiratory Syncytial Virus Vaccine (Arexvy, Abrysvo, mRESVIA)

_____ COVID-19 Vaccine (e.g., Pfizer's COMIRNATY, Moderna's Spikevax, Moderna's mNEXSPIKE, Novavax's Nuvaxovid, other EUA or BLA-approved product)

_____ Hepatitis B (Energix-B, Recombivax HB, Heplisav-B)

_____ Other _____

Resident Name (please print) Date of Birth Age

Address City State Zip Code

Signature of person to receive vaccine (or authorized guardian) Date

FOR OFFICE USE ONLY

Date/Time of Administration: _____ Lot #: _____

Immunizer: _____ Expiration Date: _____

_____Right Arm

_____Left Arm

____Other

Vaccine Name: _____

PharMerica®

ADULT VACCINATION DECLINATION FORM

I, _____ [Resident's Full Name], hereby acknowledge that the following denoted vaccines have been recommended to me by my _____ [corporation] healthcare provider and in accordance with the CDC Adult Immunization Schedule, and I have been offered the opportunity to ask questions and to receive education through the CDC's Vaccine Information Statements (VIS).

Vaccine (check all that apply)

- ☐ Influenza
- ☐ Pneumococcal (PCV15, PCV20, PCV21, PPSV23)
- ☐ COVID-19
- ☐ Hepatitis A (HepA)
- ☐ Hepatitis B (HepB)
- ☐ Herpes Zoster Vaccine (HZV)
- ☐ Haemophilus influenzae type b (Hib)
- ☐ Measles, Mumps, Rubella (MMR)
- ☐ Meningococcal A,C,W,Y (MenACWY)
- ☐ Meningococcal B (MenB)
- ☐ Respiratory Syncytial Virus (RSV)
- ☐ Tetanus, Diphtheria, Pertussis (Tdap or Td)
- ☐ Varicella (VAR)
- ☐ Other _____

I am choosing to decline the recommended and offered vaccination(s) noted above.

I understand that these vaccines are recommended to reduce the health risks associated with my contracting their targeted infectious diseases.

I understand that by declining the vaccination, I may be at risk of contracting otherwise preventable or mitigatable infectious diseases and experiencing associated health consequences.

I acknowledge that I have made this decision voluntarily and based on my own understanding of the risks and benefits associated with these vaccines.

I also understand that I can change my decision at any time and request to receive the vaccine in the future, subject to its availability and my healthcare provider's recommendations at that time.

By signing this document, I affirm that I am providing an informed declination of the noted vaccine(s) after receiving education and having my questions answered to my satisfaction.

Resident / Patient Signature: _____ -or- POA Signature: _____

Full Name (Printed): _____

Witness (Staff Member's Name): _____

Date: _____

Vaccine Administration Record (VAR)

Informed Consent for Vaccination

PharMerica

COMMUNITY NAME:			
CITY:		**STATE:**	**ZIP:**
FIRST NAME:		**LAST NAME:**	
DATE OF BIRTH:	**AGE:**	☐ Female ☐ Male ☐ Unknown/Unidentified	
RACE:		**ETHNICITY:**	
SOCIAL SECURITY NUMBER/LAST 4:		**PHONE NUMBER:**	

Please ensure to record BOTH pharmacy AND medical insurance information since there are multiple ways immunizations can be billed.

MEDICARE INFORMATION		MEDICAL INSURANCE	PRESCRIPTION INSURANCE
Part B Number (Flu, COVID, Pneumococcal) _____	**Plan Name:**		
	Insurance Plan/Plan ID:		
	Member/Recipient ID #:		
Part D Number (RSV) _____	**RX BIN:**		
	RX PCN:		
Is the patient the cardholder: ☐ Yes ☐ No	**Group #:**		
	Plan Phone #:		

If no, please provide cardholders name, date of birth (MM/DD/YYY) and relationship: _____

I want to receive the following vaccines:

☐ COVID-19	☐ Flu (65yrs+)	☐ RSV (Respiratory Syncytial Virus)
☐ Flu (standard)	☐ Pneumococcal	☐ HZV (Shingles)
		☐ Other _____

Disclaimer: When multiple vaccine options exist, an appropriate immunization will be selected by the immunizer based on product labeled indication for use, current vaccine recommendations and product availability.
Document resident preferences for a particular brand/product here: _____

I certify that I am: (a) the patient and at least 18 years of age; (b) the legal guardian of the patient; or (c) a person authorized to consent on behalf of the patient where the patient is not otherwise competent or unable to consent for themselves. Further, I hereby give my consent to PharMerica Corporation and the licensed healthcare professional administering the vaccine, as applicable (each an "applicable Provider"), to administer the vaccine(s)) I have requested above. I understand that it is not possible to predict all possible side effects or complications associated with receiving vaccine(s). I understand the risks and benefits associated with the above vaccine(s) and have received, read and/or had explained to me the Vaccine Information Sheet (VIS) or EUA Fact Sheet on the vaccine(s) I have elected to receive. I also acknowledge that I have had a chance to ask questions and that such questions were answered to my satisfaction. Further, I acknowledge that I have been advised that the patient should remain near the vaccination location for observation for approximately 15 minutes after administration. On behalf of the patient, the patient's heirs and personal representatives, I hereby release and hold harmless each applicable Provider, its staff, agents, successors, divisions, affiliates, subsidiaries, officers, directors, contractors and employees from any and all liabilities or claims whether known or unknown arising out of, in connection with, or in any way related to the administration of the vaccine(s) listed above.

I acknowledge that: (a) I understand the purposes/benefits of my state's vaccination registry ("State Registry") and my state's health information exchange ("State HIE"); and (b) the applicable Provider may disclose my vaccination information to the State Registry, to the State HIE, or through the State HIE to the State Registry, or to any state or federal governmental agencies or authorities ("Government Agencies"), such as state, county, or local Departments of Health or the federal Department of Health and Human Services, the Center for Disease Control and Prevention, or their respective designees as may be required by law, for purposes of public health reporting, or to my healthcare providers enrolled in the State Registry and/or State HIE for purposes of care coordination. I acknowledge that, depending upon my state's law, I may prevent, by using a state-approved opt-out form or, as permitted by my state law, an opt-out form ("Opt-Out Form") furnished by the applicable Provider: (a) the disclosure of my vaccination information by the applicable Provider to the State HIE and/or State Registry; or (b) the State HIE and/or State Registry from sharing my vaccination information with any of my other healthcare providers enrolled in the State Registry and/or State HIE. The applicable Provider will, if my state permits, provide me with an Opt-Out Form. I understand that, depending on my state's law, I may need to specifically consent, and, to the extent required by my state's law, by signing below, I hereby do consent to the applicable Provider reporting my vaccination information to the Government Agencies, State HIE, or through the State HIE and/or State Registry to the entities and for the purposes described in this Informed Consent form. Unless I provide the applicable Provider with a signed Opt-Out Form, I understand that my consent will remain in effect until I withdraw my permission and that I may withdraw my consent by providing a completed opt- Out Form to the applicable Provider and/or my State HIE, as applicable.

I understand that even if I do not consent or if I withdraw my consent, my state's laws or federal law may permit certain disclosures of my vaccination information to or through the State HIE or to Government Agencies as required or permitted by law. I further authorize the applicable Provider to: (a) release my medical or other information, including any communicable disease (including HIV), and mental health information, to, or through, the State HIE or Government Agencies to my healthcare professionals, Medicare, Medicaid, or other third-party payer as necessary to effectuate care or payment; (b) submit a claim to my insurer for the above requested items and services; and (c) request payment of authorized benefits be made on my behalf to the applicable Provider with respect to the above requested items and services. I further agree to be fully financially responsible for any cost-sharing amounts, including copays, coinsurance and deductibles, for the requested items and services, as well as for any requested items and services not covered by my insurance benefits. I understand that any payment for which I am financially responsible is due at the time of service or, if the applicable Provider invoices me after the time of service, upon receipt of such invoice. I hereby acknowledge that I have received PharMerica's Notice of Privacy Practices

_____	_____	_____
Print Name	**Patient/Authorized Person Signature**	**Date**

PharMerica

Recipient Name: _____

****These sections to be completed day of clinic by vaccinator/support staff****

SCREENING QUESTIONS - The following questions will help us determine your eligibility to be vaccinated today.

COMPLETE IMMEDIATELY PRIOR TO AMINISTRATION	YES	NO	UNKNOWN
Have you received a previous dose of COVID-19 vaccine?	☐	☐	☐
Do you feel sick today?	☐	☐	☐
Have you had thrombocytopenia syndrome (TTS), myocarditis, or pericarditis after COVID-19 vaccination?	☐	☐	☐
Do you have allergies to latex, medications, food, vaccines or any component of vaccines (examples: Polyethylene glycol (PEG) or polysorbate)?	☐	☐	☐
If yes, please list: _____			
Have you ever had a reaction after receiving a vaccination, including fainting or feeling dizzy?	☐	☐	☐
Do you have a bleeding disorder or are you on a blood thinner?	☐	☐	☐
For women of childbearing age: Are you pregnant or considering becoming pregnant in the next	☐	☐	☐

IMMUNIZER READBACK AND VERIFY THE RECIPIENT WANTS TO RECEIVE THE FOLLOWING VACCINES:

☐ COVID-19 ☐ Flu (65yrs+) ☐ RSV (Respiratory Syncytial Virus)
☐ Flu (standard) ☐ Pneumococcal ☐ HZV (Shingles)
☐ Other _____

COMPLETE AFTER VACCINATION

COVID-19 **Administration Date:** _____ **VIS Offered to Recipient:** ☐ Yes

BRAND	MANUFACTURER	NDC	LOT	EXPIRATION DATE

DOSE	SITE OF ADMINISTRATION	IMMUNOCOMPROMISED	VIS DATE
	☐ L Deltoid ☐ R Deltoid ☐ Other: _____	☐ Yes ☐ No	

Clinician's Name & Title (Print): **Clinician's Signature**

Influenza **Administration Date:** _____ **VIS Offered to Recipient:** ☐ Yes

BRAND	MANUFACTURER	NDC	LOT	EXPIRATION DATE

DOSE	SITE OF ADMINISTRATION	IMMUNOCOMPROMISED	VIS DATE
	☐ L Deltoid ☐ R Deltoid ☐ Other: _____	☐ Yes ☐ No	

Clinician's Name & Title (Print): **Clinician's Signature**

Pneumococcal **Administration Date:** _____ **VIS Offered to Recipient:** ☐ Yes

BRAND	MANUFACTURER	NDC	LOT	EXPIRATION DATE

DOSE	SITE OF ADMINISTRATION	IMMUNOCOMPROMISED	VIS DATE
	☐ L Deltoid ☐ R Deltoid ☐ Other: _____	☐ Yes ☐ No	

Clinician's Name & Title (Print): **Clinician's Signature**

RSV **Administration Date:** _____ **VIS Offered to Recipient:** ☐ Yes

BRAND	MANUFACTURER	NDC	LOT	EXPIRATION DATE

DOSE	SITE OF ADMINISTRATION	IMMUNOCOMPROMISED	VIS DATE
	☐ L Deltoid ☐ R Deltoid ☐ Other: _____	☐ Yes ☐ No	

Clinician's Name & Title (Print): **Clinician's Signature**

HZV (Shingles) **Administration Date:** _____ **VIS Offered to Recipient:** ☐ Yes

BRAND	MANUFACTURER	NDC	LOT	EXPIRATION DATE

DOSE	SITE OF ADMINISTRATION	IMMUNOCOMPROMISED	VIS DATE
	☐ L Deltoid ☐ R Deltoid ☐ Other: _____	☐ Yes ☐ No	

Notes:

Notification of Immunization Letter Template

Dear doctor or nurse at _____
PATIENT'S PRIMARY CARE CLINIC

We recently provided immunization services to your patient. We want to make certain that you have information about the vaccines or antibody product we administered so you can update your patient's medical record. Please contact us if you have any questions about this information.

☐ We provided the patient (or parent/guardian) with a written record of the immunization(s) given.

☐ We entered information about the immunization(s) we administered in the regional or state immunization information system.

Patient's name _____ Patient's birthdate _____ (MM/DD/YR)

Parent/guardian name (if patient is <18 years) _____ Parent/guardian birthdate _____ (MM/DD/YR)

The immunizations we administered on _____ DATE is/are checked below.

IMMUNIZATIONS ADMINISTERED

COVID-19
- ☐ mRNA (circle one): Moderna Pfizer
- ☐ Novavax

Hepatitis B
- ☐ Engerix-B; Recombivax HB;
  DOSE (circle one): 0.5 mL 1.0 mL
- ☐ Heplisav-B (age 18 yrs and older)

☐ **DTaP** (age 6 yrs and younger)
☐ **DTaP-HepB-IPV** (Pediarix)
☐ **DTaP-IPV** (Kinrix, Quadracel)
☐ **DTaP-IPV/Hib** (Pentacel)
☐ **DTaP-IPV-Hib-HepB** (Vaxelis)
☐ **Tdap** (age 7 yrs and older)
☐ **Td** (age 7 yrs and older)

Hib (monovalent)
- ☐ ActHIB (PRP-T)
- ☐ Hiberix (PRP-T)
- ☐ PedvaxHIB (PRP-OMP)

☐ **Influenza**
- BRAND _____
- DOSE (mL) _____
- ROUTE (circle one): IM Nasal

☐ **IPV** (Polio)

Pneumococcal conjugate (PCV)
- ☐ PCV15, Vaxneuvance
- ☐ PCV20, Prevnar 20
- ☐ PCV21, Capvaxive

☐ **Pneumococcal polysaccharide** (PPSV23) (Pneumovax 23)

Respiratory Syncytial Virus (RSV)
- ☐ Abrysvo (Pfizer)
- ☐ Arexvy (GSK)
- ☐ mResvia (Moderna)

RSV Monoclonal Antibody
- ☐ Nirsevimab (Beyfortus)

Rotavirus
- ☐ RV1 (Rotarix) ☐ RV5 (RotaTeq)

☐ **Human papillomavirus** (9vHPV) (Gardasil 9)
☐ **MMR** (MMR II, Priorix)
☐ **Varicella** (chickenpox) (Varivax)
☐ **MMRV** (ProQuad)
☐ **Hepatitis A** (Havrix; Vaqta)
DOSE (circle one): 0.5 mL 1.0 mL
☐ **HepA-HepB** (Twinrix) (age 18yrs+)

Meningococcal ACWY (MenACWY)
☐ MenQuadfi (Sanofi) ☐ Menveo (GSK)

Meningococcal B (MenB)
☐ Trumenba (Pfizer) ☐ Bexsero (GSK)

Meningococcal ABCWY (MenABCWY)
☐ Penbraya (Pfizer) ☐ Penmenvy (GSK)

☐ **Mpox** (Jynneos)
☐ **Zoster** (shingles) (RZV) (Shingrix)
☐ **Other** _____
_____
_____

NAME OF CLINIC PROVIDING SERVICES

CLINIC CONTACT PERSON

CLINIC ADDRESS

CLINIC EMAIL ADDRESS

CLINIC CITY/STATE/ZIP

CLINIC PHONE

VAERS Vaccine Adverse Event Reporting System

www.vaers.hhs.gov

Adverse events are possible reactions or problems that occur during or after vaccination. Items **2, 3, 4, 5, 6, 17, 18** and **21** are **ESSENTIAL** and should be completed. Patient identity is kept confidential. Instructions are provided on the last two pages.

INFORMATION ABOUT THE PATIENT WHO RECEIVED THE VACCINE (Use **Continuation Page** if needed)

1. Patient name: (first) _____ (last) _____
Street address: _____
City: _____ State: _____ County: _____
ZIP code: _____ Phone: (___) _____ Email: _____

2. Date of birth: (mm/dd/yyyy) _____ 3. Sex: ☐ Male ☐ Female

4. Date and time of vaccination: (mm/dd/yyyy) _____ Time: hh:mm ☐AM ☐PM

5. Date and time adverse event started: (mm/dd/yyyy) _____ Time: hh:mm ☐AM ☐PM

6. Age at vaccination: ___ Years ___ Months 7. Today's date: (mm/dd/yyyy) _____

8. Pregnant at time of vaccination?: ☐ Yes ☐ No ☐ Unknown
(If yes, describe the event, any pregnancy complications, and estimated due date if known in item 18)

9. Prescriptions, over-the-counter medications, dietary supplements, or herbal remedies being taken at the time of vaccination:

10. Allergies to medications, food, or other products:

11. Other illnesses at the time of vaccination and up to one month prior:

12. Chronic or long-standing health conditions:

INFORMATION ABOUT THE PERSON COMPLETING THIS FORM

13. Form completed by: (name) _____

Relation to patient: ☐ Healthcare professional/staff ☐ Patient (yourself) ☐ Parent/guardian/caregiver ☐ Other: _____

Street address: _____ ☐ Check if same as item 1
City: _____ State: _____ ZIP code: _____
Phone: (___) _____ Email: _____

14. Best doctor/healthcare professional to contact about the adverse event: Name: _____ Phone: (___) _____ Ext: _____

INFORMATION ABOUT THE FACILITY WHERE VACCINE WAS GIVEN

15. Facility/clinic name: _____
Fax: (___) _____
Street address: ☐ Check if same as item 13
_____
_____
City: _____
State: _____ ZIP code: _____
Phone: (___) _____

16. Type of facility: (Check one)
☐ Doctor's office, urgent care, or hospital
☐ Pharmacy or store
☐ Workplace clinic
☐ Public health clinic
☐ Nursing home or senior living facility
☐ School or student health clinic
☐ Other: _____
☐ Unknown

WHICH VACCINES WERE GIVEN? WHAT HAPPENED TO THE PATIENT?

17. Enter all vaccines given on the date listed in item 4: (Route is HOW vaccine was given, Body site is WHERE vaccine was given) Use **Continuation Page** if needed

Vaccine (type and brand name)	Manufacturer	Lot number	Route	Body site	Dose number in series
select			select	select	select
select			select	select	select
select			select	select	select
select			select	select	select

18. Describe the adverse event(s), treatment, and outcome(s), if any: (symptoms, signs, time course, etc.)
Use **Continuation Page** if needed

19. Medical tests and laboratory results related to the adverse event(s): (include dates)
Use **Continuation Page** if needed

20. Has the patient recovered from the adverse event(s)?: ☐ Yes ☐ No ☐ Unknown

21. Result or outcome of adverse event(s): (Check all that apply)
☐ Doctor or other healthcare professional office/clinic visit
☐ Emergency room/department or urgent care
☐ Hospitalization: Number of days (if known) _____
Hospital name: _____
City: _____ State: _____
☐ Prolongation of existing hospitalization
(vaccine received during existing hospitalization)
☐ Life threatening illness (immediate risk of death from the event)
☐ Disability or permanent damage
☐ Patient died – Date of death: (mm/dd/yyyy) _____
☐ Congenital anomaly or birth defect
☐ None of the above

ADDITIONAL INFORMATION

22. Any other vaccines received within one month prior to the date listed in item 4: Use **Continuation Page** if needed

Vaccine (type and brand name)	Manufacturer	Lot number	Route	Body site	Dose number in series	Date Given
select			select	select	select	
select			select	select	select	

23. Has the patient ever had an adverse event following any previous vaccine?: (If yes, describe adverse event, patient age at vaccination, vaccination dates, vaccine type, and brand name)
☐ Yes _____ ☐ No ☐ Unknown

24. Patient's race: (Check all that apply) ☐ American Indian or Alaska Native ☐ Asian ☐ Black or African American ☐ Native Hawaiian or Other Pacific Islander ☐ White ☐ Unknown ☐ Other: _____

25. Patient's ethnicity: ☐ Hispanic or Latino ☐ Not Hispanic or Latino ☐ Unknown

26. Immuniz. proj. report number: (Health Dept use only) _____

COMPLETE ONLY FOR U.S. MILITARY/DEPARTMENT OF DEFENSE (DoD) RELATED REPORTS

27. Status at vaccination: ☐ Active duty ☐ Reserve ☐ National Guard ☐ Beneficiary ☐ Other: _____

28. Vaccinated at Military/DoD site: ☐ Yes ☐ No

SAVE

17. Enter all vaccines given on the date listed in item 4 (continued):					Dose number in series
Vaccine (type and brand name)	Manufacturer	Lot number	Route	Body site	
select			select	select	select
select			select	select	select
select			select	select	select
select			select	select	select

22. Any other vaccines received within one month prior to the date listed in item 4 (continued):					Dose number in series	Date Given
Vaccine (type and brand name)	Manufacturer	Lot number	Route	Body site		
select			select	select	select	
select			select	select	select	
select			select	select	select	
select			select	select	select	
select			select	select	select	
select			select	select	select	

Use the space below to provide any additional information (indicate item number):

SAVE

RETURN TO PAGE 1

COMPLETING THE VACCINE ADVERSE EVENT REPORTING SYSTEM (VAERS) FORM

GENERAL INSTRUCTIONS

- Submit this form electronically using the Internet. For instructions, visit www.vaers.hhs.gov/uploadfile/.
- If you are unable to submit this form electronically, you may fax it to VAERS at 1-877-721-0366.
- If you need additional help submitting a report you may call the VAERS toll-free information line at 1-800-822-7967, or send an email to info@vaers.org.
- Fill out the VAERS form as completely as possible and use the **Continuation Page** if needed. Use a separate VAERS form for each individual patient.
- If you do not know exact numbers, dates, or times, please provide your best guess. You may leave these spaces blank if you are not comfortable guessing.
- You can get specific information on the vaccine and vaccine lot number by contacting the facility or clinic where the vaccine was administered.
- Please report all significant adverse events that occur after vaccination of adults and children, even if you are not sure whether the vaccine caused the adverse event.
- Healthcare professionals should refer to the VAERS Table of Reportable Events at www.vaers.hhs.gov/reportable.html for the list of adverse events that must be reported by law (42 USC 300aa-25).
- Healthcare professionals treating a patient for a suspected vaccine adverse event may need to contact the person who administered the vaccine in order to exchange information and decide how best to complete and submit the VAERS form.

SPECIFIC INSTRUCTIONS

Items 2, 3, 4, 5, 6, 17, 18 and 21 are **ESSENTIAL** and should be completed.

- **Items 4 and 5**: Provide dates and times as specifically as you can and enter as much information as possible (e.g., enter the month and year even if you don't know the day). If you do not know the exact time, but know it was in the morning ("AM") or afternoon or evening ("PM"), please provide that information.
- **Item 6**: If you fill in the form by hand, provide age in years. If a child is less than 1 year old, provide months of age. If a child is more than 1 year old but less than 2 years old, provide year and months (e.g., 1 year and 6 months). If a child is less than 1 month of age when vaccinated (e.g., a birth dose of hepatitis B vaccine) then answer 0 years and 0 months, but be sure to include the patient's date of birth (item 2) and date and time of vaccination (item 4).
- **Item 8:** If the patient who received the vaccine was pregnant at time of vaccination, select "Yes" and describe the event, any pregnancy complications, and estimated due date if known in item 18. Otherwise, select "No" or "Unknown."
- **Item 9:** List any prescriptions, over-the-counter medications, dietary supplements, herbal remedies, or other non-traditional/ alternative medicines being taken by the patient when the vaccine(s) was given.
- **Item 10:** List any allergies the patient has to medications, foods, or other products.
- **Item 11:** List any short-term or acute illnesses the patient had on the date of vaccination AND up to one month prior to this date (e.g., cold, stomach flu, ear infection, etc.). This does **NOT** include the adverse event you are reporting.
- **Item 12:** List any chronic or long-standing health conditions the patient has (e.g., asthma, diabetes, heart disease).
- **Item 13:** List the name of the person who is completing the form. Select the "Check if same as item 1" box if you are the patient or if you live at the same address as the patient. The contact information you provided in item 1 will be automatically entered for you. Otherwise, please provide new contact information.
- **Item 14:** List the doctor or other healthcare professional who is the best person to contact to discuss the clinical details of the adverse event.
- **Item 15:** Select the "Check if same as item 13" box if the person completing the form works at the facility that administered the vaccine(s). The contact information provided in item 13 will be automatically entered for you. Otherwise, provide new contact information.
- **Item 16:** Select the option that best describes the type of facility where the vaccine(s) was given.

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- **Item 17:** Include only vaccines given on the date provided in item 4. The vaccine route options include:
  - Injection/shot (intramuscular, subcutaneous, intradermal, jet injection, and unknown)
  - By mouth/oral
  - In nose/intranasal
  - Other (specify)
  - Unknown

  For body site, the options include:
  - Right arm
  - Left arm
  - Arm (side unknown)
  - Right thigh
  - Left thigh
  - Thigh (side unknown)
  - Nose
  - Mouth
  - Other (specify)
  - Unknown

  For vaccines given as a series (i.e., 2 or more doses of the same vaccine given to complete a series), list the dose number for the vaccine in the last column named "Dose number in series."
- **Item 18:** Describe the adverse event(s), treatment, and outcome(s). Include signs and symptoms, when the symptoms occurred, diagnosis, and treatment. Provide specific information if you can (e.g., if patient had a fever, provide the temperature).
- **Item 19:** List any medical tests and laboratory results related to the adverse event(s). Include abnormal findings as well as normal or negative findings.
- **Item 20:** Select "Yes" if the patient's health is the same as it was prior to the vaccination or "No" if the patient has not returned to the same state of health prior to the vaccination, and provide details in item 18. Select "Unknown" if the patient's present condition is not known.
- **Item 21:** Select the result(s) or outcome(s) for the patient. If the patient did not have any of the outcomes listed, select "None of the above." Prolongation of existing hospitalization means the patient received a vaccine during a hospital stay and an adverse event following vaccination occurred that resulted in the patient spending extra time in the hospital. Life threatening illness means you believe this adverse event could have resulted in the death of the patient.
- **Item 22:** List any other vaccines the patient received within one month prior to the vaccination date listed in item 4.
- **Item 23:** Describe the adverse event(s) following any previous vaccine(s). Include patient age at vaccination, dates of vaccination, vaccine type, and brand name.
- **Item 24:** Check all races that apply.
- **Item 25:** Check the single best answer for ethnicity.
- **Item 26:** For health department use only.
- **Items 27 and 28:** Complete only for U.S. Military or Department of Defense related reports. In addition to active duty service members, Reserve and National Guard members, beneficiaries include: retirees, their families, survivors, certain former spouses, and others who are registered in the Defense Enrollment Eligibility Reporting System (DEERS).

GENERAL INFORMATION

- VAERS (www.vaers.hhs.gov) is a national vaccine safety monitoring system that collects information about adverse events (possible reactions or problems) that occur during or after administration of vaccines licensed in the United States.
- VAERS protects patient identity and keeps patient identifying information confidential.
- The Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule permits reporting of protected health information to public health authorities including the Centers for Disease Control and Prevention (CDC) and U.S. Food and Drug Administration (FDA) (45 CFR § 164.512(b)).
- VAERS accepts all reports without judging the importance of the adverse event or whether a vaccine caused the adverse event.
- Acceptance of a VAERS report by CDC and FDA does not constitute admission that the vaccine or healthcare personnel caused or contributed to the reported event.
- The National Vaccine Injury Compensation Program (VICP) is administered by the Health Resources and Services Administration (HRSA). The VICP is separate from the VAERS program and reporting an event to VAERS does not constitute filing a claim for compensation to the VICP (see www.hrsa.gov/vaccinecompensation/index.html).
- Knowingly filing a false VAERS report with the intent to mislead the Department of Health and Human Services is a violation of Federal law (18 U.S. Code § 1001) punishable by fine and imprisonment.

COVID-19

COVID-19

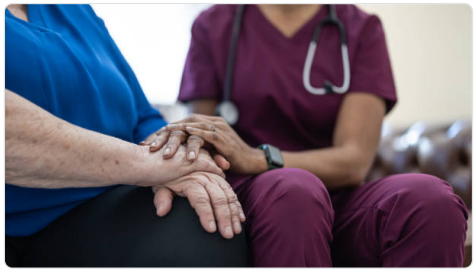
COVID-19 Vaccination for Long-term Care Residents

For Everyone

JUNE 11, 2025 •

WHAT TO KNOW

- If you live or work in a long-term care (LTC) setting, you can help protect yourself and the people around you by getting your updated COVID-19 vaccine.



Vaccine recommendations

- CDC recommends an updated COVID-19 vaccine for most adults ages 18 years and older.
- Parents of children ages 6 months to 17 years should discuss the benefits of vaccination with a healthcare provider.
  - Children ages 6 months–4 years may need more than 1 updated COVID-19 vaccine dose to be up to date.
- CDC recommends an updated COVID-19 vaccine for most adults ages 18 years and older**, including people who live and work in long-term care (LTC) settings**, get **1 dose** of an updated COVID-19 vaccine.
- CDC recommends **everyone ages 65 years and older, including people who live and work in LTC settings**, get **2 doses** of an updated COVID-19 vaccine 6 months apart.
- People who are moderately or severely immunocompromised should get at least 2 doses of an updated COVID-19 vaccine 6 months apart. They may also get more age-appropriate doses, beyond two doses at least 2 months apart, after talking to a healthcare provider.
  - People can self-confirm as moderately or severely immunocompromised. This means they do NOT need documentation to receive a COVID-19 vaccination they are eligible for.
  - While it is the *recommended* to get updated COVID-19 vaccine doses 6 months apart, the *minimum* time is 2 months apart, which allows flexibility to get the second dose prior to typical COVID-19 surges, travel, life events, and healthcare visits.

COVID-19

Reminder

People who live in LTC settings must give consent or agree to getting a COVID-19 vaccine.

Why the vaccine is important

If you live or work in a long-term care (LTC) setting, you can help protect yourself and the people around you by getting your updated COVID-19 vaccine.

- COVID-19 vaccines are the best way to protect yourself from serious illness, hospitalization, and death caused by COVID-19.
- Older adults and people with certain health conditions are more likely to get very sick from COVID-19.
- COVID-19 vaccines can help keep you from getting seriously ill if you do get COVID-19.

If your loved one is not able to ask questions or otherwise communicate with the LTC staff, here's what to know about consent for getting a COVID-19 vaccine:

- Consent or assent for a COVID-19 vaccine is given by LTC residents (or people appointed to make medical decisions on their behalf, called a medical proxy) and documented in their charts per the provider's standard practice.
- Residents who receive a COVID-19 vaccine (or their medical proxy) also receive a fact sheet before vaccination. The fact sheet explains the risks and benefits of COVID-19 vaccination.
- Some COVID-19 vaccination providers may require written, email, or verbal consent from recipients before getting vaccinated. This is at the provider's discretion; written consent is not required by federal law for COVID-19 vaccination in the United States.

KEEP READING
Staying Up to Date with COVID-19 Vaccines

How to get a COVID-19 vaccine

To make a COVID-19 vaccine appointment for you or your family member:

- Talk with the LTC staff about getting vaccinated on site.
- Ask a family member or friend to help you schedule a vaccination appointment if you can't get vaccinated on site. Visit vaccines.gov to find pharmacies near you.
- If you have additional questions about how to get a COVID-19 vaccine, talk with your healthcare provider.

HEALTH CARE PROVIDERS
Infection Control Guidance: SARS-CoV-2

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Coronavirus and Other Respiratory Viruses Division

COVID-19

CDC Interim Guidance on Use of COVID-19 Vaccines

As recommendations for COVID-19 vaccination continue to evolve post-pandemic, the CDC remains committed to maintaining the Interim Clinical Considerations for Use of COVID-19 Vaccines in the United States webpage to reflect the most up-to-date COVID-19 vaccine guidance.

These clinical considerations serve to inform healthcare professionals and public health officials of populations eligible for vaccination and safety concerns that may affect practice.

The CDC's considerations for vaccination were informed by:

- Recommendations of the Advisory Committee on Immunization Practices (ACIP)
- COVID-19 vaccine approval under a Biologics License Application (BLA) or Emergency Use Authorization (EUA) by the U.S. Food and Drug Administration (FDA)
- CDC's Emergency Use Instructions (EUI) for FDA-approved vaccines
- The World Health Organization's (WHO) Emergency Use Listing (EUL) or prequalification of COVID-19 vaccines
- General Best Practices for Immunization

For an overview of included material and quick access to specific chapters, refer to the Clinical Considerations Table of Contents below.

TABLE OF CONTENTS | INTERIM CLINICAL CONSIDERATIONS

Providers and other healthcare professionals are encouraged to routinely review the clinical considerations webpage to remain informed of the latest COVID-19 vaccine guidance.

CDC COVID-19

People with Certain Medical Conditions and COVID-19 Risk Factors

For Everyone

JUNE 11, 2025 •

WHAT TO KNOW

- If you have any medical conditions listed below, you are more likely to get very sick with COVID-19.
- This list does not include all conditions.
- If you have symptoms consistent with COVID-19 and are ages 50 years or older OR have a condition placing you at higher risk of getting very sick, you are eligible for treatment.

Overview

This information is for a general audience. Healthcare professionals should see Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19 for more detailed information.

Stay Up to Date With COVID-19 Vaccines

Staying up to date with COVID-19 vaccines and following preventive measures are especially important if you are older or have one or more health conditions, including those listed below.

Stay Up To Date

If you have one or more of the conditions listed below, you are more likely to get very sick from COVID-19 and be hospitalized, need intensive care, require a ventilator to breathe, and/or die.

Risk factors for getting very sick with COVID-19

- Older adults are at highest risk of getting very sick from COVID-19. More than 81% of COVID-19 deaths occur in people over age 65. The number of deaths among people over age 65 is 97 times higher than among people ages 18-29 years.
- Your risk of severe illness from COVID-19 increases as the number of your underlying medical conditions increases.
- Some people are at increased risk of getting very sick or dying from COVID-19 because of where they live or work, or because they can't get health care. This includes many people from racial and ethnic minority groups and people with disabilities.

Specific information on children and teens

People of all ages, including children and teens, can get very sick from COVID-19, especially those with underlying medical conditions. This includes children and teens with:

- Medical complexity
- Genetic, neurologic, or metabolic conditions
- Congenital heart disease

Like adults, children and teens with obesity, diabetes, asthma or chronic lung disease, sickle cell disease, or who are immunocompromised can also be at increased risk for getting very sick from COVID-19. Check out Stay Up to Date on COVID-19 Vaccines for more information on vaccinating your child.

Parents of children ages 6 months to 17 years should discuss the benefits of vaccination with a healthcare provider.

Learn how CDC develops COVID-19 vaccination recommendations.

Contact Your Healthcare Provider

If you have questions about a condition not included on this list or questions on how to manage your condition and protect yourself from COVID-19 and severe illness.

For treatment options. You must start treatment within 5-7 days from the time your symptoms start. Treatment can reduce your risk of hospitalization by more than 50% and reduce your risk of death.

You can also visit a Test to Treat location.

Conditions that can increase risk

- The conditions on this list are in alphabetical order. They are not in order of risk.
- CDC reviewed each medical condition on this list to ensure they met criteria for inclusion. If there is new evidence, other conditions might be added to the list.
- This list does not include all medical conditions that place a person at higher risk of severe illness from COVID-19. Rare medical conditions, including many conditions that mostly affect children, may not be included.
- A person with a condition that is not listed may still be at greater risk of getting very sick from COVID-19 than other people. It is important to talk with your healthcare provider about your risk.

Having the following diseases, conditions, or behaviors can make you more likely to get very sick from COVID-19.

Cancer

Treatments for many types of cancer can weaken your body's ability to fight off disease.

Get more information:

- Cancer

- COVID-19: What People with Cancer Should Know – National Cancer Institute

Cerebrovascular disease

This includes stroke, which affects blood flow to the brain.

Get more information:

- Stroke

Chronic kidney disease (at any stage)

Get more information:

- Chronic Kidney Disease
- National Kidney Foundation: Kidney Disease and COVID-19

Chronic liver disease

This includes alcohol-related liver disease, non-alcoholic fatty liver disease, autoimmune hepatitis, and cirrhosis (or scarring of the liver).

Get more information:

- Liver Disease
- American Liver Foundation: Your Liver and COVID-19

Chronic lung disease

Chronic lung disease can include:

- Asthma (moderate to severe)
- Bronchiectasis (thickening of the lungs' airways)
- Bronchopulmonary dysplasia (chronic lung disease affecting newborns)
- Chronic obstructive pulmonary disease (COPD), including emphysema and chronic bronchitis
- Damaged or scarred lung tissue (interstitial lung disease including idiopathic pulmonary fibrosis)
- Pulmonary embolism (blood clot in the lungs)
- Pulmonary hypertension (high blood pressure in the lungs)

Get more information:

- COPD
- Asthma
- People with Moderate to Severe Asthma
- American Lung Association: Controlling Chronic Lung Diseases Amid COVID-19

Cystic fibrosis

With or without lung or other solid organ transplant (like kidney, liver, intestines, heart, and pancreas).

Get more information:

- Cystic fibrosis
- Cystic Fibrosis Foundation: CF and Coronavirus (COVID-19)

Dementia or other neurological conditions

Get more information:

- Dementia
- Parkinson's Disease

Diabetes (type 1 or type 2)

Get more information:

- Diabetes
- American Diabetes Association: How COVID-19 Impacts People with Diabetes

Disabilities

People with some types of disabilities may be more likely to get very sick from COVID-19 because of underlying medical conditions, living in congregate settings, or systemic health and social inequities, including:

- People with any type of disability that makes it more difficult to do certain activities or interact with the world around them, including people who need help with self-care or daily activities
- People with attention-deficit/hyperactivity disorder (ADHD)
- People with cerebral palsy
- People with birth defects
- People with intellectual and developmental disabilities
- People with learning disabilities
- People with spinal cord injuries
- People with Down syndrome

Get more information:

- People with Disabilities

Heart conditions

This includes heart failure, coronary artery disease, cardiomyopathies, and possibly high blood pressure (hypertension).

Get more information:

- Heart Disease
- American Heart Association: COVID-19

Hemoglobin blood disorders

Get more information:

- Sickle Cell Disease
- Thalassemia

HIV infection (human immunodeficiency virus)

Get more information:

- HIV Infection

Immunocompromised condition or weakened immune system

People who are immunocompromised or are taking medicines that weaken their immune system may not be protected even if they are up to date on their vaccines. Examples include:

- People who have cancer and are on chemotherapy
- People who have had a solid organ transplant and are taking medication to keep their transplant
- People who use some medicines for a long time, like corticosteroids
- Primary immunodeficiency

Talk with your healthcare provider about what additional precautions may be necessary. Additionally, people who are moderately or severely immunocompromised may benefit from additional doses of updated COVID-19 vaccine. Because their immune response following COVID-19 vaccination may differ, specific guidance has been developed.

Get more information:

- Types of Primary Immune Deficiency Diseases
- Jeffrey Modell Foundation
- Immune Deficiency Foundation
- Primary Immunodeficiency (PI)

You Might Be Eligible for Pemivibart (Pemgarda™)

People who are moderately or severely immunocompromised, are ages 12 and older, and who weigh at least 88 pounds may be eligible to get Pemivibart (Pemgarda™), a monoclonal antibody authorized to help protect against COVID-19. Pemgarda may provide another layer of protection against COVID-19 in addition to protection provided through vaccination and can be given at least 2 weeks after receiving a COVID-19 vaccine. Pemgarda is not a treatment for COVID-19. Talk to your healthcare provider to see if Pemgarda is right for you. CDC is monitoring variants and how commonly they occur to understand if they might affect how well Pemgarda works. The FDA will provide additional updates to the Emergency Use Authorization materials, as appropriate, if new information emerges. This is the only preventive option available for COVID-19 for the immunocompromised community, as described above, at the present time.

Mental health conditions

Mood disorders including depression and schizophrenia spectrum disorders.

Get more information:

- National Institute of Mental Health (NIMH) Shareable Resources on Coping with COVID-19
- National Institute of Mental Health (NIMH) Depression
- Mood Disorders

Overweight and obesity

Overweight (defined as a body mass index (BMI) of25 kg/m^2 or higher, but under 30 kg/m^2), obesity (BMI is 30 kg/m^2 or higher, but under 40 kg/m^2), or severe obesity (BMI is 40 kg/m^2 or higher). The risk of severe illness from COVID-19 increases sharply with higher BMI.

Get more information:

- Overweight and Obesity
- Obesity, Race/Ethnicity, and COVID-19
- Obesity Action Coalition: COVID-19 and Obesity

Physical inactivity

Being physically active is important to being healthy. Get more information on physical activity and health, physical activity recommendations, how to become more active, and how to create activity-friendly communities:

- Physical Activity
- *Physical Activity Guidelines for Americans*, 2nd edition
- Move Your Way®
- Strategies to Increase Physical Activity
- National Center on Health, Physical Activity and Disability – Building Healthy Inclusive Communities

Pregnancy

Get more information:

- Women Who Are Pregnant or Breastfeeding (for at least 42 days following end of pregnancy)

Smoking - current or former

It's never too late to quit smoking. Quitting smoking improves your health, regardless of age or how long you have smoked.

You do not have to quit smoking alone. Find free resources to help you quit and stay quit.

Get more information:

- How to Quit Smoking
- Health Benefits of Quitting Smoking

Solid organ or blood stem cell transplant

Get more information:

- Transplant Safety
- COVID-19 Resources for Transplant Community

Substance use disorders

Such as alcohol, opioid, or cocaine use disorder.

Get more information:

- Treatment of Substance Use Disorder
- Substance Use Disorder and Teens
- Drug Overdose

Tuberculosis (TB)

Get more information:

- About TB
- Public Health Emergencies

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Coronavirus and Other Respiratory Viruses Division

Seasonal Influenza

SEASONAL INFLUENZA

Summary of Recent Updates Related to Flu Vaccination in Adults

PREFERRED FLU VACCINES IN OLDER ADULTS

Since the 2022-23 season, the CDC has endorsed the preferential recommendation for select flu vaccines in older adults, to include **higher dose** (**high dose** and **recombinant**) and **adjuvanted** vaccine products. Specifically, **Fluzone® High-Dose, Flublok®** and **Fluad®** flu vaccines remain the preferred vaccine in older adults ≥65 years of age. However, if one of those vaccines is not available at the time of administration, people in this age group should get a standard-dose flu vaccine instead. There remains no preferential product recommendation for flu vaccination in people ≤ 65 years of age.[1]

FLU VACCINATION FOR PEOPLE WITH EGG ALLERGIES

Since the 2023-24 season, the CDC has relaxed warnings/precautions regarding flu vaccination in those with egg allergies. Most flu vaccines today continue to be produced using an egg-based manufacturing process and therefore contain a small amount of egg proteins, such as ovalbumin. While ACIP has previously recommended that all people 6 months and older with egg allergy should be vaccinated for flu, in the past there have been additional safety measures recommended for administration of egg-based flu vaccine to people who have had severe allergic reactions to egg. ACIP voted that **people with egg-allergy may receive any flu vaccine (egg-based or non-egg based) that is otherwise appropriate for their age and health status. Additional safety measures are no longer recommended for flu vaccination beyond those recommended for receipt of any vaccine.**

FLU VACCINES SHIFT TO TRIVALENT FORMULATIONS

From 2013-2024, influenza vaccines were formulated to be quadrivalent (QIV, 4 strain) due to increased circulation of the B/Yamagata influenza virus strain. However, the 2024-2025 season marked a transition back to trivalent (TIV, 3 strain) formulations after vaccine manufacturers received direct instruction from the FDA (in collaboration with the WHO) to remove the B/Yamagata virus strain from all influenza vaccines.

This decision was made based on evidence from the WHO's dedicated surveillance system for tracking influenza virus circulation that showed B/Yamagata circulation in decline prior to the COVID-19 pandemic, and which has subsequently confirmed zero circulating B/Yamagata lineage viruses since March of 2020.

The transition is not expected to impact vaccine efficacy, as the removed strain is one no longer seen in circulation. The composition of the TIV formulations are designed to match projected circulating strains based on the WHO's ongoing surveillance.

In June 2025, ACIP recommended continued use of trivalent influenza vaccine formulations for the 2025-2026 season.

For the 2025-2026 season, the influenza vaccine market consists of **standard, recombinant, high dose,** and **adjuvanted formulations.**

CDC recommends that everyone 6 months and older, with rare exceptions, should get a flu vaccine every season.

1. Centers for Disease Control and Prevention. Who Needs a Flu Vaccine. 3 Oct 2024. Web. 28 July 2025. Who Needs a Flu Vaccine | Influenza (Flu) | CDC
2. Centers for Disease Control and Prevention. Cell-Based Flu Vaccines. 25 Aug 2023. Web. 28 July 2025. Cell-Based Flu Vaccines | Influenza (Flu) | CDC
3. Centers for Disease Control and Prevention. Recombinant Flu Vaccine. 9 Sept 2024. Web. 28 July 2025. Recombinant Influenza (Flu) Vaccine | Influenza (Flu) | CDC
4. Centers for Disease Control and Prevention. Fluzone High-Dose Influenza Vaccine. 6 Sept 2024. Web. 28 July 2025. Fluzone High-Dose Seasonal Influenza Vaccine | Influenza (Flu) | CDC
5. Centers for Disease Control and Prevention. Adjuvanted Flu Vaccine. 25 Aug 2022. Web. 28 July 2025. Adjuvanted Flu Vaccine | Influenza (Flu) | CDC

SEASONAL INFLUENZA

Standard Influenza Vaccine

The standard influenza vaccine has historically been available under a number of trade names, including **Afluria®, Fluarix®, Flulaval®, Fluzone®,** and **Flucelvax®**.

Flucelvax® has been the only cell-based inactivated flu vaccine licensed for use in the USA. Since the 2019-2020 flu season, all influenza candidate vaccine viruses used in the vaccine are cell-based, making the vaccine egg-free.[2]

Recombinant Influenza Vaccine

Flublok® is a recombinant flu vaccine that is also egg-free, as its production does not require an egg-grown vaccine virus and does not use chicken eggs in the production process. It has a higher dose than standard vaccines and thus has been preferentially recommended in older adults (However, it is licensed for use in all adults).[3]

High Dose Influenza Vaccine

Fluzone® HD is a high-dose vaccine that contains four times the amount of antigen compared to standard influenza vaccines, preferentially recommended and approved only for persons 65 years of age and older, to engender a more robust immune response.[4]

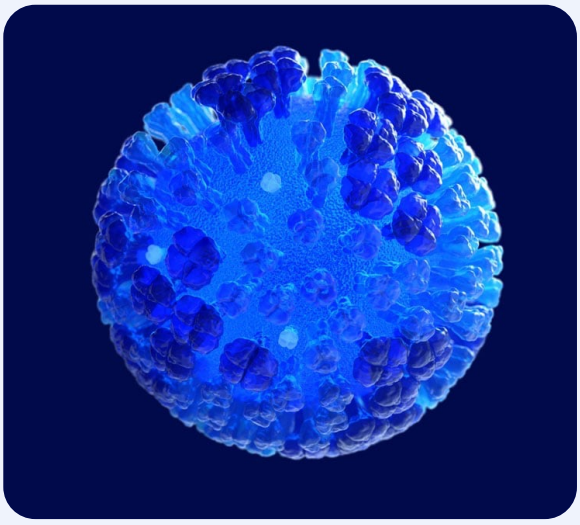
Adjuvanted Influenza Vaccine

Fluad® is a standard-dose inactivated flu vaccine preferentially recommended and approved only for adults 65 years of age and older. It contains an adjuvant (MF59) designed to elicit a greater immune response to vaccination.[5]

This summary reflects information from the most recently published list of available influenza vaccines, based on composition, dose, and indication.

For more information, refer to the 2024-2025 ACIP Summary Table.

More complete information on the 2025-2026 influenza season vaccine formulations may be accessed from the CDC as it is published.



A 3D computer-generated rendering of a whole influenza (flu) virus in semi-transparent blue with a navy-blue background. The virus' hemagglutinin (HA) and neuraminidase (NA) surface proteins are displayed in semi-transparent blue sticking out of the surface of the virus. HA is a trimer (which is comprised of three subunits), while NA is a tetramer (which is comprised of four subunits and its head region resembles a 4-leaf clover)

1. Centers for Disease Control and Prevention. Who Needs a Flu Vaccine. 3 Oct 2024. Web. 28 July 2025. Who Needs a Flu Vaccine | Influenza (Flu) | CDC
2. Centers for Disease Control and Prevention. Cell-Based Flu Vaccines. 25 Aug 2023. Web. 28 July 2025. Cell-Based Flu Vaccines | Influenza (Flu) | CDC
3. Centers for Disease Control and Prevention. Recombinant Flu Vaccine. 9 Sept 2024. Web. 28 July 2025 Recombinant Influenza (Flu) Vaccine | Influenza (Flu) | CDC
4. Centers for Disease Control and Prevention. Fluzone High-Dose Influenza Vaccine. 6 Sept 2024. Web. 28 July 2025. Fluzone High-Dose Seasonal Influenza Vaccine | Influenza (Flu) | CDC
5. Centers for Disease Control and Prevention. Adjuvanted Flu Vaccine. 25 Aug 2022. Web. 28 July 2025. Adjuvanted Flu Vaccine | Influenza (Flu) | CDC

SEASONAL INFLUENZA

Influenza (Flu)

2025–2026 Flu Season

For Everyone

AUG. 6, 2025 •

KEY POINTS

- Influenza vaccine recommendations have been recently updated.
- All flu vaccines for use in the United States are trivalent (three component) vaccines for the 2025-2026 season.
- Getting a yearly flu vaccination is the best way to prevent flu and its potentially serious complications.

Updates for the 2025-2026 Flu Season

- Everyone 6 months and older, with rare exceptions, should get a flu vaccine every season.
- For the 2025-2026 flu season, CDC recommends seasonal flu vaccination with single-dose formulations that are free of thimerosal as a preservative for children, pregnant women, and adults.
- On March 13, 2025, the U.S. Food and Drug Administration (FDA) made recommendations concerning the composition of 2025-2026 U.S. influenza vaccines.
- In September 2024, the FDA approved FluMist, the live attenuated influenza vaccine, for self- or caregiver administration.
- In March 2025, the FDA approved Flublok, the recombinant influenza vaccine, previously approved for ages ≥18 years, for ages ≥9 years.
- There are different flu vaccines. The decision is yours. Ask your healthcare provider about available flu vaccine options.

Composition of 2025-2026 Flu Vaccines

Flu vaccines for the U.S. 2025–2026 season will contain the following:

KEEP READING
Selecting Viruses for the Seasonal Influenza Vaccine

SEASONAL INFLUENZA

Egg-based vaccines

- an A/Victoria/4897/2022 (H1N1)pdm09-like virus;
- an A/Croatia/10136RV/2023 (H3N2)-like virus; and (Updated)
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus

Cell- or recombinant-based vaccines

- an A/Wisconsin/67/2022 (H1N1)pdm09-like virus;
- an A/District of Columbia/27/2023 (H3N2)-like virus; and (Updated)
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus

Trivalent flu vaccines are formulated to protect against three main groups of circulating seasonal influenza Type A and B viruses: an A(H1N1) virus, an A(H3N2) virus, and a B/Victoria lineage virus.

KEEP READING
Trivalent Influenza Vaccines

Projected U.S. Flu Vaccine Supply for the 2025-2026 Season

- Vaccine manufacturers have projected that they will supply the United States with as many as 154 million doses of flu vaccine for 2025-2026. These projections may change as the season progresses.
- Most of projected influenza vaccine supply produced this influenza season will be thimerosal-free or thimerosal-reduced (i.e., preservative-free).

Getting Your Flu Vaccine for Free or at Low Cost

Most health care insurance plans cover the annual flu vaccination as preventive care. Flu vaccination is often available at no or low cost to people who do not have insurance.

Vaccination information for children

If your child is insured:

- If your child is insured, most health care insurance plans cover flu vaccination at no cost to you. Check that your provider takes your child's insurance.
- Flu vaccine is also available at no cost* to you through CDC's Vaccines for Children (VFC) Program. A child must qualify for this program.

VFC Program

The VFC program serves children through 18 years of age who meet at least one of the following criteria:

- American Indian or Alaska Native (AI/AN)
- Medicaid-eligible
- Uninsured
- Underinsured

If your child is not insured:

- If your child is not insured, ask your child's doctor if they are a VFC provider or you can contact your state or local health department to find a VFC provider.

Vaccination for adults

- If you have insurance, your flu vaccine will likely be at no cost to you. Check that your provider takes your insurance.
- If the insurance does not cover flu vaccine or it has a fixed dollar limit or cap for vaccines, there may be options for no-cost or low-cost flu vaccination.
- If you don't have insurance, there may be options for no-cost or low-cost flu vaccination.

Where can you go for no-cost or low-cost flu vaccines:

- Your health provider
- Pharmacies
- Health Resources & Services Administration (HRSA)-supported health centers
- Employers, schools, and community organizations

You can also find flu vaccine at Vaccines.gov.

*You may be charged an office visit fee and/or admin fee

Trivalent Vaccines

Trivalent flu vaccines are formulated to protect against three influenza viruses (an A(H1N1) virus, an A(H3N2) virus, and a B/Victoria virus). All flu vaccines for the 2025-2026 season are anticipated to be trivalent in the United States.

KEEP READING
Trivalent Influenza Vaccines

FluMist for Self- or Caregiver-Administration

On September 20, 2024, The Food and Drug Administration (FDA) approved the nasal spray flu vaccine, FluMist, for self- or caregiver administration. FluMist is sprayed into the nose and is approved for the prevention of influenza disease in individuals 2 through 49 years of age. FluMist is currently available for administration by a health care provider in a health care setting (including a pharmacy) only. The option for self or caregiver administration is expected to be available as early as the 2025-2026 flu season. When self or caregiver administration becomes available, it will be possible for people to administer the vaccine to themselves (if they are 18 through 49 years old) or for it to be administered by a caregiver who is age 18 years or older (if the recipient is 2 through 17 years old). FluMist contains weakened live influenza viruses. FluMist has the same vaccine virus components as other flu vaccines and are designed to protect against an H1N1 virus, and an H3N2 virus, and an influenza B virus.

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases (NCIRD)

SEASONAL INFLUENZA

Interim Guidance for Influenza Outbreak Management in Long-Term Care and Post-Acute Care Facilities

Co-circulation of Influenza Viruses and SARS-CoV-2

Testing and Management Considerations for Nursing Home Residents with Acute Respiratory Illness Symptoms when SARS-CoV-2 and Influenza Viruses are Co-circulating

The following guidance is current for the 2024-2025 influenza season. Please see Recommendations of the Advisory Committee on Immunization Practices – United States, 2024-2025 Season [495 KB, 28 pages] for the latest information regarding recommended influenza vaccines. Please see Antiviral Drugs: Information for Healthcare Professionals for the current summary of recommendations for clinical practice regarding the use of influenza antiviral medications. Please also refer to the Infectious Diseases Society of America (IDSA) 2018 Update on Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management of Seasonal Influenza.

Long-term care facilities may be defined as institutions, such as nursing homes and skilled nursing facilities that provide healthcare to people (including children) who are unable to manage independently in the community. This care may represent custodial or chronic care management or short-term rehabilitative services.

Influenza can be introduced into a long-term care facility by newly admitted residents, healthcare personnel and by visitors. Spread of influenza can occur between and among residents, healthcare personnel and visitors. Residents of long-term care facilities can experience severe and fatal illness during influenza outbreaks.

Preventing transmission of influenza viruses and other infectious agents within healthcare settings, including in long-term care facilities, requires a multi-faceted approach that includes the following:

1. Influenza Vaccination
2. Influenza Testing
3. Infection Prevention and Control Measures
4. Antiviral Treatment
5. Antiviral Chemoprophylaxis

Before an Outbreak Occurs

Influenza vaccination should be provided routinely to all residents and healthcare personnel of long-term care facilities.

Residents

If possible, all residents should receive inactivated influenza vaccine (IIV) annually before influenza season. For persons aged ≥65 years, the following trivalent influenza vaccines are recommended: high-dose IIV, adjuvanted IIV, or recombinant influenza vaccine. If not available, standard-dose IIV may be given. In the majority of seasons, influenza vaccines will become available to long-term care facilities beginning in September, and influenza vaccination should be offered by the end of October. Informed consent is required to implement a standing order for vaccination, but this does not necessarily mean a signed consent must be present. Although vaccination by the end of October is recommended, influenza vaccines administered in December or later, even if influenza activity has already begun, is likely to be beneficial in the majority of influenza seasons because the duration of the season is variable, and influenza activity might not occur in certain communities until February or March.

In the event that a new patient or resident is admitted after the influenza vaccination program has concluded in the facility, the benefits of vaccination should be discussed, educational materials should be provided, and an opportunity for vaccination should be offered to the new resident as soon as possible after admission to the facility. Since October 2005, the Centers for Medicare and Medicaid Services (CMS) has required nursing homes participating in Medicare and Medicaid programs to offer all residents influenza and pneumococcal vaccines and to document the results. According to requirements, each resident is to be vaccinated unless contraindicated medically, the resident or legal representative

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refuses vaccination, or the vaccine is not available because of shortage. This information is to be reported as part of the CMS Minimum Data Set, which tracks nursing home health parameters.

Healthcare Personnel
CDC and the Advisory Committee on Immunization Practices (ACIP), recommend that all U.S. healthcare personnel get vaccinated annually against influenza.

Healthcare personnel who get vaccinated may help to reduce the following:
- Transmission of influenza
- Staff illness and absenteeism
- Influenza-related illness and death, especially among people at increased risk for severe influenza complications

Surveillance
When there is influenza activity in the local community, active daily surveillance (defined below) for influenza illness should be conducted among all new and current residents, healthcare personnel, and visitors of long-term care facilities, and continued until the end of influenza season. Healthcare personnel and visitors who are identified with any illness symptoms should be excluded from the facility until their illness has resolved. Older adults and other long-term care residents, including those who are medically fragile and those with neurological or neurocognitive conditions, may manifest atypical signs and symptoms of influenza virus infection (e.g. behavior change), and may not have fever. Ill residents should be placed on droplet precautions with room restriction and exclusion from participating in group activities as described below.

Influenza Testing
Even if it's not influenza season, influenza testing should occur when any resident has signs and symptoms of acute respiratory illness or influenza-like illness. Information about influenza testing is available at: https://www.cdc.gov/flu/professionals/diagnosis/index.htm.

More information about testing is included below.

When there is a confirmed or suspected influenza outbreak (2 or more ill residents)

If one laboratory-confirmed influenza positive case is identified along with other cases of acute respiratory illness in a unit of a long-term care facility, an influenza outbreak might be occurring. Active surveillance for additional cases should be implemented as soon as possible once one case of laboratory-confirmed influenza is identified in a facility. When 2 cases of laboratory-confirmed influenza are identified within 72 hours of each other in residents on the same unit, outbreak control measures should be implemented as soon as possible.

Implementation of outbreak control measures can also be considered as soon as possible when one or more residents have acute respiratory illness with suspected influenza and the results of influenza molecular tests are not available the same day of specimen collection. While unusual, an influenza outbreak can occur outside of the normal influenza season; therefore, testing for influenza viruses and other respiratory pathogens should also be performed during noninfluenza season periods.

Even if it's not influenza season, influenza testing should occur when any resident has signs and symptoms that could be due to influenza*, and especially when two residents or more develop respiratory illness within 72 hours of each other.

*Note that older adults and other long-term care residents, including those who are medically fragile and those with neurological or neurocognitive conditions, may manifest atypical signs and symptoms of influenza virus infection (e.g. behavior change), and may not have fever (https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciy866/5251935).

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- Determine if influenza virus is the causative agent by performing influenza testing on upper respiratory tract specimens (i.e. nasopharyngeal swab, nasal swabs, nasopharyngeal or nasal aspirates, or combined nasal and throat swabs) of ill residents with recent onset of signs and symptoms suggestive of influenza or acute respiratory illness.
- The following influenza tests are recommended: molecular assays, including rapid molecular assays, other molecular tests, or reverse transcription polymerase chain reaction (RT-PCR).
- If influenza molecular assays are not available and antigen detection tests are used such as rapid influenza diagnostic tests (RIDTs) or immunofluorescence assays, false negative results can occur because RIDTs and immunofluorescence assays have lower sensitivity than molecular assays for detection of influenza viruses. If influenza is suspected and RIDTs or immunofluorescence results are negative, perform confirmatory testing using molecular influenza assays. Information on influenza diagnostic testing is available online or by contacting your state public health laboratory.
- Influenza testing with molecular assays such as RT-PCR may be available at a local or state public health laboratory.
- Viral culture should be performed at a public health laboratory if additional information on influenza viruses, such as influenza A virus subtype, antigenic characterization to compare with influenza vaccine strains, or antiviral resistance data are needed.
- Determining influenza virus type or subtype of influenza A virus can help inform antiviral therapy decisions.

Implement daily active surveillance for acute respiratory illness among all residents, healthcare personnel and visitors to the facility.

- During an outbreak, once a single laboratory-confirmed case of influenza has been identified in a resident, it is likely there are other cases among exposed persons.
- Conduct daily active surveillance until at least 1 week after the last laboratory-confirmed influenza case was identified.
- Test for influenza with a molecular assay in the following:
    - Ill persons who are in the affected unit(s) as well as previously unaffected units in the facility
    - Persons who develop acute respiratory illness symptoms after beginning antiviral chemoprophylaxis

      **Note that older adults and other long-term care residents, including those who are medically fragile and those with neurological or neurocognitive conditions, may manifest atypical signs and symptoms of influenza virus infection (e.g. behavior change), and may not have fever.*
- Ensure that the laboratory performing influenza testing notifies the facility of tests results promptly.
- The local public health and state health departments should be notified of every suspected or confirmed influenza outbreak in a long-term care facility, especially if a resident develops influenza while on or after receiving antiviral chemoprophylaxis.

Implement Standard and Transmission-Based Precautions for all residents with suspected or confirmed influenza.

CDC's guidance titled Prevention Strategies for Seasonal Influenza in Healthcare Settings contains details on the prevention strategies for all healthcare settings. Specific recommendations are highlighted below.

Standard Precautions are intended to be applied to the care of all patients in all healthcare settings, regardless of the suspected or confirmed presence of an infectious agent. Implementation of Standard Precautions constitutes the primary strategy for the prevention of healthcare-associated transmission of infectious agents among patients and healthcare personnel.

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Examples of standard precautions include:

- Wearing gloves if hand contact with respiratory secretions or potentially contaminated surfaces is anticipated.
- Wearing a gown if soiling of clothes with a resident's respiratory secretions is anticipated.
- Changing gloves and gowns after each resident encounter and performing hand hygiene.
- Perform hand hygiene before and after touching the resident, after touching the resident's environment, or after touching the resident's respiratory secretions, whether or not gloves are worn. Gloves do not replace the need for performing hand hygiene.

Transmission-Based Precautions are intended to prevent transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions. Droplet Precautions should be implemented for residents with suspected or confirmed influenza for 7 days after illness onset or until 24 hours after the resolution of fever and respiratory symptoms, whichever is longer, while a resident is in a healthcare facility.

Examples of Transmission-Based Precautions include:

- Placing ill residents in a private room. If a private room is not available, place (cohort) residents suspected of having influenza residents with one another;
- Wear a facemask (e.g., surgical or procedure mask) upon entering the resident's room. Remove the facemask when leaving the resident's room and dispose of the facemask in a waste container.
- If resident movement or transport is necessary, have the resident wear a facemask (e.g., surgical or procedure mask), if possible.Communicate information about patients with suspected, probable, or confirmed influenza to appropriate personnel before transferring them to other departments.

These precautions are part of the overall infection control strategy to protect against influenza in healthcare settings and should be used along with other infection control measures, such as isolation or cohorting of ill residents, screening employees and visitors for illness, furloughing ill healthcare personnel, and discouraging ill visitors from entering the facility.In some cases, facilities may choose to apply Standard Precautions and Transmission-Based Precautions for longer periods based on clinical judgment, such as in the case of young children or severely immunocompromised residents, who may shed influenza virus for longer periods of time.

Because residents with influenza may continue to shed influenza viruses while on antiviral treatment, infection control measures to reduce transmission, including following Standard and Transmission-Based Precautions, should continue while the resident is taking antiviral therapy. This will also reduce transmission of viruses that may have become resistant to antiviral drugs during therapy.

Administer influenza antiviral treatment and chemo-prophylaxis to residents and healthcare personnel according to current recommendations.

All long-term care facility residents who have confirmed or suspected influenza should receive antiviral treatment immediately.

Initiation of antiviral treatment should not wait for laboratory confirmation of influenza.

Antiviral treatment works best when started within the first 2 days of symptoms. However, these medications can still help when given after 48 hours to those that are very sick, such as those who are hospitalized, have progressive illness, or meet any of the high risk criteria outlined in this document from the CDC.

Four influenza antiviral drugs approved by the U.S. Food and Drug Administration are recommended for treatment of uncomplicated influenza in the United States: neuraminidase inhibitors: oral oseltamivir (available as a generic version or under the trade name Tamiflu®), as a pill or suspension; zanamivir (trade name Relenza®), available as an inhaled

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powder using a disk inhaler device; and intravenous peramivir (trade name Rapivab®); and a cap-dependent endonuclease inhibitor: baloxavir marboxil (trade name Xofluza®). It should be noted that some long-term care residents may have difficulty using the inhaler device for zanamivir.

Amantadine and rimantadine are NOT recommended for use because of high levels of antiviral resistance to these drugs among circulating influenza A viruses.

The recommended dosing and duration of antiviral treatment is twice daily for 5 days for neuraminidase inhibitors (oseltamivir and zanamivir), and one dose for intravenous peramivir. Oseltamivir is recommended for treatment of influenza in people of all ages. Baloxavir is approved for early treatment of uncomplicated influenza in people 5 years and older who are otherwise healthy or in people aged 12 years and older who are at higher risk for influenza complications and have been ill for no more than 2 days. A single oral dose of baloxavir is equivalent to 5 days of twice daily oral oseltamivir. Inhaled zanamivir is approved for early treatment of influenza in persons aged 7 years and older. Peramivir is approved for early treatment of influenza in persons aged 6 months and older. Dosage adjustment may be required for children and persons with certain underlying conditions. Clinicians should consult the manufacturers' package insert for approved ages, recommended drug dosing adjustments and contraindications.

In the setting of an influenza outbreak, empiric antiviral treatment should be given as soon as possible to residents with suspected influenza without waiting for influenza testing results, especially if results will not be available on the day of specimen collection. There are no data on use of baloxavir to control influenza outbreaks in long-term care facilities. Baloxavir is not recommended for pregnant women, severely immunosuppressed persons, those with severe disease, or hospitalized influenza patients. There are no data on baloxavir in these populations.

Having preapproved orders from physicians or plans to obtain orders for antiviral medications on short notice can substantially expedite administration of antiviral medications.

For more information on the antiviral agents, see CDC's influenza antiviral medication page for health professionals.

All exposed residents with influenza cases on units or wards in the long-term care facility (currently impacted wards) should receive antiviral chemoprophylaxis as soon as an influenza outbreak is determined (https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciy866/5251935).

When at least 2 patients are ill within 72 hours of each other and at least one resident has laboratory-confirmed influenza, the facility should promptly initiate antiviral chemoprophylaxis with oral oseltamivir to all non-ill residents living on the same unit as the resident with laboratory-confirmed influenza (outbreak affected units), regardless of whether they received influenza vaccination during the current season. Consideration may be given for extending antiviral chemoprophylaxis to residents on other unaffected units or wards in the long-term care facility based upon other factors (e.g. unavoidable mixing of residents or healthcare personnel from affected units and unaffected units).

Antiviral chemoprophylaxis is meant for residents who are not exhibiting influenza-like illness but who may be exposed or who may have been exposed to an ill person with influenza, to prevent transmission.

Use of antiviral drugs for chemoprophylaxis of influenza is a key component of influenza outbreak control in institutions that house residents at higher risk of influenza complications. While highly effective, antiviral chemoprophylaxis is not 100% effective in preventing influenza illness. Oseltamivir is the recommended antiviral drug for chemoprophylaxis of influenza in long-term care settings. Baloxavir is approved for post-exposure antiviral chemoprophylaxis of influenza in persons aged 5 years and older but no data are available from clinical trials of baloxavir chemoprophylaxis of influenza in long-term care facility residents.

CDC recommends antiviral chemoprophylaxis with oseltamivir for a minimum of 2 weeks and continuing for at least 7 days after the last known laboratory-confirmed influenza case was identified on affected units.

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Persons whose need for antiviral chemoprophylaxis is attributed to potential exposure to a person with laboratory-confirmed influenza should receive oral oseltamivir or inhaled zanamivir. Zanamivir should be used when persons require chemoprophylaxis as a result of exposure to influenza virus strains that are suspected or known to be oseltamivir-resistant.

(For more information see Table 1 of the CDC's Recommended Dosage and Duration of Treatment or Chemoprophylaxis for Influenza Antiviral Medications and https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciy866/5251935.)

Antiviral chemo-prophylaxis can be considered or offered to unvaccinated personnel who provide care to persons at higher risk of influenza complications.

While CDC recommends judicious use of antiviral medications for chemoprophylaxis to reduce the possibility of development and spread of antiviral resistant influenza viruses, chemoprophylaxis may be considered for healthcare personnel, regardless of their influenza vaccination status, if the outbreak is caused by a strain of influenza virus that is not well matched by the vaccine, or based upon other factors (e.g. to reduce the risk of short staffing in facilities and units where clinical staff are limited and to reduce staff reluctance to provide care to residents with suspected or laboratory-confirmed influenza).

Antiviral chemoprophylaxis should also be considered in personnel for whom influenza vaccine is contraindicated.

An emphasis on close monitoring and early initiation of antiviral treatment is an alternative to chemoprophylaxis in managing certain persons who have had a suspected exposure to influenza virus. Healthcare personnel who have occupational exposures can be counseled about the early signs and symptoms of influenza and advised to contact their healthcare provider immediately for evaluation and possible early initiation of antiviral treatment if clinical signs or symptoms develop.

For newly vaccinated healthcare personnel, antiviral chemoprophylaxis can be considered for up to 2 weeks following inactivated influenza vaccination until vaccine-induced immunity is acquired. Persons receiving antiviral chemoprophylaxis should not receive live attenuated influenza virus vaccine (LAIV), and persons receiving LAIV should not receive antiviral treatment or chemoprophylaxis until 14 days after LAIV administration.

The latest CDC antiviral recommendations are available on CDC's influenza antiviral drugs page for health professionals.

Be Aware of the Possibility of an Antiviral Drug-Resistant Virus

Residents receiving antiviral medications who do not respond to treatment or who become sick with influenza after starting chemoprophylaxis might have an infection with an antiviral-resistant influenza virus. Persons receiving chemoprophylaxis who become sick should be switched to treatment dosing. If infection with an antiviral-resistant influenza virus is suspected, the local or state public health department should be notified promptly.

To limit the potential transmission of antiviral drug-resistant influenza virus, whether in chronic or acute-care settings or other closed settings, measures should be taken to reduce contact between ill persons taking antiviral drugs for treatment and other persons, including those receiving antiviral chemoprophylaxis. Infection prevention and control measures are especially important for patients who are immunocompromised to reduce the risk for transmission of oseltamivir-resistant viruses.

Notify the health department if a resident develops influenza while on or after receiving antiviral chemoprophylaxis.

Consider the following additional measures to reduce transmission among residents and healthcare personnel:

- Have symptomatic residents stay in their own rooms as much as possible, including restricting them from common activities, and have their meals served in their rooms when possible.
- Limit the number of large group activities in the facility and consider serving all meals in resident rooms if possible when the outbreak is widespread (involving multiple units of the facility).

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- Avoid new admissions or transfers to wards with symptomatic residents.
- Limit visitation and exclude ill persons from visiting the facility via posted notices. Consider restricting visitation by children during community outbreaks of influenza.
- Monitor healthcare personnel absenteeism due to respiratory symptoms and exclude those with influenza-like symptoms from work until at least 24 hours after they no longer have a fever.
- Restrict healthcare personnel movement from areas of the facility having illness to areas not affected by the outbreak.
- Administer the current season's influenza vaccine to unvaccinated residents and healthcare personnel as per current vaccination recommendations. For the latest information on influenza vaccination, see CDC's seasonal influenza vaccination resources for health professionals page.

*Patients with illness associated with influenza virus infection often have fever or feverishness with cough, chills, headache, myalgias, sore throat, or runny nose. Some patients, such as older adults, children with neuromuscular disorders, and young infants, may have atypical clinical presentations. Older adults and other long-term care residents, including those who are medically fragile and those with neurological or neurocognitive conditions, may manifest atypical signs and symptoms of influenza virus infection (e.g. behavior change), and may not have fever (https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciy866/5251935).

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Influenza Antiviral Medications: Summary for Clinicians

The information on this page should be considered current for the 2024-2025 influenza season for clinical practice regarding the use of influenza antiviral medications. Clinicians may also wish to consult the IDSA antiviral treatment and antiviral chemoprophylaxis recommendations, and the ATS Diagnosis and Management of CAP Guideline (2025).

Priority Groups for Antiviral Treatment of Influenza

Antiviral treatment is recommended **as soon as possible** for any patient with suspected or confirmed influenza who:

- is **hospitalized**;
- has severe, complicated, or progressive illness; or
- is at **higher risk** for influenza complications.

Decisions about starting antiviral treatment for patients with suspected influenza should not wait for laboratory confirmation of influenza virus infection. Empiric antiviral treatment should be started as soon as possible in the above priority groups.

Clinicians can consider early empiric antiviral treatment of non-higher-risk outpatients with suspected influenza based upon clinical judgment if treatment can be initiated within 48 hours of illness onset.

Antiviral Drug Options

- For hospitalized patients with suspected or confirmed influenza, initiation of antiviral treatment with oral or enterically administered oseltamivir is recommended as soon as possible.
- For outpatients with complications or progressive disease and suspected or confirmed influenza (e.g., pneumonia, or exacerbation of underlying chronic medical conditions), initiation of antiviral treatment with oral oseltamivir is recommended as soon as possible.
- For outpatients with suspected or confirmed uncomplicated influenza, oral oseltamivir, inhaled zanamivir, intravenous peramivir, or oral baloxavir may be used for treatment, depending upon approved age groups and contraindications. In one randomized controlled trial, baloxavir had greater efficacy than oseltamivir in adolescents and adults with influenza B virus infection (Ison, 2020).

Co-circulation of Influenza Viruses and SARS-CoV-2

During periods of community co-circulation of influenza viruses and SARS-CoV-2, empiric antiviral treatment of influenza is recommended as soon as possible for the following priority groups: a) hospitalized patients with respiratory illness; b) outpatients with severe, complicated, or progressive respiratory illness; and c) outpatients at higher risk for influenza complications who present with any acute respiratory illness symptoms (with or without fever).

- Influenza and COVID-19 have overlapping signs and symptoms. Testing can help distinguish between influenza virus infection and SARS-CoV-2 infection. However, clinicians should not wait for the results of influenza testing (CDC Nucleic Acid Detection Based Tests, SARS-CoV-2 testing, or multiplex molecular assays that detect influenza A and B viruses and SARS-CoV-2 (CDC Multiplex Assays) to initiate empiric antiviral treatment for influenza in the above priority groups.
- Co-infection with influenza A or B viruses and SARS-CoV-2 can occur and should be considered, particularly in hospitalized patients with severe respiratory disease.
    - Clinicians should be aware that a positive SARS-CoV-2 test result does not preclude influenza virus infection. For hospitalized patients with suspected influenza who are started on empiric antiviral treatment with oseltamivir, use of influenza molecular assays (CDC Nucleic Acid Detection Based Tests) or multiplex assays that detect both influenza viruses and SARS-CoV-2 (CDC Multiplex Assays) can inform clinical management.

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- Clinicians should be aware that a positive influenza test result does not preclude SARS-CoV-2 infection. For hospitalized patients with a positive influenza test result, antiviral treatment of influenza with oseltamivir should be started as soon as possible, and clinicians should also follow guidelines for diagnosis and treatment of community-acquired pneumonia (ATS Diagnosis and Management of CAP Guideline [2025]) and other respiratory infections, including SARS-CoV-2 infection (NIH COVID-19 treatment guidelines and IDSA COVID-19 treatment guidelines) if clinically indicated, while awaiting SARS-CoV-2 testing results. Oseltamivir does not have in-vitro activity against SARS-CoV-2 (Choy, 2020).

- Clinicians can utilize telemedicine in place of office visits for patients with acute respiratory illness. It may be useful for providers to implement phone triage lines to enable high-risk patients to discuss symptoms over the phone. Please see the Algorithm to Assist in Medical Office Telephone Evaluation of Patients with Possible Influenza.
- Patients at higher risk for influenza complications should be advised to call their provider as soon as possible if they have acute respiratory illness symptoms (with or without fever) for consideration of infection with influenza A or B viruses (and early antiviral treatment), SARS-CoV-2, and other respiratory pathogens.
- Clinicians can consider starting early (≤48 hours after illness onset) empiric antiviral treatment of non-higher-risk outpatients with suspected influenza, based upon clinical judgment, including without an office visit. SARS-CoV-2 and other etiologies of acute respiratory illness should also be considered.
- Clinical algorithms for the testing and treatment of influenza when SARS-CoV-2 and influenza viruses are circulating are also available.

Overview of Influenza Antiviral Medications

- Influenza antiviral prescription drugs can be used to treat influenza, and some can be used to prevent influenza.
- Six licensed prescription influenza antiviral drugs are approved in the United States.
    - Four influenza antiviral medications approved by the U.S. Food and Drug Administration (FDA) are recommended for use in the United States.
    - Three drugs are chemically related antiviral medications known as neuraminidase inhibitors that block the viral neuraminidase enzyme and have activity against both influenza A and B viruses: oral oseltamivir phosphate (available as a generic version or under the trade name Tamiflu®), inhaled zanamivir (trade name Relenza®), and intravenous peramivir (trade name Rapivab®).
    - The fourth drug is oral baloxavir marboxil (trade name Xofluza®), which is active against both influenza A and B viruses but has a different mechanism of action than neuraminidase inhibitors. Baloxavir is a cap-dependent endonuclease inhibitor that interferes with viral RNA transcription and blocks virus replication.
    - More information regarding the four recommended antiviral medications is available: Table 1.
- The two other FDA-approved influenza antiviral medications (amantadine and rimantadine) are not recommended for antiviral treatment or chemoprophylaxis because of high levels of resistance among circulating influenza A viruses.
- Clinical trials and observational data show that early antiviral treatment can shorten the duration of fever and illness symptoms, and may reduce the risk of some complications from influenza (e.g., otitis media in young children, pneumonia, and respiratory failure).
    - In hospitalized adults with influenza, early treatment with oseltamivir has been reported to reduce in-hospital death and the duration of hospitalization in some observational studies.
    - In hospitalized children, early antiviral treatment with oseltamivir has been reported to shorten the duration of hospitalization in some observational studies.

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- Clinical benefit is greatest when antiviral treatment is administered early, especially within 48 hours of influenza illness onset.

Table 1. Antiviral Medications Recommended for Treatment and Chemoprophylaxis of Influenza

Antiviral Agent	Activity Against	Use	Recommended For	Not Recommended for Use in	Adverse Events
Oral Oseltamivir	Influenza A and B	Treatment	Any age[1]	N/A	**Adverse events:** nausea, vomiting, headache. Post marketing reports of serious skin reactions and sporadic, transient neuropsychiatric events[2]
		Chemo-prophylaxis	3 months and older[1]	N/A	
Inhaled Zanamivir	Influenza A and B	Treatment	7 yrs and older[3]	People with underlying respiratory disease (e.g., asthma, COPD)[3]	**Adverse events:** risk of bronchospasm, especially in the setting of underlying airways disease; sinusitis, and dizziness. Post marketing reports of serious skin reactions and sporadic, transient neuropsychiatric events[2]
		Chemo-prophylaxis	5 yrs and older[3]	People with underlying respiratory disease (e.g., asthma, COPD)[3]	
Intravenous Peramivir	Influenza A and B[4]	Treatment	6 months and older[4]	N/A	**Adverse events:** diarrhea. Post marketing reports of serious skin reactions and sporadic, transient neuropsychiatric events[2]
		Chemo-prophylaxis[5]	Not recommended	N/A	
Oral Baloxavir	Influenza A and B[6]	Treatment	5 yrs and older[6]	N/A	**Adverse events:** none more common than placebo in clinical trials
		Chemo-prophylaxis[6]	Approved for post-exposure prophylaxis in persons 5 yrs and older[6]		

Abbreviations: N/A = not applicable, COPD = chronic obstructive pulmonary disease.

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Table 1 Resources

1. Oral oseltamivir phosphate is approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset in people 14 days and older, and for chemoprophylaxis in people 1 year and older. Although not part of the FDA-approved indications, use of oral oseltamivir for treatment of influenza in infants less than 14 days old, and for chemoprophylaxis in infants 3 months to 1 year, is recommended by the CDC and the American Academy of Pediatrics. If a child is younger than 3 months old, use of oseltamivir for chemoprophylaxis is not recommended unless the situation is judged critical due to limited data in this age group.

2. Self-injury or delirium; mainly reported among Japanese pediatric patients.

3. Inhaled zanamivir is contraindicated in patients with underlying airways disease such as asthma or chronic obstructive pulmonary disease, and those with a history of allergy to lactose or milk protein.

4. Intravenous peramivir is approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset in people 6 months and older. Peramivir efficacy is based on clinical trials versus placebo in which the predominant influenza virus type was influenza A; in one trial, a very limited number of subjects infected with influenza B virus were enrolled.

5. There are no data available for use of peramivir for chemoprophylaxis of influenza.

6. Oral baloxavir marboxil is approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset in people aged ≥5 years who are otherwise healthy, or in people aged ≥12 years who are high risk of developing influenza-related complications. Baloxavir efficacy for initial FDA approval in October 2018 was based on clinical trials in previously healthy outpatients 12 to 64 years old (Hayden, 2018). Singledose baloxavir t reatment was superior to placebo and had similar clinical efficacy in time to alleviation of symptoms to a 5-day treatment course of oseltamivir.

In October 2019, FDA approved an indication for baloxavir treatment of acute uncomplicated influenza within 2 days of illness onset in people 12 years and older at high risk of developing influenza-related complications, based upon the findings of a clinical trial (Ison, 2020). In this clinical trial of early initiation of antiviral treatment for uncomplicated influenza in highrisk patients, baloxavir was superior to placebo and had similar overall efficacy to oseltamivir in the time to alleviation of symptoms. For patients with influenza B virus infection, baloxavir significantly reduced the median time to improvement of symptoms compared with oseltamivir by more than 24 hours.

For patients with influenza B virus infection, baloxavir significantly reduced the median time to improvement of symptoms compared with oseltamivir by more than 24 hours. However, there are no available data for baloxavir treatment of influenza in pregnant people, immunocompromised people, or in people with severe influenza who are not hospitalized.

In August 2022, FDA expanded approval of baloxavir for treatment of acute uncomplicated influenza within 2 days of illness onset in children aged 5 years to <11 years who are otherwise healthy package insert XOFLUZA [963 KB, 22 pages]. This was based upon the secondary clinical outcomes of a randomized clinical trial of baloxavir versus oseltamivir for treatment of uncomplicated influenza in children aged 1 year to <12 years (Baker, 2021).

A randomized clinical trial reported that combination neuraminidase inhibitor (primarily oseltamivir) and baloxavir for treatment of hospitalized influenza patients aged ≥12 years did not result in superior clinical benefit (time to clinical improvement) compared with neuraminidase inhibitor and placebo (Kumar, 2022).

In November 2020, FDA expanded approval of baloxavir to include post exposure prophylaxis of influenza for persons aged ≥12 years within 48 hours of contact with an individual with influenza, based on the findings of a clinical trial among household contacts of index patient with influenza (Ikematsu, 2020). In this study, baloxavir post-exposure prophylaxis (PEP) of influenza in household members (19% were younger than 12 years; 73% received baloxavir within 24 hours of onset of symptoms in the index household case who received antiviral treatment) significantly reduced the risk of laboratory confirmed by 86% among those who received baloxavir PEP than among those who received placebo (1.9% [7 of 374] vs. 13.6% [51 of 375]; adjusted risk ratio, 0.14; 95% confidence interval [CI], 0.06 to 0.30; P<0.001).

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In August 2022, FDA expanded approval of baloxavir for post-exposure prophylaxis of influenza in persons aged 5 years and older within 48 hours of contact with an individual with influenza package insert XOFLUZA [963 KB, 22 pages].

Summary of Influenza Antiviral Treatment Recommendations

Antiviral treatment is recommended as early as possible for any patient with confirmed or suspected influenza who:

- **is hospitalized;***
- **has severe, complicated, or progressive illness;* or**
- **is at higher risk for influenza complications.**

*Oral or enterically administered oseltamivir is the recommended antiviral for patients with severe, complicated, or progressive illness who are not hospitalized, and for hospitalized influenza patients. For hospitalized patients who cannot tolerate or absorb oral or enterically administered oseltamivir because of suspected or known gastric stasis, malabsorption, or gastrointestinal bleeding, intravenous peramivir may be considered (Lee, 2017; de Jong, 2014; Ison, 2014; Ison, 2013). There are insufficient data to support general use of inhaled zanamivir and intravenous peramivir in patients with severe influenza disease. There are no available data from clinical trials on use of baloxavir treatment in patients with severe influenza disease who are not hospitalized.

**Oral oseltamivir and oral baloxavir are available treatment options for patients at higher risk for influenza complication depending upon their underlying conditions and age (Table 1). Data on use of peramivir or zanamivir are very limited in high-risk outpatients with influenza.

- **Oral oseltamivir is preferred for treatment of pregnant people** (Rasmussen, 2011). Pregnant people are recommended to receive the same antiviral dosing as non-pregnant people. Multiple studies have reported safe use of neuraminidase inhibitors during pregnancy (Dunstan, 2014; Xie, 2013; Saito, 2013; Wollenhaupt, 2014; Beau, 2014; Svensson, 2011; Greer, 2010; Graner, 2017); Ehrenstien, 2018; Chambers, 2019; Bennekom, 2019; ACOG Committee, 2018). See Recommendations for Obstetric Health Care Providers Related to Use of Antiviral Medications in the Treatment and Prevention of Influenza for additional information. Baloxavir is not recommended for the treatment of influenza in pregnant or breastfeeding people, as there are no available efficacy or safety data for baloxavir in this pregnant people (Chow, 2021), and no available data on the presence of baloxavir in human milk, the effects on the breastfed infant, or the effects on milk production.

- **CDC does not recommend use of baloxavir for monotherapy of influenza in severely immunosuppressed persons.** There are no available efficacy, safety, or resistance data for baloxavir monotherapy of influenza in severely immunosuppressed patients and emergence of resistance during treatment is a concern because of prolonged influenza viral replication in these patients.

- When indicated, **antiviral treatment should be started as soon as possible after illness onset,** ideally within 48 hours of symptom onset for the greatest clinical benefit. However, observational studies have reported that antiviral treatment of influenza can have clinical benefit in patients with severe, complicated or progressive illness, and in hospitalized patients when started after 48 hours of illness onset.

- **Decisions about starting antiviral treatment should not wait for laboratory confirmation of influenza** (see resources regarding Clinical Description and Lab Diagnosis of Influenza for more information on influenza diagnostic testing).

    - Clinical benefit is greatest when antiviral treatment is started as close to illness onset as possible.

- Antiviral treatment with oral oseltamivir, inhaled zanamivir, intravenous peramivir, or oral baloxavir also can be considered for any previously healthy, symptomatic outpatient not at higher risk for influenza complications, who is diagnosed with confirmed or suspected influenza, on the basis of clinical judgment, if treatment can be initiated within 48 hours of illness onset.

    - The recommended treatment course for uncomplicated influenza is two doses per day of oral oseltamivir or inhaled zanamivir for 5 days, or one dose of intravenous peramivir or oral baloxavir for 1 day.

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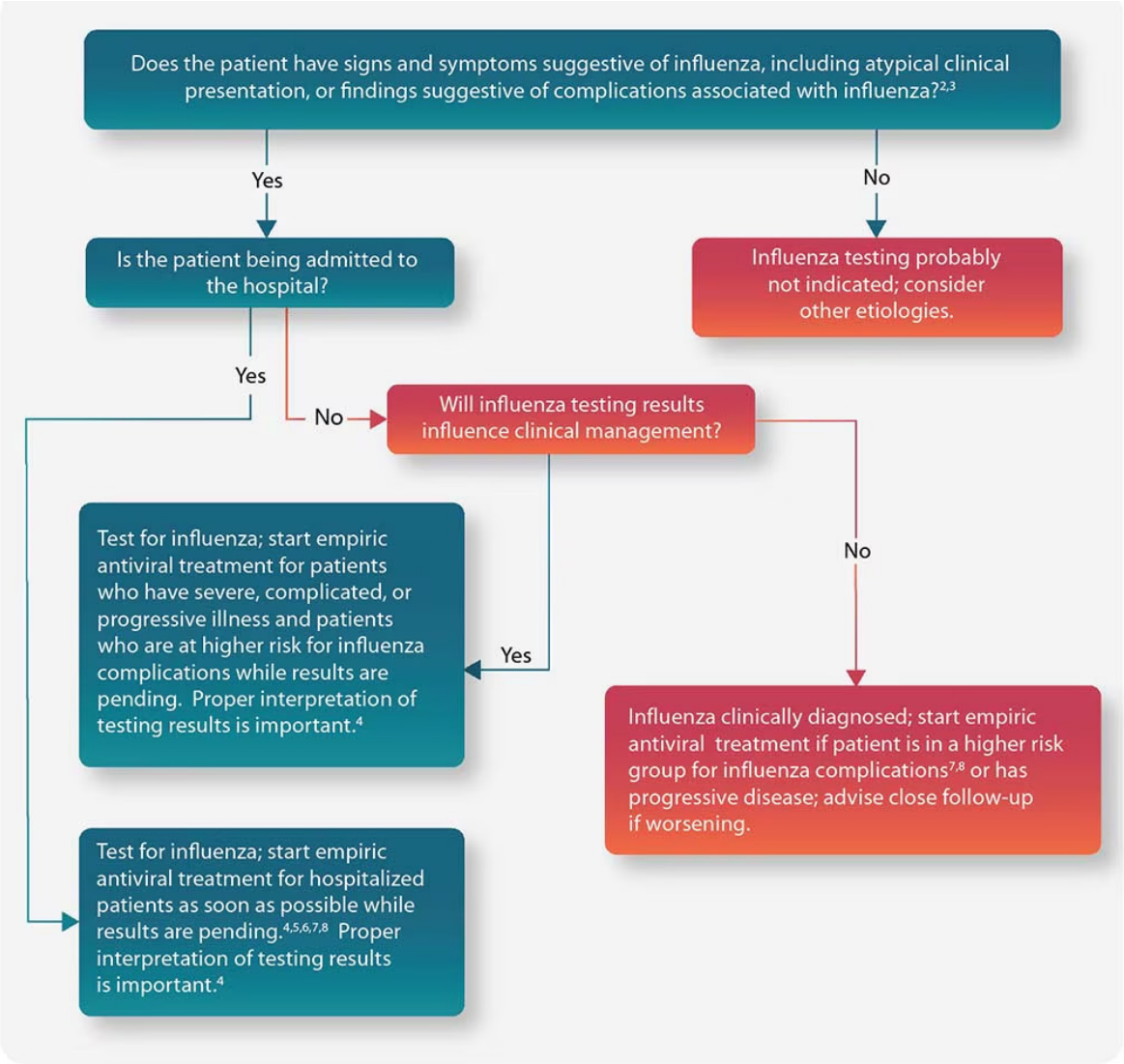
Figure: Guide for considering influenza testing when influenza viruses are circulating in the community (regardless of influenza vaccination history)[1]



- While influenza vaccination is the best way to prevent influenza illness, a history of influenza vaccination does not rule out the possibility of influenza virus infection in an ill patient with clinical signs and symptoms compatible with influenza.

1. Confirmation of influenza virus infection by diagnostic testing is not required for decisions to prescribe antiviral medication. Decision-making should be based upon signs and symptoms consistent with influenza illness and epidemiologic factors. Initiation of empiric antiviral treatment should not be delayed while influenza testing results are pending. Antiviral treatment is clinically most beneficial when started as close to illness onset as possible. Influenza vaccine effectiveness is moderate and so a history of current season influenza vaccination does not exclude a diagnosis of influenza.

2. Signs and symptoms of uncomplicated influenza vary by age, underlying health conditions, and immune function. Common signs and symptoms include fever with nonproductive cough or other respiratory symptoms, often with myalgias or headache. Fever is not always present, including in premature and young infants, immunocompromised and immunosuppressed persons, and especially in elderly persons. Note that some persons may have atypical presentations – especially infants (e.g. sepsis-like syndrome) and elderly (e.g. confusion).

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3. Complications associated with influenza can vary by age, immune status, and underlying medical conditions. Some examples include worsening of underlying chronic medical conditions (e.g. worsening of congestive cardiac failure; asthma exacerbation; exacerbation of chronic obstructive pulmonary disease); lower respiratory tract disease (pneumonia, bronchiolitis, croup, respiratory failure); invasive bacterial co-infection; cardiac (e.g. myocarditis); musculoskeletal (e.g. myositis, rhabdomyolysis); neurologic (e.g. encephalopathy, encephalitis); multi-organ failure (septic shock, renal failure, respiratory failure).

4. Influenza testing may be used to inform decisions on use of antiviral treatment, antibiotic treatment, need for further diagnostic tests, consideration for home care, or on recommendations for ill persons living with others who are at high risk for influenza complications. Proper interpretation of influenza testing results must consider a number of factors, including: the predictive values of the test, test sensitivity and specificity compared to a "gold standard" test, prevalence of influenza in the patient population, time from illness onset to specimen collection and whether the person may still have detectable influenza viral shedding, and source of the respiratory specimen (upper or lower respiratory tract). To maximize detection of influenza viruses, respiratory specimens should be collected as close to illness onset as possible (ideally <3–4 days after onset; molecular assays may detect influenza viral RNA in respiratory tract specimens for longer periods after illness onset than antigen detection assays). See this algorithm for more information. The Infectious Diseases Society of America (IDSA) recommends use of rapid influenza molecular assays over rapid influenza diagnostic tests (RIDTs) for detection of influenza viruses in respiratory specimens of outpatients. Consult the IDSA Influenza Clinical Practice Guidelines for recommendations on influenza testing and interpretation of testing results. Consult guidance on antibiotic use from the IDSA, ATS, and the AAP. Antiviral treatment is recommended as soon as possible for hospitalized patients with suspected influenza without waiting for influenza testing results of molecular assays. Guidance on antiviral treatment of influenza is available.

5. All hospitalized patients with suspected influenza should be tested with molecular assays with high sensitivity and specificity (e.g. RT-PCR) since detection of influenza virus infection and prompt initiation of antiviral therapy is most clinically beneficial, and prompt implementation of infection prevention and control measures is essential for prevention of nosocomial influenza outbreaks. The Infectious Diseases Society of America (IDSA) recommends use of RT-PCR or other molecular assays for detection of influenza viruses in respiratory specimens of hospitalized patients. Consult the IDSA Influenza Clinical Practice Guidelines for recommendations on influenza testing and interpretation of testing results. Molecular assays can detect influenza viral nucleic acids in respiratory specimens for longer periods and with much higher accuracy than antigen detection assays. For hospitalized patients with lower respiratory tract disease and suspected influenza, lower respiratory tract specimens should be collected and tested for influenza viruses by RT-PCR because influenza viral shedding in the lower respiratory tract may be detectable for longer periods than in the upper respiratory tract, if influenza testing of upper respiratory tract specimens yields a negative result. If the patient is critically ill on invasive mechanical ventilation, and has tested negative for influenza viruses on an upper respiratory tract specimen, including by a molecular assay, a lower respiratory tract specimen (endotracheal aspirate or bronchioalveolar lavage fluid) should be collected for influenza testing by RT-PCR or other molecular assays.

6. Influenza testing may help inform decisions on infection prevention and control practices.

7. Persons who are at Higher Risk of Complications from Influenza include those aged ≥65 years or <2 years; pregnant women; persons with chronic lung disease (including asthma), heart disease, renal, metabolic, hematologic and neurologic disease; immunosuppression; and morbid obesity; American Indians or Alaska Natives; and residents of chronic care facilities.

8. Antiviral treatment is recommended as soon as possible for outpatients with suspected or confirmed influenza who are at high risk for complications from influenza, or those with progressive disease not requiring hospital admission. Outpatients who are not at higher risk of complications from influenza can be considered based upon clinical judgment if presenting within 2 days of illness onset. Guidance on antiviral treatment of influenza is available.

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Table 2. Recommended Dosage and Duration of Influenza Antiviral Medications for Treatment or Chemoprophylaxis

Antiviral Agent	Use	Children	Adults
Oral Oseltamivir	Treatment (5 days)[1]	**If younger than 1 yr old**[2]: 3 mg/kg/dose twice daily[3,4] **If 1 yr or older, dose varies by child's weight:** 15 kg or less, the dose is 30 mg **twice** a day >15 to 23 kg, the dose is 45 mg **twice** a day >23 to 40 kg, the dose is 60 mg **twice** a day >40 kg, the dose is 75 mg **twice** a day	75 mg **twice** daily
	Chemoprophylaxis (7 days)[5]	If child is younger than 3 months old, use of oseltamivir for chemoprophylaxis is not recommended unless situation is judged critical due to limited data in this age group. **If child is 3 months or older and younger than 1 yr old**[2] 3 mg/ kg/dose once daily[3] **If 1 yr or older, dose varies by child's weight:** 15 kg or less, the dose is 30 mg **once** a day >15 to 23 kg, the dose is 45 mg **once** a day >23 to 40 kg, the dose is 60 mg **once** a day >40 kg, the dose is 75 mg **once** a day	75 mg **once** daily
Inhaled Zanamivir[6]	**Treatment (5 days)**	10 mg (two 5-mg inhalations) **twice** daily **(FDA approved and recommended for use in children 7 yrs or older)**	10 mg (two 5-mg inhalations) **twice** daily
	Chemoprophylaxis (7 days)[5]	10 mg (two 5-mg inhalations) **once** daily **(FDA approved for and recommended for use in children 5 yrs or older)**	10 mg (two 5-mg inhalations) **once** daily
Intravenous Peramivir[7]	**Treatment (1 day)**[1]	(6 months to 12 yrs of age) One 12 mg/kg dose, up to 600 mg maximum, via intravenous infusion for a minimum of 15 minutes **(FDA approved and recommended for use in children 6 months or older)**	(13 yrs and older) One 600 mg dose, via intravenous infusion for a minimum of 15 minutes
	Chemoprophylaxis[8]	Not recommended	N/A
Oral Baloxavir[9]	**Treatment (1 day)**	(5 yrs and older weighing <20 kg: single dose of 2 mg/kg by suspension; weighing 20 kg to <80 kg: single dose of 40 mg by tablet or suspension; weighing ≥80 kg: single dose of 80 mg by tablet or suspension) **FDA approved and recommended for use in otherwise healthy children 5 yrs and older.**	Weight <80 kg: One 40 mg dose; Weight ≥80 kg: One 80 mg dose[9]
	Chemoprophylaxis[9]	**FDA approved for post-exposure prophylaxis for persons aged 5 years and older. Dosage is the same as for treatment.**	Dosage is the same as to treatment

SEASONAL INFLUENZA

Table 2 Resources

Abbreviations: N/A = not approved

1. Longer treatment duration may be needed for severely ill patients.

2. Oral oseltamivir is approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset with twice-daily dosing in people 14 days and older, and for chemoprophylaxis with once-daily dosing in people 1 year and older. Although not part of the FDA-approved indications, use of oral oseltamivir for treatment of influenza in infants less than 14 days old, and for chemoprophylaxis in infants 3 months to 1 year of age, is recommended by CDC and the American Academy of Pediatrics (Recommendations for Prevention and Control of Influenza in Children, 2023–2024).

3. This is the FDA-approved oral oseltamivir treatment dose for infants 14 days and older and less than 1 year old and provides oseltamivir exposure in children similar to that achieved by the approved dose of 75 mg orally twice daily for adults, as shown in two studies of oseltamivir pharmacokinetics in children (Kimberlin, 2013 [CASG 114], EU study WP2284 [3.44 MB, 74 pages], FDA Clinical Pharmacology Review [1.7 MB, 53 pages]). The American Academy of Pediatrics has recommended an oseltamivir treatment dose of 3.5 mg/kg orally twice daily for infants 9-11 months old, on the basis of data which indicated that a higher dose of 3.5 mg/kg was needed to achieve the protocol-defined targeted exposure for this cohort as defined in the CASG 114 study (Kimberlin, 2013). It is unknown whether this higher dose will improve efficacy or prevent the development of antiviral resistance. However, there is no evidence that the 3.5 mg/kg dose is harmful or causes more adverse events to infants in this age group.

4. Current weight-based dosing recommendations are not appropriate for premature infants. Premature infants might have slower clearance of oral oseltamivir because of immature renal function, and doses recommended for full-term infants might lead to very high drug concentrations in this age group. CDC recommends dosing as also recommended by the American Academy of Pediatrics (Recommendations for Prevention and Control of Influenza in Children, 2024–2025): limited data from the National Institute of Allergy and Infectious Diseases Collaborative Antiviral Study Group provide the basis for dosing preterm infants using their postmenstrual age (gestational age + chronological age): 1.0 mg/kg/dose, orally, twice daily, for those <38 weeks postmenstrual age; 1.5 mg/kg/dose, orally, twice daily, for those 38 through 40 weeks postmenstrual age; 3.0 mg/kg/dose, orally, twice daily, for those >40 weeks postmenstrual age.

5. See Special Considerations for Institutional Settings section below for details regarding duration of chemoprophylaxis for outbreaks in institutional settings.

6. Inhaled zanamivir is approved for treatment of acute uncomplicated influenza within 2 days of illness onset with twice-daily dosing in people aged ≥7 years, and for chemoprophylaxis with once-daily dosing in people aged ≥5 years.

7. Intravenous peramivir is approved for treatment of acute uncomplicated influenza within 2 days of illness onset with a single dose in people aged ≥6 months. Daily dosing for a minimum of 5 days was used in clinical trials of hospitalized patients with influenza (de Jong, 2014, Ison, 2014).

8. There are no data for use of peramivir for chemoprophylaxis of influenza.

9. Oral baloxavir marboxil is approved by the FDA for treatment of acute uncomplicated influenza within 2 days of illness onset in people aged ≥5 years who are otherwise healthy, or in people aged ≥12 years at high risk of developing influenza-related complications. Baloxavir marboxil (Xofluza) [package insert] [445 KB, 16 pages]. Baloxavir marboxil should not be administered with dairy products, calcium-fortified beverages, polyvalent cation-containing laxatives, antacids or oral supplements (e.g., calcium, iron, magnesium, selenium, or zinc); co-administration with polyvalent cation-containing products may decrease plasma concentrations of baloxavir which may reduce efficacy. There are no available published data from clinical trials for baloxavir treatment of influenza in non-hospitalized patients who are pregnant, immunocompromised, or have severe disease.

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A randomized clinical trial reported that combination neuraminidase inhibitor (primarily oseltamivir) and baloxavir for treatment of hospitalized influenza patients aged ≥12 years did not result in superior clinical benefit (time to clinical improvement) compared with neuraminidase inhibitor and placebo (Kumar, 2022).

Oral baloxavir is approved by the FDA for post-exposure prophylaxis of influenza for persons aged ≥5 years within 48 hours of contact with an individual with influenza.

Duration of Treatment or Chemoprophylaxis

Treatment: Recommended duration for antiviral treatment of uncomplicated influenza in outpatients is 5 days for oral oseltamivir or inhaled zanamivir. For treatment of uncomplicated influenza with intravenous peramivir or oral baloxavir, a single dose is recommended. Longer daily dosing (oral oseltamivir or intravenous peramivir) can be considered for hospitalized patients with influenza who remain severely ill after 5 days of treatment. Treatment should be started as soon as possible after symptom onset for the greatest clinical benefit.

Chemoprophylaxis: Recommended duration is 7 days (after last known exposure). For control of outbreaks in institutional settings (e.g., long-term care facilities for older adults and children) and hospitals, CDC recommends antiviral chemoprophylaxis of exposed residents with oral oseltamivir or inhaled zanamivir for a minimum of 2 weeks and continuing up to 1 week after the last known case was identified. Antiviral chemoprophylaxis is recommended for all residents, including those who have received influenza vaccination. For control of some institutional influenza outbreaks, post-exposure antiviral treatment has been used (e.g., oseltamivir twice daily for 5 days) instead of post-exposure antiviral chemoprophylaxis (Uyeki, 2019). Baloxavir is approved for post-exposure prophylaxis (single dose) of influenza in persons aged 5 years and older within 48 hours of contact with an individual with influenza.

Dosing in Adult Patients with Renal Impairment

Dose adjustment of oseltamivir is recommended for patients with creatinine clearance between 10 and 60 mL/min and patients with end-stage renal disease (ESRD) undergoing hemodialysis or continuous peritoneal dialysis receiving oseltamivir for the treatment or chemoprophylaxis of influenza. Oseltamivir is not recommended for patients with ESRD not undergoing dialysis. The recommended doses are detailed in Table 3; duration of treatment and chemoprophylaxis is the same as recommended for patients with normal renal function. The dose of intravenous peramivir should be reduced for patients with baseline creatinine clearance below 50 mL/min (see Table 3).

No dose adjustment is recommended for inhaled zanamivir for a 5-day course of treatment for patients with renal impairment. Pharmacokinetic analysis did not identify a clinically meaningful effect of renal function on the pharmacokinetics of baloxavir in patients with creatinine clearance 50 mL/min and above. The effects of severe renal impairment on the pharmacokinetics of baloxavir marboxil or its active metabolite, baloxavir, have not been evaluated.

SEASONAL INFLUENZA

Table 3. Recommended Oseltamivir and Peramivir Dose Adjustments for Treatment or Chemoprophylaxis of Influenza in Adult Patients with Renal Impairment or End Stage Renal Disease (ESRD) on Dialysis*

	Creatinine Clearance	Recommended Treatment Regimen	Recommended Chemoprophylaxis Regimen
Oral Oseltamivir[1]	Creatinine clearance 61 to 90 mL/min	75 mg twice a day	75 mg once daily
	Creatinine clearance 31 to 60 mL/min	30 mg twice a day	30 mg once daily
	Creatinine clearance 11 to 30 mL/min	30 mg once daily	30 mg every other day
	ESRD Patients on Hemodialysis Creatinine clearance ≤10 mL/min	30 mg after every hemodialysis cycle. Treatment duration not to exceed 5 days[2]	30 mg after alternate hemodialysis cycles[3]
	ESRD Patients on Continuous Ambulatory Peritoneal Dialysis[4] Creatinine clearance ≤10 mL/min	A single 30 mg dose administered immediately after a dialysis exchange	30 mg once weekly immediately after dialysis exchange
Intravenous Peramivir (single dose)[5]	Creatinine clearance ≥50 mL/min	600 mg	N/A
	Creatinine clearance 30 to 49 mL/min	200 mg	N/A
	Creatinine clearance 10 to 29 mL/min	100 mg	N/A
	ESRD Patients on Hemodialysis	Dose administered after dialysis at a dose adjusted based on creatinine clearance	

Table 3 Resources

Abbreviations: N/A = approved, not recommended

1. Renal dosing of oseltamivir is not available in the package insert for pediatric patients. However, these tables may be useful for children who qualify for adult doses based on weight >40 kg.
2. Assuming 3 hemodialysis sessions are performed in the 5- day period. Treatment can be initiated immediately if influenza symptoms develop during the 48 hours between hemodialysis sessions; however, the post-hemodialysis dose should still be administered independently of time of administration of the initial dose.
3. An initial dose can be administered prior to the start of dialysis.
4. Data derived from studies in continuous ambulatory peritoneal dialysis (CAPD) patients.
5. Renal dosing from peramivir package insert is available for pediatric patients: Creatinine clearance ≥50 mL/min: 12 mg/kg (up to maximum dose of 600 mg); Creatinine clearance 30 to 49 mL/min: 4 mg/kg; Creatinine clearance 10 to 29 mL/min: 2 mg/kg.

Last Reviewed: July 28, 2025

Pneumococcal Disease

PNEUMOCOCCAL DISEASE

Pneumococcal Disease

Pneumococcal Vaccination

For Everyone

OCTOBER 26, 2024 •

KEY POINTS

- CDC recommends pneumococcal vaccination for people based on their age or if they have certain risk conditions.
- Pneumococcal vaccines are the best way to protect against serious pneumococcal infections.
- Talk to a vaccine provider if you have questions about pneumococcal vaccines.

Overview

There are 2 types of pneumococcal vaccines used in the United States:

- Pneumococcal conjugate vaccines (PCVs)
- Pneumococcal polysaccharide vaccine

KEEP READING:
Types of Pneumococcal Vaccines

Why getting vaccinated is important

Pneumococcal disease is common in young children, but older adults are at greatest risk of serious illness and death. Pneumococcal vaccines help protect against pneumococcal infections, including invasive disease.

Invasive disease means the bacteria invade parts of the body, such as blood, that are normally free from germs. Invasive disease is usually very serious and can sometimes result in death.

KEEP READING:
About Pneumococcal Disease

PNEUMOCOCCAL DISEASE

Who should and shouldn't get vaccinated

Vaccine recommendations

CDC recommends pneumococcal vaccination for

- Children
  - All children younger than 5 years old
  - Children 5 through 18 years old with certain risk conditions
- Adults
  - All adults 50 years or older
  - 19 through 49 years old with certain risk conditions

Allergies, reactions: Talk with a vaccine provider

Talk to a vaccine provider about your vaccination history and a specific vaccine's ingredients. There may be times when someone shouldn't get a pneumococcal vaccine.

Someone shouldn't get PCV15, PCV20, or PCV21 if they:

- Had a life-threatening allergic reaction after any type of PCV
- Had a life-threatening allergic reaction to any vaccine containing diphtheria toxoid
  - DTaP is an example
- Have a severe allergy to any part of these vaccines

Someone shouldn't get PPSV23 if they:

- Are younger than 2 years old
- Had a life-threatening allergic reaction after getting PPSV23
- Have a severe allergy to any part of PPSV23

Feeling sick?

Generally, vaccination is fine during mild illnesses like a cold. A vaccine provider can advise on whether to get vaccinated or wait until you feel better.

How well they work

Vaccines that help protect against pneumococcal disease work well but cannot prevent all cases.

KEEP READING:
How Well Pneumococcal Vaccines Work

PNEUMOCOCCAL DISEASE

Possible side effects

Most people who get a pneumococcal vaccine don't have any serious problems with it. Like with medicines, there is a chance of side effects with vaccines. These are usually mild and go away on their own within a few days, but serious reactions are possible.

Mild problems

PCV15, PCV20, or PCV21	• Redness, swelling, pain, or tenderness where the vaccine provider gave the shot • Fever or chills • Loss of appetite • Fussiness (irritability) in young children • Feeling tired • Headache • Muscle aches or joint pain
PPSV23	• Redness or pain where the vaccine provider gave the shot • Feeling tired • Fever • Muscle aches

If these problems occur, they usually go away within about 2 days.

KEEP READING:

Safety Information for Pneumococcal Vaccines

Finding and paying for vaccines

Vaccination locations

Children

Pneumococcal vaccination is part of the routine childhood immunization schedule. Therefore, pneumococcal vaccines are regularly available for children at:

- Pediatric and family practice offices
- Community health clinics
- Public health departments

Adults

For adults, a healthcare provider's office or pharmacy are usually the best places to receive recommended vaccines. If your healthcare provider doesn't have pneumococcal vaccines, ask for a referral.

Federally funded health centers can also provide services if you don't have a regular source of health care. Locate one near you.

PNEUMOCOCCAL DISEASE

You can also contact your health department to learn more about where to get vaccines in your community.

Vaccine costs

There are several ways to cover the cost of a pneumococcal vaccine:

Private health insurance

Most private health insurance plans cover this vaccine. Check with your insurance provider for cost information and for a list of in-network vaccine providers.

Vaccines for Children program

The Vaccines for Children (VFC) program provides vaccines to children whose parents or guardians may not be able to afford them.

Resources

Vaccine schedules

Parent-friendly schedule for children (birth through 6 years)

Parent-friendly schedule for children (7 through 18 years)

Easy-to-read schedule for adults (19 years and older)

Pneumococcal Vaccine Information Statements

PCV: English | Other languages

PPSV23: English | Other languages

Vaccine requirements

Pneumococcal conjugate vaccine mandates for children in child care facilities

Other resources

Cochlear implants and vaccination recommendations

Pneumococcal disease in adults and vaccines to prevent it

SOURCES

CONTENT SOURCE:

National Center for Immunization and Respiratory Diseases; Division of Bacterial Diseases

PNEUMOCOCCAL DISEASE

Pneumococcal Disease

Types of Pneumococcal Vaccines

For Everyone

SEPTEMBER 12, 2024 •

KEY POINTS

- There are 4 pneumococcal vaccines available in the United States.
- Three are conjugate vaccines and 1 is a polysaccharide vaccine.
- Pneumococcal vaccines vary in how well they work and what serotypes, or strains, they protect against.
- Talk to a vaccine provider if you have questions about pneumococcal vaccines.

Available vaccines

In the United States, there are 2 types of vaccines recommended to help prevent pneumococcal disease:

- Pneumococcal conjugate vaccines (PCVs)
  - PCV15
  - PCV20
  - PCV21
- Pneumococcal polysaccharide vaccine
  - PPSV23

Each of these vaccines helps protect against specific serotypes, or strains, of pneumococcal bacteria. The number at the end of the vaccine name tells how many serotypes the vaccine includes.

PCVs

PCVs are given to children younger than 5 years old and to older children who need it. Vaccine providers also give PCVs to adults 65 years or older and other adults who need it.

Vaxneuvance™ (PCV15) helps protect against 15 types of pneumococcal bacteria.

Prevnar 20® (PCV20) helps protect against 20 types of pneumococcal bacteria.

CAPVAXIVE™ (PCV21) helps protect against 21 types of pneumococcal bacteria.

PNEUMOCOCCAL DISEASE

PPSV23

Vaccine providers may give PPSV23 to children 2 through 18 years old with certain conditions. Vaccine providers give it to adults who receive PCV15. They also may give it to adults who have received an earlier vaccine called PCV13.

Pneumovax23® (PPSV23) helps protect against 23 types of pneumococcal bacteria.

How well they work

Vaccines that help protect against pneumococcal disease work well but cannot prevent all cases.

PCVs

Pneumococcal disease rates have decreased dramatically since the United States began using PCVs.

PCV15, **PCV20**, and **PCV21** are new vaccines, so there are no data on how well these vaccines work in real-world conditions. They were approved based on clinical trial data comparing their safety and immune responses to earlier vaccines (e.g., PCV13).

In children

Studies show that getting **PCV13** prevented invasive pneumococcal disease caused by vaccine serotypes:

- For 4 in 5 healthy children
- For 4 in 5 children with certain risk conditions

PCV13 also prevented **antibiotic-resistant pneumococcal infections** caused by vaccine serotypes.

In adults

For adults 65 years or older, one study found getting **PCV13** protected

- 3 in 4 people against invasive pneumococcal disease
- 9 in 20 people against pneumococcal pneumonia

PPSV23

Studies show PPSV23 protects between 6 to 7 in 10 adults with healthy immune systems from invasive pneumococcal disease. This protection is against pneumococcal infections caused by serotypes in the vaccine.

Resources

Pneumococcal Vaccine Information Statements

PCV: English | Other languages

PPSV23: English | Other languages

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Division of Bacterial Diseases

PNEUMOCOCCAL DISEASE

SOURCES

- Bonten MJ, Huijts SM, Bolkenbaas M, et al. Polysaccharide conjugate vaccine against pneumococcal pneumonia in adults. *N Engl J Med.* 2015;372(12):1114–25.
- Moore MR, Link-Gelles R, Schaffner W, et al. Effectiveness of 13-valent pneumococcal conjugate vaccine for prevention of invasive pneumococcal disease in children in the USA: A matched case-control study. *Lancet Respir Med.* 2016;4(5):399–406.
- Pilishvili T, Bennett NM. Pneumococcal disease prevention among adults: Strategies for the use of pneumococcal vaccines. *Vaccine.* 2015;33(4):D60–5.
- Specifically infections caused by vaccine serotypes

Pneumococcal Vaccine Timing for Adults

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

Adults ≥50 years old
Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	**PCV20 or PCV21**	**PCV15** → ≥1 year† → **PPSV23¶**
PCV15 only at any age	≥1 year† → **PPSV23¶**	NO OPTION B
PCV15 & **PPSV23** OR **PCV20** OR **PCV21** at any age	**No vaccines** recommended; schedule is complete.	
PPSV23 only at any age	≥1 year → **PCV20 or PCV21**	≥1 year → **PCV15**
PCV13 only at any age	≥1 year → **PCV20 or PCV21**	NO OPTION B
PCV13 at any age & **PPSV23** at <65 yrs	≥5 years → **PCV20 or PCV21**	

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines
¶ If PPSV23 is not available, PCV20 or PCV21 may be used
† Consider minimum interval (8 weeks) for adults with an immunocompromising condition, cochlear implant, or cerebrospinal fluid leak (CSF) leak
§ For adults with an immunocompromising condition, cochlear implant, or CSF leak, the minimum interval for PPSV23 is ≥8 weeks since last PCV13 dose and ≥5 years since last PPSV23 dose; for others, the minimum interval for PPSV23 is ≥1 year since last PCV13 dose and ≥5 years since last PPSV23 dose

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

Prior vaccines	Shared clinical decision-making option for adults ≥65 years old
Complete series: PCV13 at any age & **PPSV23** at ≥65 yrs	≥5 years → **PCV20 or PCV21** — Together, with the patient, vaccine providers **may choose** to administer PCV20 or PCV21 to adults ≥65 years old who have already received PCV13 (but not PCV15, PCV20, or PCV21) at any age and PPSV23 at or after the age of 65 years old.

www.cdc.gov/pneumococcal/index.html

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

Adults 19–49 years old with specified immunocompromising conditions
Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	**PCV20 or PCV21**	**PCV15** → ≥8 weeks → **PPSV23**[¶]
PCV15 only at any age	≥8 weeks → **PPSV23**[¶]	NO OPTION B
PCV15 & **PPSV23** OR **PCV20** OR **PCV21** at any age	**No vaccines** recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.	
PPSV23 only at any age	≥1 year → **PCV20 or PCV21**	≥1 year → **PCV15**
PCV13 only at any age	≥1 year → **PCV20 or PCV21**	NO OPTION B
PCV13 and **1 dose of PPSV23** at any age	≥5 years → **PCV20 or PCV21**	
PCV13 and **2 doses of PPSV23** at any age	≥5 years → **PCV20 or PCV21**	**No vaccines** recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.
Immunocompromising conditions	▪ Chronic renal failure ▪ Congenital or acquired asplenia ▪ Congenital or acquired immunodeficiency[§] ▪ Generalized malignancy ▪ HIV infection ▪ Hodgkin disease ▪ Iatrogenic immunosuppression[¶] ▪ Leukemia ▪ Lymphoma ▪ Multiple myeloma ▪ Nephrotic syndrome ▪ Sickle cell disease/other hemoglobinopathies ▪ Solid organ transplant	

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines
¶ If PPSV23 is not available, PCV20 or PCV21 may be used
§ Includes B- (humoral) or T-lymphocyte deficiency, complement deficiencies (particularly C1, C2, C3, and C4 deficiencies), and phagocytic disorders (excluding chronic granulomatous disease)
¶ Includes diseases requiring treatment with immunosuppressive drugs, including long-term systemic corticosteroids and radiation therapy

Adults 19–49 years old with a cochlear implant or cerebrospinal fluid leak
Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	**PCV20 or PCV21**	**PCV15** → ≥8 weeks → **PPSV23¶**
PCV15 only at any age	≥8 weeks → **PPSV23¶**	NO OPTION B
PCV15 & **PPSV23** OR **PCV20** OR **PCV21** at any age	**No vaccines** recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.	
PPSV23 only at any age	≥1 year → **PCV20 or PCV21**	≥1 year → **PCV15**
PCV13 only at any age	≥1 year → **PCV20 or PCV21**	NO OPTION B
PCV13 and **1 dose of PPSV23** at any age	≥5 years → **PCV20 or PCV21**	**No vaccines** recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.

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

¶ If PPSV23 is not available, PCV20 or PCV21 may be used

Adults 19–49 years old with chronic health conditions
Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	**PCV20 or PCV21**	**PCV15** → ≥1 year → **PPSV23¶**
PCV15 only at any age	≥1 year → **PPSV23¶**	NO OPTION B
PCV15 & **PPSV23** OR **PCV20** OR **PCV21** at any age	**No vaccines** recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.	
PPSV23 only at any age	≥1 year → **PCV20 or PCV21**	≥1 year → **PCV15**
PCV13† only at any age	≥1 year → **PCV20 or PCV21**	NO OPTION B
PCV13† and **PPSV23** at any age	**No vaccines** are recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.	
Chronic health conditions	▪ Alcoholism ▪ Chronic heart disease, including congestive heart failure and cardiomyopathies ▪ Chronic liver disease	▪ Chronic lung disease, including chronic obstructive pulmonary disease, emphysema, and asthma ▪ Cigarette smoking ▪ Diabetes mellitus

* Also applies to people who received PCV7 at any age and no other pneumococcal vaccines
¶ If PPSV23 is not available, PCV20 or PCV21 may be used
† Adults with chronic medical conditions were previously not recommended to receive PCV13

PNEUMOCOCCAL DISEASE

Shared Clinical Decision-Making

PCV20 or PCV21 Vaccination for Adults 65 Years or Older

Adults 65 years of age or older have the option to receive supplemental PCV20 or PCV21 (not both) if they previously completed the pneumococcal vaccine series with both PCV13 and PPSV23 and meet the following criteria:

- Previously received one dose of PCV13 (but not PCV15, PCV20, or PCV21) at any age, and
- Previously received all recommended doses of PPSV23 (including 1 dose of PPSV23 at or after 65 years of age)

The determination to administer PCV20 or PCV21 is based on a shared clinical decision-making (SCDM) process between a patient and their health care provider. SCDM recommendations are optional and informed by the characteristics, values, and preferences of the patient, and the clinical discretion of the health care provider.

If you discuss supplemental PCV20 or PCV21 vaccination with a patient 65 years of age or older who previously completed the pneumococcal vaccine series with both PCV13 and PPSV23:

Remember:

PCV20 or PCV21 is not routinely recommended for these individuals as their risk of disease is lower due to prior vaccinations. Their remaining risk depends on:

- Their risk of exposure to serotypes contained in PCV20 or PCV21
- The presence of underlying medical conditions or other risk factors that increase the risk of developing severe disease
- Time since last pneumococcal vaccination (i.e., 5 or more years)

Consider:

Increased risk of exposure to PCV20 or PCV21 serotypes may occur among people who are living in:

- Nursing homes or other long-term care facilities
- Areas with low pediatric pneumococcal conjugate vaccine uptake

If exposed, people with one or more of the following health issues are at increased risk of developing severe pneumococcal disease:

- Immunocompromising condition*
- Cochlear implant
- Cerebrospinal fluid leak
- One or more of these chronic medical conditions: alcoholism; chronic heart, liver, or lung disease; cigarette smoking; or diabetes

Protection against disease from both PCV13 and PPSV23 is expected to decrease over time.

If you vaccinate:

If you and your patient decide PCV20 or PCV21 is appropriate, give one dose of PCV20 or PCV21 (no preference) at least 5 years after the patient's last pneumococcal vaccine dose.

PCV20 and PCV21 should not be administered to a patient who has had a severe allergic reaction (e.g., anaphylaxis) to a:

- Previous dose of PCV
- Component of the vaccine
- Vaccine containing diphtheria toxoid
- Component of a vaccine containing diphtheria-toxoid

*Chronic renal failure, nephrotic syndrome, immunodeficiency, iatrogenic immunosuppression, generalized malignancy, HIV, Hodgkin disease, leukemia, lymphoma, multiple myeloma, solid organ transplant, congenital or acquired asplenia, sickle cell disease or other hemoglobinopathies.

CDC

Additional Information:

CDC Adult Immunization Schedule by Age:
www.cdc.gov/vaccines/hcp/imz-schedules/adult-age.html

CDC PneumoRecs VaxAdvisor App for Vaccine Providers:
www.cdc.gov/pneumococcal/hcp/vaccine-recommendations/app.html

CDC Pneumococcal Vaccine Recommendations:
www.cdc.gov/pneumococcal/hcp/vaccine-recommendations/index.html

ACIP Contraindications Guidelines for Immunization:
www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html

PNEUMOCOCCAL DISEASE

Pneumococcal Disease

About Pneumococcal Disease

For Everyone

OCTOBER 31, 2024 •

KEY POINTS

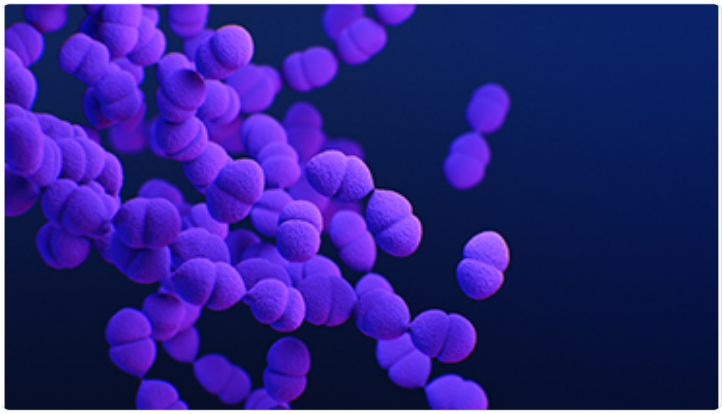
- Pneumococcal disease is a serious bacterial infection caused by *Streptococcus pneumoniae*.
- Anyone can get pneumococcal disease, but certain people are at increased risk.
- Keeping up to date with recommended vaccines is the best protection against pneumococcal disease.

MORE INFORMATION

For Everyone | Health Care Providers | Public Health

What it is

Pneumococcal disease is a name for any infection caused by bacteria called *Streptococcus pneumoniae*, or pneumococcus.



This image of *Streptococcus pneumoniae* was computer generated.

PNEUMOCOCCAL DISEASE

Types

S. pneumoniae bacteria can cause many types of infections, including:

- Pneumonia (lung infection)
- Meningitis (infection of the lining of the brain and spinal cord)
- Bacteremia (bloodstream infection)
- Otitis media (middle ear infection)
- Sinusitis (sinus infection)

Symptoms

Symptoms and complications depend on the part of the body that's infected.

KEEP READING:
Symptoms and Complications

Risk factors

Anyone can get pneumococcal disease, but some people are at increased risk.

KEEP READING:
Risk Factors

How it spreads

People spread pneumococcal bacteria to others through **direct contact with respiratory secretions**, like saliva or mucus.

KEEP READING:
Causes and Spread

Prevention

People can get pneumococcal disease **more than once**.

Healthcare providers generally don't prescribe antibiotics after exposure to help prevent someone from getting a pneumococcal infection.

However, there are steps people can take to help protect themselves.

Vaccination

Vaccination is the **best way to prevent** pneumococcal disease. CDC recommends pneumococcal vaccination for

- All children younger than 5 years old
- People 5 through 49 years old with certain risk conditions
- Adults 50 years or older

PNEUMOCOCCAL DISEASE

KEEP READING:
Pneumococcal Vaccination

Testing and diagnosis

Serious infections

If healthcare providers suspect meningitis or a bloodstream infection, they will collect samples of **cerebrospinal fluid or blood**. Cerebrospinal fluid is the fluid that surrounds the brain and spinal cord.

They then send the samples to a laboratory for testing. Growing the bacteria in a laboratory helps identify the specific type of bacteria causing the infection. Laboratories may also use molecular detection methods to test for these bacteria in samples. Knowing the cause helps healthcare providers choose the right treatment, including which antibiotic will work best.

Healthcare providers can use a **urine test** to help make a diagnosis of pneumococcal pneumonia in adults.

Mild infections

Healthcare providers usually diagnose ear and sinus infections based on a **history and physical exam** findings that support pneumococcal infection.

Treatment

Healthcare providers use **antibiotics** to treat pneumococcal disease. However, some pneumococcal bacteria have become resistant to certain antibiotics used to treat these infections. Antibiotic testing shows which antibiotics will be most successful at treating the infection.

KEEP READING:
Antibiotic-resistant *S. pneumoniae*

Resources and tools

Pneumococcal-specific resources

Pneumococcal vaccines for children

Pneumococcal disease in adults and the vaccines to prevent it

General resources

Be Antibiotics Aware

Meningitis

Pneumonia

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Division of Bacterial Diseases

Respiratory Syncytial Virus (RSV)

Vaccines & Immunizations

Healthcare Providers: RSV Vaccination for Adults

Types and composition of RSV vaccines

There are three RSV vaccines licensed by the Food and Drug Administration (FDA) for use in adults. CDC recommends RSV vaccination for all adults ages 75 and older and for adults ages 50 –74 who are at increased risk of severe RSV.

GSK's Arexvy consists of a recombinant RSV F protein antigen (based on the RSV-A subtype), stabilized in the prefusion conformation (preF), and $AS01_E$ adjuvant. The AS01 adjuvant system is the same used in GSK's recombinant zoster vaccine (RZV, Shingrix), but at a lower dose. The vaccine is supplied as a single-dose vial of 120 µg of lyophilized preF antigen component to be reconstituted with the accompanying vial of $AS01_E$ adjuvant suspension component. A single dose after reconstitution is 0.5 mL. Consult the package insert for proper storage and handling details, shelf life, and reconstitution instructions: Package Insert – AREXVY (fda.gov) .

Pfizer's Abrysvo consists of a recombinant RSV F protein antigen (based on both the RSV-A and RSV-B subtypes), stabilized in the prefusion conformation (preF). The vaccine is supplied as a single-dose vial of 120 µg of lyophilized preF antigen component (60 µg from RSV-A, 60 µg from RSV-B) to be reconstituted with the accompanying vial of sterile water diluent component. A single dose after reconstitution is approximately 0.5 mL. Consult the package insert for proper storage and handling details, shelf life, and reconstitution instructions: Package Insert – ABRYSVO (fda.gov) .

Moderna's mResvia consists of a single 0.5 mL-dose vial containing 50 µg of nucleoside modified mRNA encoding the RSV F glycoprotein (monovalent, based on the RSV-A subtype), stabilized in the prefusion conformation (pre-F protein). Consult the package insert for proper storage and handling details, shelf life, and more: Package Insert – MRESVIA (fda.gov) .

Storage and handling for RSV vaccines

Proper vaccine storage and handling practices help prevent errors, protect patients, and assure vaccine efficacy – all critical for protecting individuals and communities from vaccine-preventable diseases. For general recommendations and guidance, see Vaccine Storage and Handling. Provided below is guidance specific to RSV vaccines.

GSK's AREXVY:

Arexvy is supplied in two vials that must be reconstituted prior to administration. One vial is a lyophilized antigen component, and the second is a liquid diluent adjuvant suspension. You MUST use the diluent provided by the manufacturer. Refer to the manufacturer's package insert for specific instructions on reconstituting the vaccine: Package Insert – AREXVY (fda.gov) .

RESPIRATORY SYNCYTIAL VIRUS (RSV)

Before reconstitution:

- Store vaccine and diluent refrigerated between 2°C and 8°C (36°F and 46°F).
  - Store these in their original package and keep them together in the refrigerator to optimize organization.
- Never freeze the vaccine or diluent.
- Protect the vial from light.

After reconstitution:

- Immediately administer the vaccine; you should prepare the vaccine only when ready for use.
- If you do not immediately administer the vaccine, there are some minor differences in storage:
  - Store the reconstituted refrigerated between 2°C and 8°C (36°F and 46°F) **OR at room temperature** [up to 25°C (77°F)]. The difference is due to the allowance of storage at room temperature.
  - Never freeze the reconstituted vaccine, and
  - Protect it from light.
- Once you've reconstituted the vaccine, you begin a 4-hour beyond-use date clock. This means that you must use the reconstituted vaccine within 4 hours; otherwise discard it.

PFIZER's ABRYSVO:

Abrysvo is supplied in a kit with three components: a vial of lyophilized antigen component (a sterile white powder), a prefilled syringe containing sterile water diluent component, and a vial adapter. Refer to the manufacturer's package insert for specific instructions on reconstituting the vaccine: Package Insert – ABRYSVO (fda.gov) .

Before reconstitution:

- Store vaccine and diluent refrigerated between 2°C and 8°C (36°F and 46°F).
  - Store these components in their original package and keep them together in the refrigerator to optimize organization.
- Never freeze the vaccine or diluent.

After reconstitution:

- Immediately administer the vaccine; you should prepare the vaccine only when ready for use. If you do not immediately administer the vaccine, there are some minor differences in storage:
  - Store the reconstituted vaccine **ONLY at room temperature** [15ºC to 30ºC (59ºF to 86ºF)].
  - **Do NOT refrigerate.** This is very different than other reconstituted vaccines. Typically, storage after reconstitution is refrigerated storage only or refrigerated or room temperature storage. For this vaccine, do NOT put it back in the refrigerator.
  - Never freeze the vaccine or diluent.
- Once you've reconstituted the vaccine, you begin a 4-hour beyond-use date clock. This means that you must use the reconstituted vaccine within 4 hours; otherwise discard it.

MODERNA's mRESVIA:

mResvia is supplied as a pre-filled syringe that contains a frozen suspension that must be thawed prior to administration. During storage, minimize exposure to room light, and avoid exposure to direct sunlight and ultraviolet light. Refer to the manufacturer's package insert for specific instructions on storage and thawing: Package Insert – mRESVIA (fda.gov).

Frozen Storage

Store frozen between -40°C to -15°C (-40°F to 5°F).

Storage after Thawing

Storage at 2°C to 8°C (36°F to 46°F):

- Pre-filled plastic syringes may be stored refrigerated between 2°C to 8°C (36°F to 46°F) for up to 30 days prior to use.

Storage at 8°C to 25°C (46°F to 77°F):

- Pre-filled plastic syringes may be stored between 8°C to 25°C (46°F to 77°F) for a total of 24 hours after removal from refrigerated conditions. Discard the pre-filled syringe if not used within this time. Syringes should not be returned to the refrigerator after being thawed at room temperature.
- Total storage at 8°C to 25°C (46°F to 77°F) must not exceed 24 hours.
- Do not refreeze once thawed. Do not shake.

Administering RSV vaccines

Do not use any RSV vaccine beyond the expiration date printed on the label.

Route

Administer RSV vaccine intramuscularly. The preferred site of administration is the deltoid region of the upper arm. Do not administer RSV vaccine intravenously, intradermally, or subcutaneously.

Number of doses

The RSV vaccine is not currently an annual vaccine. CDC recommends only a single dose of an age-appropriate RSV vaccine for all adults ages 75 and older and for adults ages 50–74 with increased risk of severe RSV disease.

Administration with other vaccines

Coadministration of RSV vaccines with other adult vaccines during the same visit is acceptable. Available data on immunogenicity of coadministration of RSV vaccines and other vaccines are currently limited. Coadministration of RSV and seasonal influenza vaccines met noninferiority criteria for immunogenicity, with the exception of the FluA/Darwin H3N2

strain when Arexvy was coadministered with adjuvanted quadrivalent inactivated influenza vaccine. RSV and influenza antibody titers were somewhat lower with coadministration; however, the clinical significance of this is unknown.

Administering RSV vaccine with one or more other vaccines at the same visit might increase local or systemic reactogenicity. Data are only available for coadministration of RSV and influenza vaccines, and evidence is mixed regarding increased reactogenicity. Data are lacking on the safety of coadministration with other vaccines that might be recommended for persons in this age group, such as COVID-19 vaccines; pneumococcal vaccines; adult tetanus, diphtheria, and pertussis vaccines; and the recombinant zoster vaccine (the recombinant zoster vaccine and Arexvy contain the same adjuvant). When deciding whether to coadminister other vaccines with an RSV vaccine, providers should consider whether the patient is up to date with currently recommended vaccines, the feasibility of the patient returning for additional vaccine doses, risk for acquiring vaccine-preventable disease, vaccine reactogenicity profiles, and patient preferences. Post-licensure efficacy and safety monitoring of coadministered RSV vaccines with other vaccines will further direct guidance.

Resources

- RSV Vaccine Guidance for Adults
- Adult RSV ACIP Vaccine Recommendations | CDC
- RSV Clinical Overview
- CDC RSV Website
- RSV Vaccine Information Statement

References and Resources

- Melgar M, Britton A, Roper LE, et al. Use of Respiratory Syncytial Virus Vaccines in Older Adults: Recommendations of the Advisory Committee on Immunization Practices — United States, 2023. MMWR Morb Mortal Wkly Rep 2023;72:793–801. DOI: http://dx.doi.org/10.15585/mmwr.mm7229a4 .
- Hamid S, Winn A, Parikh R, et al. Seasonality of Respiratory Syncytial Virus – United States, 2017-2023. MMWR Morb Mortal Wkly Rep. 2023 Apr 7;72(14):355-361. doi: 10.15585/mmwr.mm7214a1
- CDC RSV Surveillance & Research

Last Reviewed: July 14, 2025

Respiratory Syncytial Virus Infection (RSV)

RSV in Adults

For Everyone

JULY 8, 2025 •

WHAT TO KNOW

- RSV can be dangerous for older adults and adults who have certain medical conditions, are elderly or frail, or live in a nursing home.
- CDC recommends everyone ages 75 and older get an RSV vaccine.
- CDC recommends adults ages 50–74 who are at increased risk of severe RSV disease get an RSV vaccine.
- If you have already gotten an RSV vaccine, you do not need to get another one at this time.

Overview

RSV can be dangerous for certain adults. Each year, an estimated 110,000–180,000 adults ages 50 and older in the United States are hospitalized due to RSV. In general, the risk of severe RSV illness rises with increasing age and if you have certain risk factors.

Risk factors that increase the risk for severe RSV

Adults at highest risk for severe RSV disease include:

- Adults ages 75 and older
- Adults with chronic heart or lung disease
- Adults with weakened immune systems
- Adults with certain other underlying medical conditions
- Adults living in nursing homes

For the complete list of medical conditions and risk factors for severe RSV disease, see RSV Clinical Overview.

Spotlight

CDC's Respiratory Virus Guidance provides actions you can take to protect yourself and others from health risks caused by RSV and other respiratory viruses.

RESPIRATORY SYNCYTIAL VIRUS (RSV)

Severe RSV

When an adult gets RSV, they typically have mild cold-like symptoms, but some may develop pneumonia (an infection in the lungs). Adults who get very sick from RSV may need to be hospitalized. Severe RSV can be fatal for some adults.

RSV can sometimes also lead to worsening of serious conditions such as:

- Asthma
- Chronic obstructive pulmonary disease (COPD) – a chronic disease of the lungs that makes it hard to breathe
- Heart failure – when the heart can't pump enough blood and oxygen through the body

When to seek emergency care

Call your healthcare professional if you have difficulty breathing, have trouble eating or drinking, feel chest pain or pressure, experience sudden dizziness or confusion, or experience worsening of symptoms.

RSV vaccine for adults

CDC recommends an RSV vaccine if you are ages 75 or older or if you are ages 50–74 and are at increased risk for severe RSV.

Vaccines for Adults

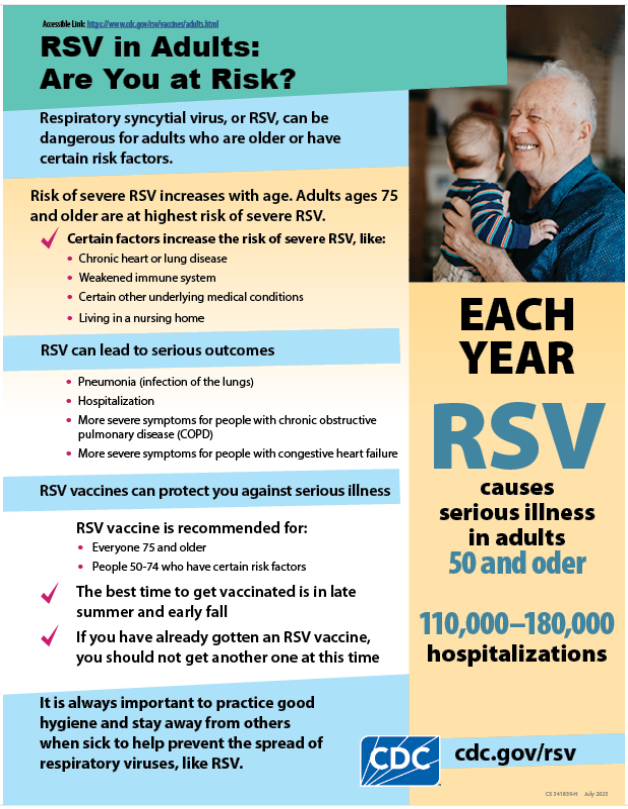
Information on vaccines to protect adults ages 50 and older against RSV.

JULY 7, 2025

RESPIRATORY SYNCYTIAL VIRUS (RSV)

Resources

RSV in Adults PDF Flyer



Information about RSV and vaccines for adults

Download or print PDF: English PDF

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Coronavirus and Other Respiratory Viruses Division

Respiratory Syncytial Virus Infection (RSV)

Symptoms and Care of RSV

For Everyone

JULY 8, 2025 •

WHAT TO KNOW

- RSV usually causes mild, cold-like symptoms. Most RSV infections go away on their own.
- RSV can be serious for babies, some young children, and adults who are older or have certain risk factors.
- There is no treatment for RSV, but you can manage symptoms with over-the-counter medications.

Overview

People infected with RSV usually show symptoms within 4 to 6 days after getting infected. Symptoms of RSV infection usually include:

- Runny nose
- Congestion
- Decrease in appetite
- Coughing
- Sneezing
- Fever
- Wheezing

These symptoms usually appear in stages and not all at once.

In very young infants with RSV, their only symptoms may be irritability, decreased activity, and breathing difficulties.

When to seek emergency care

Call your healthcare professional if you are having difficulty breathing, not drinking enough fluids, or experiencing worsening symptoms.

RESPIRATORY SYNCYTIAL VIRUS (RSV)

Care

Antiviral medication is not routinely recommended to fight RSV. Most RSV infections go away on their own in a week or two. However, RSV can cause serious illness in some people.

Take steps to relieve symptoms

- **Manage fever and pain** with over-the-counter fever reducers and pain relievers, such as acetaminophen or ibuprofen. Never give aspirin to children.
- **Drink enough fluids.** It is important for people with RSV infection to drink enough fluids to prevent dehydration (loss of body fluids).
- **Talk to your healthcare provider** before giving a child non-prescription cold medicine. Some medicines contain ingredients that are not good for children.

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Coronavirus and Other Respiratory Viruses Division

Respiratory Syncytial Virus Infection (RSV)

How RSV Spreads

For Everyone

JULY 8, 2025 •

WHAT TO KNOW

- RSV can spread when an infected person coughs or sneezes, by direct contact with someone who has RSV, or by touching a contaminated surface.
- In most regions of the United States, RSV season generally starts during the fall and peaks in the winter.
- Everyone can take action to help prevent the spread of RSV.

RSV transmission

RSV can spread when:

- A person who has RSV coughs or sneezes near you
- You get virus droplets from a cough or sneeze in your eyes, nose, or mouth
- You have direct contact with the virus, like kissing the face of a child with RSV
- You touch a surface that has the virus on it, like a doorknob, and then touch your face before washing your hands

Anyone can get RSV, but typically most people get RSV for the first time as an infant or toddler. Nearly all children will get RSV before their second birthday. However, repeat infections may occur throughout life.

Who is at risk?

Infants, some young children, and adults who are older or have certain risk factors are at increased risk of severe RSV. Learn about RSV immunizations.

People with RSV are usually contagious for 3 to 8 days and may become contagious a day or two before they start showing signs of illness. However, some infants and people with weakened immune systems can continue to spread the virus for 4 weeks or longer, even after they stop showing symptoms. Children are often exposed to and infected with RSV outside the home, such as in school or childcare centers. They can then transmit the virus to other members of the family.

RESPIRATORY SYNCYTIAL VIRUS (RSV)

RSV can survive for many hours on hard surfaces, such as tables and crib rails. It typically lives on soft surfaces, such as tissues and hands, for shorter amounts of time.

How to prevent spread

Everyone can take actions to help reduce the spread of RSV and other respiratory viruses.

- Practice good hygiene by covering your coughs and sneezes, washing or sanitizing your hands often, and cleaning frequently touched surfaces.
- Take steps for cleaner air, such as bringing in fresh outside air, purifying indoor air, or gathering outdoors.
- Stay home and away from others when you are sick.

You can also use additional tools like masks, physical distancing, and testing.

KEEP READING
CDC's Respiratory Virus Guidance

When is RSV season?

In most regions of the United States and other areas with similar climates, RSV season generally starts during fall and peaks in the winter. The timing and severity of RSV season in a given community can vary from year to year.

Over the course of each fall and winter respiratory virus season, RSV reaches all corners of the continental United States. For these reasons, it is important to be aware of local RSV activity in your area.

Tracking RSV

CDC monitors RSV activity in the United States. You can check CDC's Respiratory Illness Data Channel to see RSV activity in your area.

Interactive Dashboard

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Coronavirus and Other Respiratory Viruses Division

What You Need to Know About RSV Vaccine:

Abrysvo (Pfizer)

What is Abrysvo? Who should get it?

Abrysvo (abbreviation: RSVpreF) is a vaccine given to prevent severe RSV disease.

- To prevent severe disease in adults, CDC recommends RSV vaccines, including Abrysvo, for:
  - Previously unvaccinated people 75 years of age and over
  - Previously unvaccinated people 50-74 years of age who are at increased risk of severe RSV disease
- To prevent severe disease in infants, CDC recommends Abrysvo for previously unvaccinated pregnant women at 32 through 36 weeks gestational age.
  - CDC recommends **either** maternal RSV vaccination **or** infant immunization with nirsevimab, a RSV monoclonal antibody. Most infants will not need both.

Abrysvo should not be given to:

- Pregnant women if they:
  - Are less than 32 weeks and 0 days or more than 36 weeks and 6 days pregnant; or
  - Are 32–36 weeks pregnant, but outside the RSV seasonal timeframe (unless they live in an area where RSV circulation is less predictable and peak activity may vary); or
  - Received Abrysvo during any previous pregnancy.
- Infants or young children

When is Abrysvo given?

For older adults:

- As a single, one-time 0.5 mL dose—patients should not get a dose every year, like for flu vaccine.
- At any time, but the best time is late summer or early fall, before RSV season begins where the patient lives. In most U.S. regions, that season is generally August–October.

For pregnant women at 32–36 weeks gestational age:

- As a single, one-time 0.5 mL dose
  - Do not revaccinate for subsequent pregnancies.
  - For subsequent pregnancies, the infant should be immunized with nirsevimab.
- In September–January to protect the infant during their first RSV season.

Abrysvo can be given during the same visit as other vaccines, or on its own.

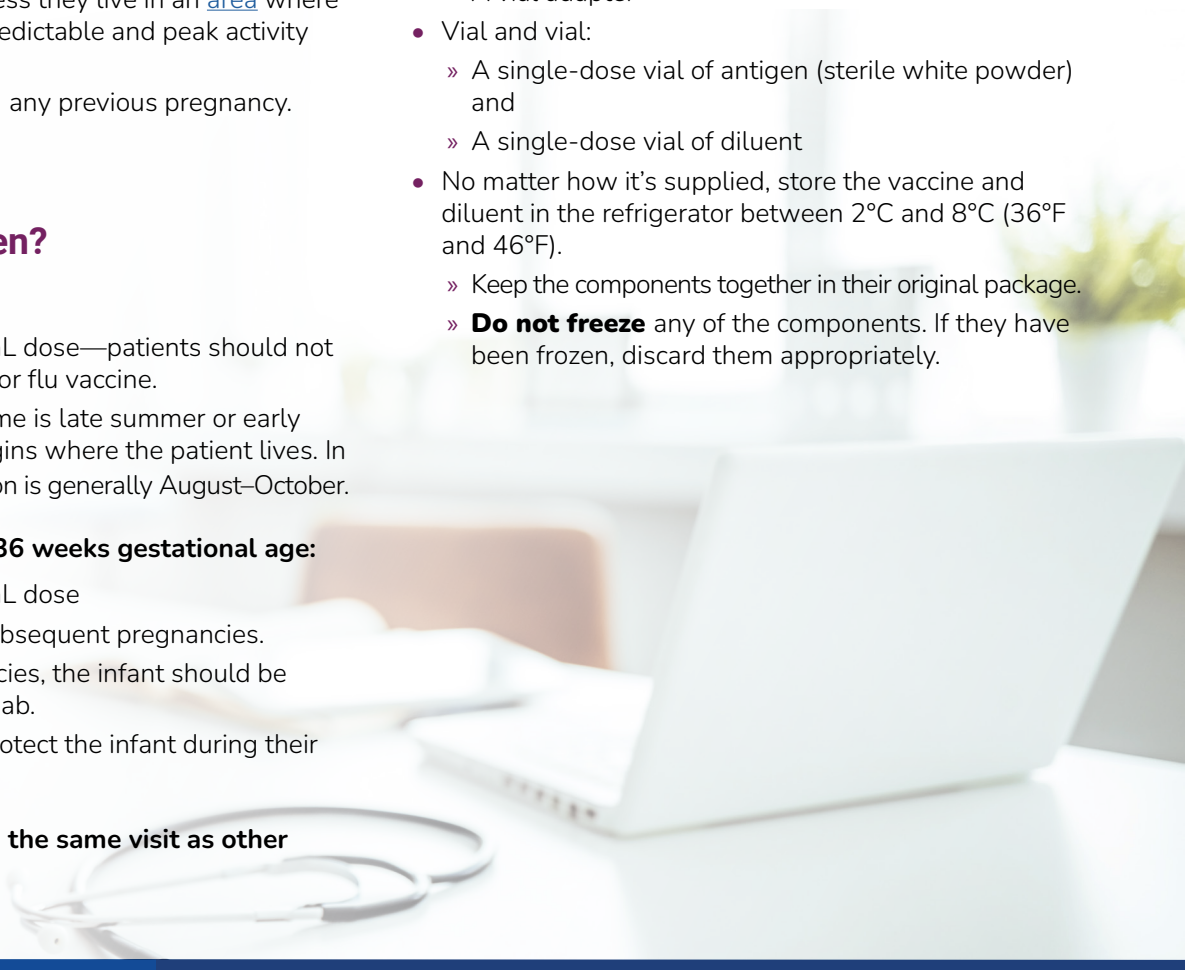
What are contraindications and precautions to Abrysvo? What should I screen for before I give it?

Use a comprehensive screening tool to make sure your patient doesn't have a history of a severe allergic reaction to any component of Abrysvo. Refer to the Abrysvo Package Insert for a list of vaccine components.

How is Abrysvo stored and supplied?

The manufacturer supplies Abrysvo in three ways:

- Act-O-Vial containing:
  - A single dose of antigen (sterile white powder) and
  - Diluent
- Vial and manufacturer-filled syringe kits. Each kit includes 3 components:
  - A single-dose vial of antigen (sterile white powder),
  - A manufacturer-filled syringe of diluent, and
  - A vial adapter
- Vial and vial:
  - A single-dose vial of antigen (sterile white powder) and
  - A single-dose vial of diluent
- No matter how it's supplied, store the vaccine and diluent in the refrigerator between 2°C and 8°C (36°F and 46°F).
  - Keep the components together in their original package.
  - **Do not freeze** any of the components. If they have been frozen, discard them appropriately.



How should I prepare Abrysvo?

Scan the QR code for complete instructions for administering Abrysvo.

No matter which presentation you are using:

- Use **only** the diluent that came packaged with the powder. **No substitutions.**
- Gently swirl the vial—don't shake it—until the powder is completely dissolved.
- The reconstituted vaccine should look clear and colorless. If the liquid is discolored or you see anything floating in it, **discard it appropriately.**

After you've prepared the vaccine, give it to the patient immediately.

- If necessary, you can store prepared vaccine at room temperature [15°C to 30°C (59°F to 86°F)] for up to 4 hours.
- If you haven't used the reconstituted vaccine within 4 hours after you prepare it, **discard it appropriately**.

How should I give Abrysvo?

Scan the QR code for CDC clinical vaccine administration resources.

[1] You can also use the vastus lateralis muscle in the anterolateral thigh.

Give it by intramuscular injection (IM) in the deltoid muscle of the patient's upper arm.[1]

Act-O-Vial:

- Remove the plastic tab covering the center of the top stopper.
- Cleanse the vial stopper with a sterile alcohol pad.
- Using a brand-new, sterile needle and a brand-new, sterile syringe, insert the needle straight through the center of the stopper.
- Invert the Act-O-Vial and withdraw 0.5 mL of vaccine.
- After you withdraw a single dose, discard the Act-O-Vial and any leftover liquid in it.

Vial and prefilled syringe:

- Cleanse the vial stopper with a sterile alcohol pad.
- Invert the vial of prepared vaccine and slowly withdraw the entire contents into the syringe for an approximately 0.5 mL dose.
- Twist to disconnect the syringe from the vial adapter.
- Attach a brand-new, sterile needle to the syringe and administer it to the patient.

Vial and vial:

- Cleanse the vial stopper with a sterile alcohol pad.
- Withdraw 0.5 mL from the vial containing the prepared vaccine.
- After you withdraw a single dose, discard the vial and any leftover liquid in it.

If you're giving the patient other vaccines at the same visit, give them at a different spot on their body—another limb, or at least 1 inch from where you gave Abrysvo.

What else should I remember when I give Abrysvo?

- In pregnant women, the most commonly reported adverse reactions to Abrysvo have been soreness and redness at the injection site, headache, muscle pain, and nausea.
- In older adults, the most commonly reported adverse reactions to Abrysvo have been fatigue, headache, pain at the injection site, and muscle pain.
- To receive an RSV vaccine, people 50–74 years of age can self-report factors that put them at increased risk of severe RSV disease. They do not need to provide medical documentation of a risk factor.
- People who are immune compromised or are receiving drugs or treatments that suppress their immune system could have less of a response to vaccination.
- Give the patient the RSV Vaccine Information Statement before administering the vaccine.

Visit cdc.gov/vaccines/hcp for more information

What You Need to Know About RSV Vaccine:

Arexvy (GSK)

What is Arexvy? Who should get it?

Arexvy (abbreviation: RSVPref3) is a vaccine given to prevent severe RSV disease. CDC recommends RSV vaccines, including Arexvy, for:

- Previously unvaccinated people 75 years of age and older
- Previously unvaccinated people 50–74 years of age who are at increased risk of severe RSV disease

Arexvy should not be given to:

- Pregnant women
- Infants or children

When is Arexvy given?

- As a single, one-time 0.5 mL dose—patients should not get a dose every year, like for flu vaccine.
- At any time, but the best time is late summer or early fall, before RSV season begins where the patient lives. In most U.S. regions, that season is generally August–October.

Arexvy can be given during the same visit as other vaccines, or on its own.

What are contraindications and precautions to Arexvy? What should I screen for before I give it?

Use a comprehensive screening tool to make sure your patient doesn't have a history of a *severe allergic reaction* such as anaphylaxis to any component of Arexvy. Refer to the Arexvy Package Insert for a list of vaccine components.

How is Arexvy stored and supplied?

The manufacturer supplies Arexvy in 2 components:

- A single-dose vial of antigen (sterile white powder) and
- A vial of diluent that's either colorless or pale brown

Store both components together in their original package refrigerated between 2°C and 8°C (36°F and 46°F) and protected from light.

- Do not freeze either of the components. If they have been frozen, **discard them appropriately.**

How should I prepare Arexvy ?

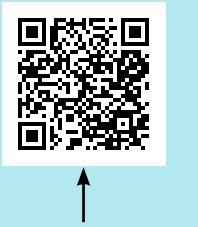
Scan the QR code for complete instructions for administering Arexvy.

- Use **only** the diluent that came packaged with the powder. **No substitutions.**
- Cleanse the vial stopper with a sterile alcohol pad.
- Using a brand-new, sterile needle and a brand-new, sterile syringe:
  - » Withdraw all of the liquid diluent from its vial and inject it all into the vial of powder.
  - » Gently swirl the vial–don't shake it hard–until the powder is completely dissolved.
- There shouldn't be anything floating in the vial when you're done. If you see anything floating in the vial, **discard it appropriately.**

After you've prepared the vaccine, give it to the patient immediately.

- If necessary, you can store prepared vaccine in its syringe 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.
- If you haven't used the vaccine within 4 hours after you prepare it, **discard it appropriately.**

How should I give Arexvy?



Scan the QR code for CDC clinical vaccine administration resources.

Give it by intramuscular injection (IM) in the deltoid muscle of the patient's upper arm.[1]

- Cleanse the stopper with a sterile alcohol pad.
- Withdraw 0.5 mL from the vial of reconstituted vaccine and give it by intramuscular injection (IM).
- If you're giving the patient other vaccines at the same visit, give them at a different spot on their body–another limb, or at least 1 inch from where you gave Arexvy.

[1] You can also use the vastus lateralis muscle in the anterolateral thigh.

What else should I remember when I give Arexvy?

- The most commonly reported adverse reactions to Arexvy have been soreness and redness at the injection site, fever, body aches, headaches, and joint pain.
- To receive an RSV vaccine, people 50-74 years of age can self-report factors that put them at increased risk of severe RSV disease. They do not need to provide medical documentation of a risk factor.
- People who are immune compromised or receiving drugs or treatments that suppress their immune system could have less of a response to vaccination.
- Give the patient the RSV Vaccine Information Statement before administering the vaccine.

Visit cdc.gov/vaccines/hcp for more information

What You Need to Know About RSV Vaccine:

mResvia (Moderna)

What is mResvia? Who should get it?

mResvia (abbreviation: mRNA-1345) is a vaccine given to prevent severe RSV disease. CDC recommends RSV vaccines for:

- Previously unvaccinated people 75 years of age and over
- Previously unvaccinated people 50–74 years of age who are at increased risk of severe RSV disease

mResvia should not be given to:

- Pregnant women
- Infants or children

When is mResvia given?

- As a single, one-time 0.5 mL dose—patients should not get a dose every year, like for flu vaccine.
- At any time, but the best time is late summer or early fall, before RSV season begins where the patient lives. In most U.S. regions, that season is generally August–October.

mResvia can be given during the same visit as other vaccines or on its own.

What are contraindications and precautions to mResvia? What should I screen for before I give it?

Use a comprehensive screening tool to make sure your patient doesn't have a history of a severe allergic reaction such as anaphylaxis to any component of mResvia. Refer to the mResvia Package Insert for a list of vaccine components.

How is mResvia stored and supplied?

The manufacturer supplies mResvia as a manufacturer-filled syringe.

- The syringe contains a sterile, frozen liquid that must be thawed before you give the vaccine.
- Syringes are supplied in blister packs, either individually or as a pack of 2, or in cartons of 10.
- Store syringes frozen and protected from light between -40°C to -15°C (-40°F to 5°F).

How should I prepare mResvia?

QR code for complete instructions for administering mResvia

Thaw one syringe in a single blister pack or a carton of 2 syringes in a blister pack either:

- In the refrigerator between 2°C to 8°C (36°F to 46°F) for 100 minutes.
  - » Before you give the vaccine, let the syringe stand at room temperature for between 10 and 20 minutes.
- At room temperature between 15°C to 25°C (59°F to 77°F) for 40 minutes.
  - » If you thawed the vaccine at room temperature, you can give it right away.

Thaw a carton of 10 syringes in blister packs either:

- In the refrigerator between 2°C to 8°C (36°F to 46°F) for 160 minutes.
  - » Before you give the vaccine, let the syringe stand at room temperature for between 10 and 20 minutes.
- At room temperature between 15°C to 25°C (59°F to 77°F) for 80 minutes.
  - » If you thawed the vaccine at room temperature, you can give it right away.

After you thaw a syringe:

- Store it **at room temperature** at 8°C to 25°C (46°F to 77°F) for no more than 24 hours after you take it out of the refrigerator.
  - » Do not put a syringe that has come to room temperature back into the refrigerator or freezer for storage.
  - » Once it has come to room temperature, use it within 24 hours or **discard it appropriately.**
- If necessary, a manufacturer-filled syringe that has thawed in the refrigerator but has not been removed yet can be stored in the refrigerator (between 2°C to 8°C [36°F to 46°F]) for up to 90 days.
  - » If you don't use it within this time, **discard it appropriately.**
- After it's thawed, the vaccine is white to off-white. It may have small white or translucent particles floating in it.
- If it is discolored or has anything else floating in it, **discard it appropriately.**
- Don't shake the syringe.
- Don't put a syringe back into the refrigerator after it's been standing at room temperature.
- Don't refreeze the syringe after you've thawed it.

How should I give mResvia?

Scan the QR code for for CDC clinical vaccine administration resources.

Give it by intramuscular injection (IM) in the deltoid muscle of the patient's upper arm.[1]

- If you're giving the patient other vaccines at the same visit, give them at a different spot on their body–another limb, or at least 1 inch from where you gave mResvia.

What else should I remember when I give mResvia?

- The most commonly reported adverse reactions to mResvia have been soreness and redness at the injection site, fatigue, headache, and muscle and joint pain.
- To receive an RSV vaccine, eligible patients can self-report factors that put them at increased risk of severe RSV disease. They do not need to provide medical documentation of a risk factor.
- People who are immune compromised or are receiving drugs or treatments that suppress their immune system could have less of a response to vaccination.
- Give the patient the RSV Vaccine Information Statement before administering the vaccine.

[1] You can also use the vastus lateralis muscle in the anterolateral thigh.

Visit cdc.gov/vaccines/hcp for more information

Shingles (Herpes Zoster)

SHINGLES (HERPES ZOSTER)

Shingles (Herpes Zoster)

Shingles Vaccine Recommendations

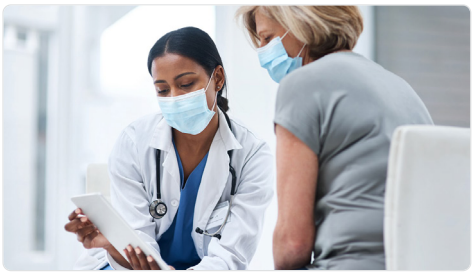
Information for Healthcare Professionals

Health Care Providers

OCTOBER 22, 2024

KEY POINTS

- CDC recommends 2 doses of recombinant zoster vaccine (RZV) to prevent shingles and related complications in adults aged ≥50 years.
- CDC also recommends 2 doses of RZV for adults aged ≥19 years who are or will be immunodeficient or immunosuppressed.



Introduction

CDC recommends Shingrix (recombinant zoster vaccine or RZV) for the prevention of herpes zoster (shingles) and related complications.

This page summarizes CDC's current shingles vaccine recommendations. Access the official, full text below:

ACIP Recommendations: Zoster (Shingles) Vaccine

Routine recommendations

People 50 years old and older

CDC recommends 2 doses of Shingrix separated by 2–6 months for immunocompetent adults aged 50 years and older:

- Whether or not they report a prior episode of herpes zoster.
- Whether or not they report a prior dose of Zostavax, a shingles vaccine that is no longer available for use in the United States.
- It's not necessary to screen, either verbally or by laboratory serology, for evidence of prior varicella infection.

Recombinant and adjuvanted vaccines (like Shingrix) can be administered concomitantly at different anatomic sites with other adult vaccines. This includes COVID-19 vaccines. Coadministration of RZV with adjuvanted influenza vaccine (Fluad) and COVID-19 vaccines is being studied.

SHINGLES (HERPES ZOSTER)

If more than 6 months elapsed since first dose

Administer the second dose as soon as possible. Do not restart the vaccine series.

Immunocompromised adults 19 years and older

CDC recommends 2 doses of RZV to prevent shingles in adults aged ≥19 years who are or will be immunodeficient or immunosuppressed because of disease or therapy. The second dose of RZV should typically be given 2–6 months after the first. However, for persons who are or will be immunodeficient or immunosuppressed and who would benefit from completing the series in a shorter period, the second dose can be administered 1–2 months after the first.

KEEP READING:
Shingrix Use in Immunocompromised Patients

Timing considerations for giving Shingrix

For patients who previously had herpes zoster

There is no specific amount of time you need to wait before administering Shingrix to patients who have had herpes zoster. However, you should not give Shingrix to patients who are experiencing an acute episode of herpes zoster.

For patients who previously received Zostavax

Zostavax is no longer available for use in the United States, as of November 18, 2020. Consider the patient's age and when they received Zostavax to determine when to vaccinate with Shingrix. Studies examined the safety of Shingrix vaccination 5 or more years after Zostavax vaccination. Shorter intervals were not studied, but there are no theoretical or data concerns to indicate that Shingrix would be less safe or effective if administered less than 5 years after a patient received Zostavax.

You may consider an interval shorter than 5 years between Zostavax and Shingrix based on the age at which the patient received Zostavax. Differences in efficacy between Shingrix and Zostavax are most pronounced among older patients. Studies have shown that the effectiveness of Zostavax wanes substantially over time, leaving recipients with reduced protection against herpes zoster. For example, the vaccine efficacy among adults aged 70 to 79 years and adults aged 80 years and older is 41% and 18%, respectively, on average during the first 3 years following Zostavax vaccination.

You should wait **at least 8 weeks** after a patient received Zostavax to administer Shingrix.

For patients who don't report a prior episode of varicella

When vaccinating immunocompetent adults aged 50 years and older, there is no need to screen for a history of varicella or to conduct laboratory testing for serologic evidence of prior varicella. More than 99% of adults aged 50 years and older worldwide have been exposed to varicella-zoster virus; and the ACIP considers people born in the United States prior to 1980 immune to varicella.

Therefore, even if a person does not recall having chickenpox, serologic testing for varicella immunity is **not recommended**. It is often a barrier to herpes zoster vaccination, and false negatives are common. However, if serologic evidence of varicella susceptibility becomes available to the healthcare provider, providers should follow ACIP guidelines for varicella vaccination. Shingrix has not been evaluated in persons who are seronegative to varicella, and it is not indicated for the prevention of varicella.

SHINGLES (HERPES ZOSTER)

Contraindications and precautions

Contraindications and precautions to vaccination generally dictate circumstances when vaccines will not be given.

- General Guidelines for Contraindications & Precautions
- Zoster Vaccine Contraindications & Precautions

Resources

- Shingles Vaccine Safety
- Shingles Vaccine Information Statement
- Vaccines Web-based Training Course
- Immunization schedules (Child and adolescent | Adult)

Clinical information

- Pink Book: Shingles
- Clinical Overview of Shingles

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Division of Viral Diseases

SHINGLES (HERPES ZOSTER)

Shingles (Herpes Zoster)

Shingles Vaccination

For Everyone

JULY 19, 2024 •

KEY POINTS

- Shingles vaccination is the only way to protect yourself against this painful disease.
- Vaccination is over 90% effective at preventing shingles and postherpetic neuralgia in adults 50 years and older with healthy immune systems.
- Adults 19 years and older who have weakened immune systems are at higher risk of complications and should also vaccinated.

Introduction

Shingles vaccination is the only way to protect against shingles and related complications from the disease. The vaccine is given as a two-dose series.

What's available

Recombinant zoster (shingles) vaccine called Shingrix can prevent shingles. Shingles vaccine may be given at the same time as other vaccines. If you have questions about Shingrix, talk with your healthcare provider.

Recommendations

Shingles vaccine is recommended for the following groups:

Adults 50 years and older	2 doses (separated by 2 to 6 months)
Adults 19 years and older with weakened immune systems due to disease or therapy	2 doses (if needed, can get 2nd dose 1 to 2 months after 1st)

Your doctor or pharmacist can give you Shingrix as a shot in your upper arm.

SHINGLES (HERPES ZOSTER)

Why getting vaccinated is important

About 1 in every 3 people in the United States will have shingles in their lifetime. The risk of shingles increases with age.

By preventing shingles, recombinant shingles vaccine also protects against postherpetic neuralgia (PHN), the most common complication from shingles. PHN is long-term nerve pain and occurs in the areas where the shingles rash was. PHN can last for months or years after the rash goes away. The pain from PHN can be severe and debilitating.

KEEP READING:
Shingles Symptoms and Complications

Who should get vaccinated

Adults 50 years and older should get vaccinated. There is no maximum age for getting Shingrix. You should also get Shingrix even if in the past you:

- Had shingles
- Received Zostavax [A]
- Received varicella (chickenpox) vaccine

If you had shingles in the past, Shingrix can help prevent future occurrences of the disease. There is no specific length of time that you need to wait after having shingles before you can receive Shingrix. Generally, make sure the shingles rash has gone away before getting vaccinated.

Chickenpox and shingles are related because they are caused by the same virus (varicella-zoster virus). After a person recovers from chickenpox, the virus stays dormant (inactive) in the body. It can reactivate years later and cause shingles.

- You can get Shingrix whether or not you remember having had chickenpox in the past.
- More than 99% of Americans born on or before 1980 have had chickenpox, even if they don't remember having the disease.
- Adults with weakened immune systems and no documented history of chickenpox disease, chickenpox vaccination, or shingles should talk to their healthcare provider.

Who shouldn't get vaccinated

You should not get Shingrix if you:

- Have ever had a severe allergic reaction to any component of the vaccine or after a dose of Shingrix.
- Currently have shingles.
- Currently are pregnant. You should wait to get Shingrix.

If you have a minor illness like a cold, you may get Shingrix. But if you have a moderate or severe illness—with or without fever—you should wait until you recover before getting vaccine.

The vaccine is safe and effective

Studies show that Shingrix is safe. In clinical trials, Shingrix was not associated with serious adverse events.

Shingrix provides strong protection against shingles against shingles and postherpetic neuralgia (PHN), the most common complication of shingles.

SHINGLES (HERPES ZOSTER)

- In adults 50 to 69 years old with healthy immune systems, Shingrix was 97% effective in preventing shingles; in adults 70 years and older, Shingrix was 91% effective.
- In adults 50 years and older, Shingrix was 91% effective in preventing PHN; in adults 70 years and older, Shingrix was 89% effective.
- In adults with weakened immune systems, Shingrix was between 68% and 91% effective in preventing shingles, depending on their on the condition that affects the immune system.

In people 70 years and older with healthy immune systems, Shingrix immunity remained high for at least 7 years after vaccination.

Possible side effects

Shingrix causes a strong response in your immune system, helping your body create a strong defense against shingles. As a result, the vaccine may produce temporary side effects which usually last 2 to 3 day. This might affect your ability to do normal daily activities. While you may experience pain for a few days after getting Shingrix, the pain will be less severe than having shingles and complications from the disease.

Most people got a sore arm with mild or moderate pain after getting Shingrix; and some also had redness and swelling where they got the shot. Some people felt tired, had muscle pain, a headache, shivering, fever, stomach pain, or nausea. Some people who got Shingrix experienced side effects that prevented them from doing regular activities. Symptoms went away on their own in about 2 to 3 days. Side effects were more common in younger people.

You might have a reaction to the first or second dose of Shingrix, or both doses. If you experience side effects, you may choose to take over-the-counter pain medicine such as ibuprofen or acetaminophen.

Guillain-Barré syndrome (GBS), a serious nervous system disorder, has been reported very rarely after Shingrix. There is also a very small increased risk of GBS after having shingles.

When to see a healthcare provider

Contact your healthcare provider if the symptoms are not improving or if they are getting worse. If you experience side effects from Shingrix, you should report them to the Vaccine Adverse Event Reporting System (VAERS). Your doctor might file this report; or you can do it yourself through the VAERS website, or by calling 1-800-822-7967.

Finding and paying for the vaccine

Shingrix is available in doctor's offices and pharmacies.

KEEP READING:
Where to Find Vaccines

Vaccine costs

There are several ways shingles vaccine may be paid for:

Medicare & Medicaid

Starting in 2023, people with Medicare Part D coverage will pay nothing out-of-pocket for the Shingrix vaccine.

Medicaid may or may not cover the vaccine. Contact your insurer to find out.

SHINGLES (HERPES ZOSTER)

Private health insurance

Many private health insurance plans will cover the vaccine, but there may be a cost to you depending on your plan. Contact your insurer to find out.

Vaccine assistance programs

Some pharmaceutical companies provide vaccines to eligible adults who cannot afford them. You may want to check with the vaccine manufacturer, GlaxoSmithKline, about Shingrix. If you do not currently have health insurance, learn more about affordable health coverage options.

Resources

- Shingles Vaccine Information Statement (Shingrix)
- Immunization Schedules

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Division of Viral Diseases

FOOTNOTES

A. A shingles vaccine called zoster vaccine live (Zostavax) is no longer available for use in the United States, as of November 18, 2020. If you had Zostavax in the past, you should still get Shingrix. Talk to your healthcare provider to determine the best time to get Shingrix.

SHINGLES (HERPES ZOSTER)

Shingles (Herpes Zoster)

About Shingles (Herpes Zoster)

For Everyone

JANUARY 17, 2025 •

KEY POINTS

- About 1 in every 3 people in the United States will have shingles (or herpes zoster) in their lifetime.
- Shingles can sometimes lead to serious complications like long-term nerve pain and vision loss.
- The best way to protect yourself from shingles is vaccination.

MORE INFORMATION

For Everyone | Health Care Providers

What it is

Shingles is a painful rash illness. People get shingles when the varicella-zoster virus (VZV), which causes chickenpox, reactivates in their bodies after they have already had chickenpox.

An estimated 1 million people get shingles each year in this country. Most people who develop shingles only have it one time during their life. However, you can have shingles more than once.

Signs and symptoms

People with shingles most commonly have a rash around the left or right side of the body. The rash is usually painful, itchy, or tingly.

Shingles can lead to serious complications. The most common shingles complication is long-term nerve pain called postherpetic neuralgia, or PHN.

KEEP READING:
Shingles Symptoms and Complications

SHINGLES (HERPES ZOSTER)

Who is at risk

You are at risk for shingles if:

You have had chickenpox.

More than 99% of Americans born before 1980 had chickenpox, even if they don't remember it. Children can have shingles, but it is not common.

Your risk of shingles and serious complications increases:

- As you get older.
- If you have medical conditions that keep your immune systems from working properly such as certain cancers like leukemia and lymphoma, and HIV infection.
- If you take drugs that keep your immune system from working properly, like steroids and drugs given after an organ transplant.

Causes and spread

If you are near someone with shingles:

You **cannot** get shingles from someone who has shingles.

You **can** get chickenpox from someone who has shingles if you never had chickenpox or never got chickenpox vaccine. You could then develop shingles later in life.

Shingles is caused by varicella-zoster virus (VZV), the same virus that causes chickenpox. Once a person has chickenpox, the virus stays in their body. The virus can reactivate later in life and cause shingles.

People who never had chickenpox or didn't get chickenpox vaccine can get infected with VZV from someone who has shingles. These people can get the virus through:

- Direct contact with the fluid from shingles rash blisters.
- Breathing in virus particles that come from the blisters.

People with chickenpox are more likely to spread VZV than people with shingles.

KEEP READING:
About Chickenpox

Prevention

Protect yourself with the vaccine. CDC recommends 2 doses of recombinant zoster vaccine (RZV, Shingrix) to prevent shingles and related complications in adults 50 years and older. Shingrix is also recommended for adults 19 years and older who have weakened immune systems because of disease or therapy.

KEEP READING:
Shingles Vaccine Recommendations

SHINGLES (HERPES ZOSTER)

The best way to prevent shingles is by getting 2 doses of the vaccine.

If you have shingles, protect others

Covering the shingles rash can lower the risk of spreading the shingles virus to others. People with shingles cannot spread the virus before the blisters appear or after the rash scabs over.

To prevent spreading the virus to others:

- Cover the rash
- Avoid touching or scratching the rash
- Wash your hands often for at least 20 seconds
- Avoid contact with the following people until your rash scabs over
  - Pregnant women who never had chickenpox or chickenpox vaccine
  - Premature or low birth weight infants
  - People with weakened immune systems

Treatment and recovery

Several antiviral medicines are available to treat shingles:

- **Acyclovir** (ay-sah-EE-kluh-veer)
- **Valacyclovir** (va-luh-sah-EE-kluh-veer)

SHINGLES (HERPES ZOSTER)

- **Famciclovir** (fam-sah-EE-kluh-veer)

These medicines shorten the length and severity of the illness. They work best when you take them as soon as the rash appears. If you think you have shingles, contact your doctor as soon as possible to talk about treatment.

Pain relief medicine may help with the pain caused by shingles. This can be over the counter or a prescription from your doctor. Wet compresses, calamine lotion, and warm oatmeal baths may help relieve itching.

Resources

- Shingles Overview from AAFP
- Resources on Shingles from NINDS

SOURCES

CONTENT SOURCE:
National Center for Immunization and Respiratory Diseases; Division of Viral Diseases

APPENDIX

How to Administer Multiple Intramuscular Vaccines to Adults During One Visit

It is not unusual for adults to need more than one vaccination at an office visit. When that occurs, CDC recommends giving all needed vaccines at the same visit to reduce missed opportunities.

These vaccines commonly administered to adults* are administered via the intramuscular route:

COVID-19	Influenza
Hepatitis A	Pneumococcal
Hepatitis B	Respiratory Syncytial Virus (RSV)
Human papillomavirus (HPV)	Tdap and Td
	Zoster

Determine vaccines to be administered.

- Review each patient's vaccine history and determine needed vaccines (see CDC's recommended schedule of immunizations for adults at www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf).

Determine which vaccines to give in separate limbs.

- Administer vaccines more likely to cause a local reaction in separate limbs, if possible. Vaccines that cause injection site pain in at least half of recipients include COVID-19, zoster, HepA, HPV, pneumococcal (PCV, PPSV), and tetanus-containing vaccines (Tdap, Td).†
- If administration in separate limbs is not feasible or desired, administration in the same limb, separated by at least 1" (inch), is appropriate.

Select the injection site(s) for intramuscular injections.

- Determine which vaccine(s) will be administered in each limb (see options in diagrams at right). You can administer 1, 2, or 3 injections per deltoid, spaced at least 1" apart.
- *Deltoid muscle:* Locate the central and thickest portion of the deltoid muscle – above the level of the armpit and approximately 2" below the acromion process (see diagram at right).
- *Anterolateral thigh muscle:* Locate the outer portion of the middle third of the thigh (see diagram at right).

Prepare to administer IM injections.

- Choose the needle gauge and length needed for the patient's age and weight (see "Administering Vaccines to Adults: Dose, Route, Site, and Needle Size" at www.immunize.org/catg.d/p3084.pdf).
- Draw up each vaccine using a separate, new needle and syringe.
- Label each vaccine syringe and clearly indicate on the label or tray the planned injection site (e.g., right arm [RA], left arm [LA], right thigh [RT], left thigh [LT]).
- Administer injection at a 90° angle (see "How to Administer Intramuscular and Subcutaneous Vaccine Injections to Adults" at www.immunize.org/catg.d/p2020a.pdf). If more than one injection is given in a single limb (arm or leg), separate the injections by a minimum of 1".

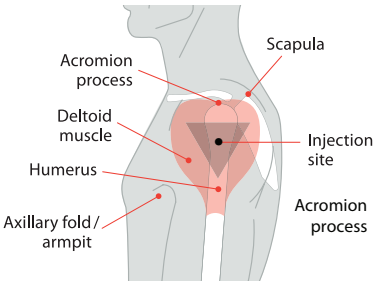
* Additional vaccines may be indicated for an adult due to missed childhood vaccinations, medical conditions, exposure risk, travel plans, or occupational risk.

† According to clinical trial data provided in prescribing information.

The diagrams below illustrate options for administering one, two, or three vaccinations in a single arm, spaced at least 1" apart. Additional injections can also be administered in the opposite arm.

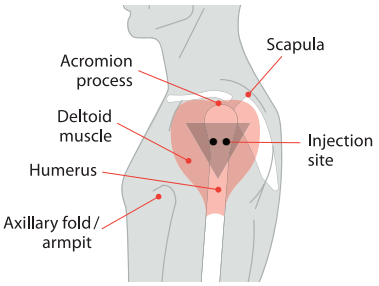
Use anatomical landmarks to determine the injection site in the deltoid muscle (a large, rounded, triangular shape). Find the acromion process, which is the bony point at the end of the shoulder. Then, locate the injection site which will be approximately 2" below the bone and above the axillary fold/armpit.

Single IM injection in deltoid



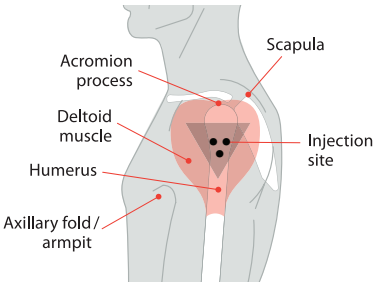
Two IM injections in deltoid

Space injections at least 1" apart.

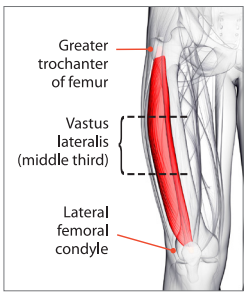


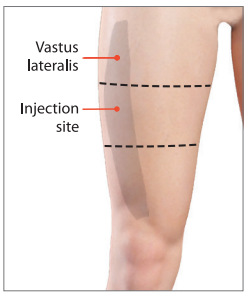
Three IM injections in deltoid

Space injections at least 1" apart.



An IM injection may also be administered in the anterolateral thigh muscle as shown below.





Administering Vaccines: Dose, Route, Site, and Needle Size

Vaccine	Dose		Route
COVID-19 *For product and dosage information for COVID-19 vaccine, see Immunize.org's "Checklist of Current Versions of U.S. COVID-19 Vaccination Guidance and Clinic Support Tools" at www.immunize.org/catg.d/p3130.pdf.*			IM
Dengue (DENV4CYD)	0.5 mL		Subcut
Diphtheria, Tetanus, Pertussis (DTaP, Tdap, Td)	0.5 mL		IM
***Haemophilus influenzae* type b** (Hib)	0.5 mL		IM
Hepatitis A (HepA)	≤18 yrs: 0.5 mL ≥19 yrs: 1.0 mL		IM
Hepatitis B (HepB) *People 11–15 yrs may be given Recombivax HB (Merck) 1.0 mL adult formulation on a 2-dose schedule.*	Engerix-B; Recombivax HB ≤19 yrs: 0.5 mL ≥20 yrs: 1.0 mL Heplisav-B, ≥18 yrs: 0.5 mL		IM
Human papillomavirus (HPV)	0.5 mL		IM
Influenza, live attenuated (LAIV)	0.2 mL (0.1 mL in each nostril)		Intranasal spray
Influenza, inactivated (IIV); 6 thru 35 mos • Egg-based IIV: Afluria, Fluzone, Fluarix, FluLaval • Cell-culture based (ccIIV): Flucelvax	Afluria: 0.25 mL Fluzone: 0.25 or 0.5 mL Fluarix, Flucelvax, FluLaval: 0.5 mL		IM
Influenza, inactivated (IIV) and • Cell-culture based (ccIIV), 3+ yrs; • Recombinant (RIV, Flublok), 18+ yrs; • Adjuvanted (aIIV, Fluad) 65+ yrs[1] • High-dose (HD-IIV, Fluzone High Dose) 65+ yrs[1]	0.5 mL		IM
Measles, Mumps, Rubella (MMR)	0.5 mL	MMR II (Merck)	IM or Subcut
		Priorix (GSK)	Subcut
Meningococcal serogroups A, C, W, Y (MenACWY)	0.5 mL		IM
Meningococcal serogroup B (MenB)	0.5 mL		IM
Mpox (Jynneos)	0.5 mL		Subcut[2]
Pneumococcal conjugate (PCV)	0.5 mL		IM
Pneumococcal polysaccharide (PPSV23)	0.5 mL		IM or Subcut
Polio, inactivated (IPV)	0.5 mL		IM or Subcut
Respiratory Syncytial Virus (RSV) vaccine	0.5 mL		IM
RSV preventive antibody (nirsevimab)	0.5 mL, 1 mL, or 2 mL based on weight and/or age		IM
Rotavirus (RV)	Rotarix: 1.0 mL Rotateq: 2.0 mL		Oral
Varicella (VAR)	0.5 mL		IM or Subcut
Zoster (RZV)	Shingrix: 0.5[3] mL		IM
Combination Vaccines			
DTaP-HepB-IPV (Pediarix) DTaP-IPV/Hib (Pentacel) DTaP-IPV (Kinrix; Quadracel) DTaP-IPV-Hib-HepB (Vaxelis)	0.5 mL		IM
MenABCWY (Penbraya; Penmenvy)	0.5 mL		IM
MMRV (ProQuad)	0.5 mL		IM or Subcut
HepA-HepB (Twinrix)	1.0 mL		IM

1 HD-IIV or aIIV are also options for solid organ transplant recipients 18–64 yrs on an immunosuppressive medication regimen.

2 Administration of Jynneos subcut (0.5 mL) is preferred. If an adult patient desires intradermal administration (0.1 mL), it is permitted under FDA emergency use authorization (see www.fda.gov/media/160774/download).

3 The Shingrix (RZV) vial may contain more than 0.5 mL. Do not administer more than 0.5 mL.

Injection Site and Needle Size

Subcutaneous (Subcut) injection

Use a 23–25 gauge needle. Choose the injection site that is appropriate to the person's age and body mass.

AGE	NEEDLE LENGTH	INJECTION SITE
Infants (younger than 12 mos)	⅝"	Fatty tissue over anterolateral thigh muscle
Children 12 mos or older, adolescents, and adults	⅝"	Fatty tissue over anterolateral thigh muscle or fatty tissue over triceps

Intramuscular (IM) injection

Use a 22–25 gauge needle. Choose the injection site and needle length that is appropriate to the person's age and body mass.

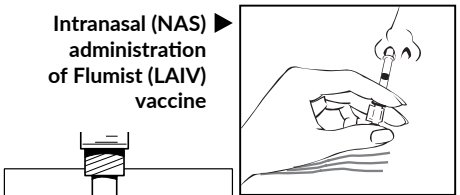
AGE	NEEDLE LENGTH	INJECTION SITE
Newborns (1st 28 days)	⅝"[4]	Anterolateral thigh muscle
Infants (1 through 11 mos)	1"	Anterolateral thigh muscle
Toddlers (1 through 2 yrs)	1–1¼"	Anterolateral thigh muscle[6]
	⅝[5]–1"	Deltoid muscle of arm
Children (3 through 10 yrs)	⅝[5]–1"	Deltoid muscle of arm[6]
	1–1¼"	Anterolateral thigh muscle
Adolescents and teens (11 through 18 yrs)	⅝[5]–1"	Deltoid muscle of arm[6]
	1–1½"	Anterolateral thigh muscle
Biological sex and weight of patient 19 yrs or older	**NEEDLE LENGTH**	**INJECTION SITE**
Female or male <130 lbs	⅝[5]–1"	Deltoid muscle of arm
Female or male 130–152 lbs	1"	Deltoid muscle of arm
Female 153–200 lbs Male 153–260 lbs	1–1½"	Deltoid muscle of arm
Female more than 200 lbs Male more than 260 lbs	1½"	Deltoid muscle of arm
Female or male, any weight	1[5]–1½"	Anterolateral thigh muscle

4 If skin is stretched tightly and subcutaneous tissues are not bunched.

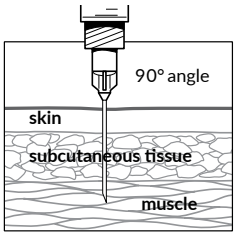
5 Alternate needle lengths may be used if the skin is stretched tightly and subcutaneous tissues are not bunched, as follows: a) a ⅝" needle in toddlers, children, and patients weighing less than 130 lbs (less than 60 kg) for IM injection in the deltoid muscle only, or b) a 1" needle for administration in the thigh muscle for adults of any weight.

6 Preferred site

NOTE: Always refer to the package insert (found at www.immunize.org/official-guidance/fda/pkg-inserts) included with each biologic for complete vaccine administration information. CDC's Advisory Committee on Immunization Practices (ACIP) recommendations for the particular vaccine should be reviewed as well. Access the ACIP recommendations at www.immunize.org/official-guidance/cdc/acip-recs/vaccines.

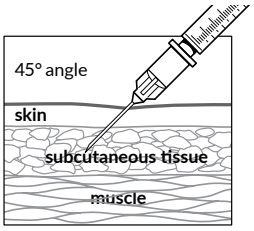


Intranasal (NAS) ▶ administration of Flumist (LAIV) vaccine



Intramuscular (IM) ▶ injection

Subcutaneous (Subcut) injection ▶



Immunize.org

YOU CALL THE SHOTS

Vaccine Administration: Preventing Vaccine Administration Errors

A vaccine administration error is any preventable event that may cause or lead to inappropriate medication use or patient harm.[1] Vaccine administration errors can have many consequences, including inadequate immunological protection, possible injury to the patient, cost, inconvenience, and reduced confidence in the health care delivery system. Take preventive actions to avoid vaccine administration errors and establish an environment that values reporting and investigating errors as part of risk management and quality improvement.

Vaccine administration errors may be due to causes such as:

- Insufficient staff training
- Distraction
- Changes in recommendations
- Lack of standardized protocols
- Patient misidentification
- Using nonstandard or error-prone abbreviations
- Easily misidentified products (e.g. DTaP, Tdap, Td)

If an error occurs, determine how it occurred and take the appropriate actions to put strategies in place to prevent it from happening in the future. The following table outlines common vaccine administration errors and possible preventive actions you can take to avoid errors.

Error(s)	Possible Preventive Actions
Wrong vaccine, route, site, or dosage (amount); or improperly prepared.	Circle important information on the packaging to emphasize the difference between the vaccines.
	Include the brand name with the vaccine abbreviation whenever possible (e.g., PCV20 [Prevnar20]) in orders, medical screens, etc.
	Separate vaccines into bins or other containers according to type and formulation. Use color-coded identification labels on vaccine storage containers.
	Store look-alike vaccines in different areas of the storage unit (e.g., pediatric and adult formulations of the same vaccine on different shelves in the unit).
	Do not list vaccines with look-alike names sequentially on computer screens, order forms, or medical records, if possible.
	Consider using "name alert" or "look-alike" stickers on packaging and areas where these vaccines are stored.
	Consider purchasing products with look-alike packaging from different manufacturers, if possible.
	Establish "Do NOT Disturb" or no-interruption areas or times when vaccines are being prepared or administered.
	Prepare vaccine for one patient at a time. Once prepared, label the syringe with vaccine name.
	Do not administer vaccines prepared by someone else.
	Triple-check work before administering a vaccine and ask another staff member to check.
	Keep reference materials on recommended sites, routes, and needle lengths for each vaccine used in your facility in the medication preparation area.
	Clearly identify diluents if the manufacturer's label could mislead staff into believing the diluent is the vaccine itself.
	Integrate vaccine administration training into orientation and other appropriate education requirements.
	Provide education when new products are added to inventory or recommendations are updated.
	Use standing orders, if appropriate.

1. National Coordinating Council for Medication Error Reporting and Prevention, https://www.nccmerp.org/about-medication-errors

Vaccine Administration: Preventing Vaccine Administration Errors

Error(s)	Possible Preventive Actions
Wrong patient	Verify the patient's identity before administering vaccines.
	Educate staff on the importance of avoiding unnecessary distractions or interruptions when staff is administering vaccine.
	Prepare and administer vaccines to one patient at a time. If more than one patient needs vaccines during the same clinical encounter (e.g., parent with two children), assign different providers to each patient, if possible. Alternatively, bring only one patient's vaccines into the treatment area at a time, labeled with vaccine and patient name.
Documentation errors	Do not use error-prone abbreviations to document vaccine administration (e.g., use intranasal route [NAS] to document the intranasal route—not IN, which is easily confused with IM).
	Use ACIP vaccine abbreviations.
	Change the appearance of look-alike names or generic abbreviations on computer screens, if possible.
Improperly stored and/or handled vaccine administered (e.g., expired vaccine given)	Integrate vaccine storage and handling training based on manufacturer guidance and/or requirements.
	Rotate vaccines so those with the earliest expiration dates are in the front of the storage unit. Use these first.
	Remove expired vaccines/diluents from storage units and areas where viable vaccines are stored.
	Isolate vaccines exposed to improper temperatures and contact the state or local immunization program and/or the vaccine manufacturer.
Scheduling errors (e.g., vaccine doses in a series administered too soon)	Use standing orders, if appropriate.
	Create procedures to obtain a complete vaccination history using the immunization information system (IIS), previous medical records, and personal vaccination records.
	Integrate vaccine administration training, including timing and spacing of vaccines, into orientation and other appropriate education requirements.
	For children, especially infants, schedule immunization visits after the birthday.
	Post current immunization schedules for children and adults that staff can quickly reference in clinical areas where vaccinations may be prescribed and administered.
	Post reference sheets for timing and spacing in your medication preparation area. CDC has vaccine catch-up guidance for DTaP, Tdap, Hib, pneumococcal conjugate vaccine and polio vaccines to assist health care personnel in interpreting the catch-up schedule for children.
	Counsel parents and patients on how important it is for them to maintain immunization records.

Adapted with appreciation from Table 11-2, Medication Errors, 2nd ed, by Cohen, Michael. Washington D.C: American Pharmacists Association; 2007.

Healthcare providers are strongly encouraged to report vaccine administration errors to Vaccine Adverse Event Reporting System (VAERS).* To file an electronic report, please see the VAERS website at https://vaers.hhs.gov/reportevent.html

*At this time, COVID-19 vaccines given under an Emergency Use Authorization (EUA) have additional VAERS reporting requirements, including required reporting of vaccine administration errors. Please see https://vaers.hhs.gov/faq.html for more information.

Adult Immunization Guide

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